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April 25, 2012

Via email: commentletters@waterboards.ca.gov

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 96812-0100

Re: Comment Letter- Bay-Delta Plan Supplemental NOP – Comprehensive Review

Dear Board Members:

The State Water Contractors and the San Luis & Delta-Mendota Water Authority, on behalf of and with each of their member agencies,[1] (herein "Public Water Agencies"), appreciate this opportunity to provide scoping comments in anticipation of the State Water Resources Control Board's ("Water Board") California Environmental Quality Act ("CEQA") Substitute Environmental Document ("SED") for the current review of the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("2006 Bay-Delta Plan").

1. Public Must Be Provided With Meaningful Participation

The Public Water Agencies, as well as other stakeholders, cannot provide meaningful comments on significant environmental issues, reasonable alternatives, and mitigation measures that should be addressed in the SED. The Water Board's Supplemental Notice of Preparation and Notice of Scoping ("Supplemental Notice of Preparation/Scoping Notice") does not adequately define the project.[2] Although the Supplemental Notice of Preparation/Scoping Notice discusses "potential modification", it does not explain what is proposed. In fact, the notice reflects the fact that the Water Board has not yet identified how it may change the 2006 Bay-Delta Plan.

The Staff Report for the Periodic Review of the 2006 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("2009 Staff Report") does not remedy the

[1] See Attachment 1 for a description of the SWC and Water Authority.

[2] "The proposed Project includes review of potential modifications to current objectives included in the 2006 Bay-Delta Plan, the potential establishment of new objectives, and modifications to the program of implementation for those objectives. The proposed project also includes potential changes to the monitoring and special studies program included in the 2006 Bay-Delta Plan. The proposed Project does not include amendments to water rights and other measures to implement a revised Bay-Delta Plan." (Supplemental Notice of Preparation/Scoping Notice at p. 6.)

defect. The 2009 Staff Report provides a list of objectives recommended for review. However, it also states:

> While staff recommends that certain issues be further reviewed in the basin planning process, such a recommendation does not necessarily mean that changes will be made to the Bay-Delta Plan related to these issues. Further, the State Water Board may review and consider other changes to the Bay-Delta Plan not included in the above list if new information warrants such a review.

As a result, the Water Board's current approach does not appear to fulfill the requirements of CEQA Guidelines (14 Cal. Code Regs.) section 15082(a)(1)(A-C), as the description of the project is so broad as to make it uninformative and impossible to provide specific comments. That said, the comments can only be very general at this time. The State Board will need to re-notice the preparation of the SED in the future.

2. The Water Board Must Consider Multiple Approaches to Protecting Beneficial Uses

When evaluating whether and how to update the 2006 Bay-Delta Plan, the Water Board cannot rely exclusively on CEQA and its requirement that the legal agency describe and consider a reasonable range of feasible alternatives to the proposed project.

a. The Water Board Must Develop The Project Consistent With The Mandates Of The Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act ("Porter-Cologne") demands more than what is required under CEQA. Porter-Cologne requires the Water Board to conduct thorough analyses before identifying the proposed project that will ultimately subjected CEQA.

Under Porter-Cologne, the Water Board must have information that allows the Water Board to develop a proposed project that provides: "the highest water quality which is reasonable," (Water Code, § 13000); or, in other words, a proposed project that will result in water quality objectives that, in the Water Board's judgment, "will ensure the reasonable protection of beneficial uses and the prevention of nuisance." (Water Code, § 13241.) When determining if water quality objectives provide "reasonable protection", the Water Board must have information that allows it to balance the desired water quality against "all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible." (Water Code, § 13000.)

Additional information the Water Board must consider includes:

(a) Past, present, and probable future beneficial uses of water.
(b) Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.
(c) Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.
(d) Economic considerations.
(e) The need for developing housing within the region.

(f) The need to develop and use recycled water.

(Water Code, § 13241 (emphasis added).)

b. The Water Board Must Then Evaluate Alternatives, If The Project May Cause Significant Environmental Or Economic Impacts

Only after the Water Board tentatively identifies a project that it believes will provide reasonable protection of beneficial uses can it begin the CEQA process. At that point, the Water Board will need to evaluate whether that project will cause significant environmental or economic impacts. If the project is likely to result in significant environmental impacts, the Water Board must consider alternatives that could feasibly attain most of the project objectives and would avoid or substantially lessen those impacts. (Pub. Res. Code § 21002.1; 14 Cal. Code Regs. § 15126.6(a).) Further, if the project will result in economic impacts on the state's business enterprises in an amount exceeding ten million dollars, the Water Board will need to consider "whether there is a less costly alternative or combination of alternatives which would be equally as effective in achieving increments of environmental protection in a manner that ensures full compliance with statutory mandates within the same amount of time as the proposed regulatory requirements." (Health and Safety Code, § 57005 (emphasis added).)

c. The Proposed Project and Any Alternatives Must Adhere To The Coequal Goals for the Delta

The project and any alternatives must also adhere to the coequal goals established by the Delta Reform Act of 2009. There, the Legislature found and declared that one of the basic objectives of the State for management of the Delta is to "achieve the two co-equal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem." (Public Resources Code § 29702; Water Code § 85302.) Principles that guide that objective are found in section 85302 of the Water Code. There, in addition to identifying characteristics, sub-goals, and strategies for a healthy ecosystem, the Legislature made plain that providing for a more reliable water supply requires promoting measures that meet the needs for reasonable and beneficial uses of water, sustain the economic vitality of the state, and improve water quality to protect human health and the environment. (Water Code § 85302(c)(d)(e).)

3. Scope Of The CEQA Analysis Of Potential Impacts From The Project Or Its Alternatives

As the Water Board conducts CEQA-mandated analyses, it must consider the impact of the project and its alternatives on:

- *Aesthetics*, including impacts related to changes in crop plantings, orchards, and other perennial crops and changes in urban landscapes.
- *Agriculture*, including impacts related to changes in agricultural production (type of crops, quantity of land in production, and yield).
- *Air quality*, including impacts from groundwater pump emissions, emissions associated with changes in food distribution patterns, and fallowed land (*e.g.*, dust).
- *Biological Resources*, including impacts to resources that benefit from habitat provided by agricultural lands, resources that benefit from programs within areas served water

conveyed through the Bay-Delta, and resources effected by changes in historic reservoir operations (e.g., invasive species colonizing exposed shoreline and the resulting management costs, habitat value impacts).

- *Economic and Social*, including impacts to farm employee hours, salaries, and positions, lack of access to credit, and lost jobs in agriculture-related business; as well as lost urban economic opportunities from interrupted industrial and commercial supplies.
- *Geology and Soils*, including impacts to land from subsidence, erosion (e.g., from changes in reservoir operations), and loss of topsoil (e.g., from fallowed lands).
- *Greenhouse Gas Emissions*, including impacts from changes in pumping (surface and groundwater), loss of carbon sequestration, impacts from changes in hydropower generation.

Within these categories there are many potentially significant project-related effects on the environment. If, for example, the Water Board were to adopt a percent of the hydrograph metric (percent of unimpaired flow) as the project, an alternative to the project, or part of the project or an alternative for consideration in its SED, the potentially environmental effects would likely include:

- Reduction in refuge deliveries affecting Pacific Flyway.
- State-wide impacts to groundwater storage and reduced ability for conjunctive management and impacts to ephemeral streams.
- Species' trade-offs and changes in water quality, as existing water quality objectives as contained in the 2006 Bay-Delta Plan will not be met.
- Inability to meet reasonable and prudent alternatives in federal biological opinions and state consistency determinations.
- Reduced agricultural production.
- A loss of urban water supplies.
- Reductions in hydropower.
- A loss of hydropower (at 12,000 KWh/year/household, the average annual generation reduction is equivalent to nearly 250,000 households year after year).
- Changes in timing in hydropower generation, generally shifting to spring months when there is already surplus energy in the system.

4. In Developing Its Project Under Porter-Cologne And Project Alternatives Under CEQA, The Water Board Cannot Exclusively Rely On The Technical Information Contained In The 2009 Staff Report And The Delta Flow Report.

In its Supplemental Notice of Preparation/Scoping Notice, the Water Board indicated that, in developing its SED, it would be considering the science presented in its 2009 Staff Report and the Final Report on Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem ("Delta Flow Report"). The 2009 Staff Report seems to acknowledge the limits of the science discussion contained therein, stating the 2009 Staff Report does not establish findings of fact or final conclusions, and that the information contained in the report will be subject to further review and evaluation. (2009 Staff Report, p. 5.) These qualifying statements are particularly appropriate. There have been many highly relevant scientific investigations since 2009. The Public Water Agencies have created a list containing many of the published and peer reviewed studies that the Water Board must consider, and even though that list is more than 10 pages long, it probably only

begins to capture the universe of new science that the State Board must consider. (*See* Attachment 2.)

Further, the Delta Flow Report cannot be used to define the flows that multiple species require, because the Delta Flow Report's recommendations are not supported by the best available science. The Water Board's findings in the Delta Flow Report were based on hypotheses and statements that were highly uncertain and technically flawed; and since the release of the Delta Flow Report, with the further advancement of our collective scientific understanding, there is even less technical support for the findings in the Report. It was not a surprise to the Public Water Agencies that as all of the experts before the Water Board during the preceding that lead to the Delta Flow Report expressed their view that there is no science supporting a finding that an outflow regime greater than that which exists today alone would provide a measureable increase in abundance for the species dependent upon the Delta.[3]Since a higher scientific standard must be met to justify modifying the 2006 Bay Delta Plan, this time the Water Board will have rely on a rigorous scientific investigation that ultimately makes the scientific connection between the exact flow regime being adopted and a specific biological benefit that is necessary to protect the aquatic beneficial use.

New science the Water Board will need to consider includes, but is not limited to, the following:

- <u>Delta Outflow Objectives/E/I Ratio/Cross Channel Gates</u>

  - The abundance indices for the Pelagic Organism Decline ("POD") species have recently increased sharply.

  - The USGS hydrodynamic studies show that pumping has no impact on stages/flows north of the San Joaquin River. Therefore, SWP/CVP pumping has no effect on the number of salmon entering the Delta Cross Channel or Georgianna Slough. (*See also*, Kimmerer and Nobriga 2008.)

  - The United States District Court remanded the delta smelt and salmonid biological opinions for long-term coordinated operation of the SWP/CVP, making findings that agency decision-making was arbitrary and capricious. Court decision included remand of FWS determination regarding Fall X2 and San Joaquin River I/E ratio.

[3] "…[I]f anybody offered you [flow] numbers today, it would be a real disservice." (Delta Flow Report Proceedings, Oral Testimony, Dr. William Bennett, Day 2); An effort focused on increased flow as "pretty much a Band-Aid." (Delta Flow Report Proceedings, Oral Testimony, Dr. William Bennett, Day 2); "[T]he scientific evidence suggests that delta outflow alone is not the answer." (Delta Flow Report Proceedings, Oral Testimony, Dr. Lenny Grimaldo, Day 2); Feyrer similarly reiterated "flow alone is not going to do the trick." (Delta Flow Report Proceedings, Oral Testimony, Mr. Frederick Feyrer, Day 2); "…the only species of pelagic fishes that I think that outflow alone would bump would be longfin. And even there, there are other circumstances in the delta that I have concerns about that would need to be dealt with right along with . . . the whole list of stressors for pelagic organism decline." (Delta Flow Proceedings, Oral Testimony, Mr. Randall D. Baxter, Day 2); "I think that the evidence does suggest there will be many benefits to public trust resources by modifying delta outflow. But that, alone, if it's going to – alone, it is unlikely to substantially increase or stabilize the population strictly in isolation." (Delta Flow Proceedings, Oral Testimony, Dr. Erica Fleishman, Day 2); "I do not think . . . that outflow by itself will stabilize the pelagic species." (Delta Flow Proceedings, Oral Testimony, Mr. Jerry Johns, Day 2).

- The technical flaws underlying the fall X2 (Feyrer et al 2007, 2011) analysis contained in the delta smelt BiOp, include, but are not limited to, the following:
  - Linking statistical models without accounting for uncertainty;
  - Use of only two abiotic habitat factors;
  - Weakness of statistical correlations;
  - Portion of population excluded from analysis;
  - Apparent induced correlation;
  - Unknown biological mechanism that would explain the potential importance;
  - Use of X2 as an unverified surrogate for habitat;
  - Three life cycle models and a multiple variable analysis did not reveal that Fall X2 is important to species abundance;
  - Low probability that smelt are habitat limited at current abundance levels.

- The results of three life cycle models and a multivariate analysis have concluded that the location of X2 in the fall is not driving delta smelt abundance. (Thomson *et. al* 2010; MacNally *et. al* 2010; Maunder and Deriso 2011; Miller *et. al* 2012.)

- The 2009 Staff Report incompletely reports the conclusions of Nobriga et al. 2008, as this study actually concluded that various abiotic factors could be used to predict delta smelt occurrence (not abundance) on regional and spatial scales, but not Delta-wide. The study further acknowledged that salinity, turbidity and temperature cannot fully define abiotic habitat for delta smelt, not to mention the physical and/or geomorphic components of delta smelt habitat.

- When considering issues of outflow, the Water Board must balance the competing needs of aquatic species. For example, high outflow is known to draw down the cold water pool at Shasta, which is maintained to provide temperature protection for salmonid species like winter-run and spring-run Chinook salmon in the Sacramento River downstream of Shasta Dam..

- The statistical correlations that once existed between several mostly unlisted species and outflow have become less significant over time. The biological mechanism(s) driving these statistical relationships are unknown, as is the cause of the changes in the statistical relationships. Without understanding the biological causation for these mathematical relationships, it is impossible to make reasonably accurate predictions of the effect on increased outflow in abundance. In fact, without knowing the biological mechanism, it's possible the mathematical relationships are merely autocorrelations with other factors such as frequency of floodplain inundation or dilution of contaminants which are related to outflow but have very different management implications.

- The biological mechanism underlying the statistical correlation between longfin smelt abundance and winter-spring outflow is unknown, and it is therefore difficult to estimate changes in species abundance under varying outflow scenarios. The 2012 Fish and Wildlife Service's longfin smelt listing decision (77 Fed. Reg. 63, 19756-19796, 2012 ("FWS Longfin Listing Decision")) found that the, "…causal mechanisms underlying this correlation are still not fully understood and are subject to ongoing research…."

- The hypothesis that the biological mechanism underlying the statistical relationship between longfin smelt abundance and winter-spring outflow is the need for larval transport from areas upstream of the confluence to Suisun Marsh is highly uncertain. The longfin larval surveys do not cover the entire known spawning area and there is compelling evidence that the un-surveyed areas, such as the Napa River, are major spawning locations, thereby suggesting that larval transport is less significant to species abundance since longfin smelt predominantly spawn downstream of the confluence.

- The current science does not support the conclusion that changes in Delta outflow patterns contributed to the POD, as stated in the 2009 Staff Report. In fact, there is some debate regarding whether there actually have been changes in outflow when comparing current and pre-development time periods (e.g., prior to Delta reclamation)..

- The 2009 Staff Report is likely correct that increased estuarine channel complexity would lead to more variability in residence time and other habitat parameters, which in turn would be more favorable to desirable species. This is one of the reasons why the BDCP conservation measures include actions to provide thousands of acres of new tidal, floodplain and wetland habitats.

- Scientific information on the relationship between nutrients and productivity has significantly increased since 2009. The current science suggests that multiple species are food limited, and food limitation is a significant driver of abundance. Recent science suggests that changes in nutrient form and ratio may be responsible for changes in food availability and quality (Glibert 2010; Glibert *et al* 2011). As recently reported in the FWS Longfin Listing Decision, 77 Fed. Reg. 63, 19756-19796, 19786-87, ammonium concentrations in the Delta are a significant threat to the species, as:
  - The largest source of ammonia entering the Delta ecosystem is the Sacramento Regional Wastewater Treatment Plant (SRWTP), which accounts for 90 percent of the total ammonia load released into the Delta.
  - Ammonium concentrations are important because ammonium can be directly toxic to aquatic species. Effects of elevated level of ammonium range from irritation of skin, gills, eyes, reduced swimming ability and mortality.
  - Delta smelt have been shown to be directly sensitive to ammonia at the larval and juvenile stages. Longfin could be similarly affected by ammonia as they utilize similar habitat and prey resources and have a physiology similar to delta smelt.
  - Ammonium also can be toxic to several species of copepods important to larval and juvenile fishes.
  - In addition to direct effects on fish, ammonium as been shown to alter the food web by adversely impacting phytoplankton and zooplankton dynamics in the estuary ecosystem. Historical data show that decreases in Suisun Bay phytoplankton biomass coincide with increased ammonia discharge by the SRWTP.
  - Ammonium's negative effect on the food web has been documented in the longfin rearing areas of San Francisco Bay and Suisun Bay. Decreased primary productivity results in less food available to longfin smelt and other fish in these bays.
  - The FWS found that "…ammonium concentrations may be a significant current and future threat to the Bay-Delta DPS of longfin smelt."

- Food limitation is an increasing concern and likely driver of decreasing abundance. Maunder and Deriso (2011) identified food availability as a significant driver of delta smelt abundance. Similarly, the FWS Longfin Listing Decision (page 126) concluded:

  "The long-term decline in abundance of longfin-smelt in the Bay-Delta has been partially attributed to reductions in food availability and disruptions of the Bay-delta food web caused by establishment of the nonnative overbite clam in 1987 (Factor E) and ammonium concentrations (Factor E). Impacts of the overbite clams and ammonium on the Bay-Delta food web have been long-lasting and are ongoing. We [FWS] conclude that ongoing disruptions of the food web caused by the overbite clam are a threat to the continued existence of the Bay Delta DPS of longfin smelt."

  The changes in water chemistry have also likely resulted in changes to speciation, favoring non-natives, and increased abundance of toxic blue-green algae and submerged aquatic vegetation (Glibert 2011).

- <u>Entrainment in SWP-SCP Water Projects/OMR Flows</u>

  - Maunder and Deriso (2011) do not identify entrainment as a primary driver of delta smelt abundance, although their model does suggest entrainment may have been important in some years. Since publication, Maunder and Deriso further updated their life cycle model with data through 2010; and after the data update, the model no longer indicates that entrainment is important to delta smelt abundance (Maunder *et. al*, unpub. data.).

  - The FWS Longfin Listing Decision concludes, "…we have determined that longfin smelt are not currently threatened by entrainment, nor do we anticipate longfin smelt will be threatened by entrainment in the future." The primary reason for this determination is the low levels of longfin smelt entrainment experienced under the delta smelt BiOp on the coordinated operations of the SWP/CVP. As the BDCP maintains these low levels of entrainment, the FWS' conclusion is reasonable.

  - The percent of the population of the various Chinook salmon runs entrained by the SWP-CVP have been around or below 1-2% of the population for a large number of years, and that entrainment percentage is not expected to change in the future.

  - In its remand, the United States District Court in the litigation concerning the delta smelt BiOp concluded that the FWS provided insufficient and unreliable information attempting to link operation of the SWP-CVP and entrainment of food organisms. Moreover, the Public Water Agencies have completed further analysis that suggests that project operations do not have a significant effect on food resources (CH2MHill, 2011).

- Miller (2011) reviewed Kimmerer (2008) and found that Kimmerer's predictions of the percent of the delta smelt population entrained by the SWP-CVP was an over-estimate. Kimmerer subsequently revised his estimates downward (Kimmerer 2011.).

- The 2009 Staff Report misreported 2007 rulings by the United States District Court in litigation over the delta smelt and salmon BiOps. Those rulings set interim operations. OMR requirements that were ultimately included in delta smelt and salmon BiOps were found arbitrary and capricious.

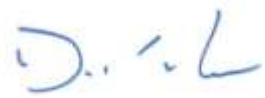
- Suisun Marsh Standards/Floodplain Habitat Flow Objectives

  - The BDCP includes plans to create large expanses of floodplain habitat. The BDCP also includes plans to notch the weir upstream of the Yolo Bypass to increase inundation of Sacramento River floodplains. The Water Board should weigh heavily in its decision-making the large BDCP commitments to substantially increase the complexity, connectivity, quantity and quality of habitat targeted at enhancing species abundance, growth, distribution, and survival.

  - The 2009 Staff Report does not provide specifics regarding which Suisun Marsh water quality standards it intends to review. The Public Water Agencies, the Department of Water Resources and the Bureau of Reclamation have been, and will continue to, fulfill their obligations in Suisun Marsh as contained in D-1641. At the same time, the Public Water Agencies are aware of the trade-offs between the operational facilities they are required to maintain in Suisun Marsh for the protection of recreational water fowl interests and the needs of aquatic species. There are also DO sags and methyl mercury issues in the Suisun Marsh that are not associated with water project operations. The Public Water Agencies desire additional information about the Water Board's intended review of Suisun Marsh standards.

In light of the weight of the new science that the Water Board must consider in its review of the 2006 Bay Delta Plan , the Public Water Agencies support e the Water Board's plan for a public process whereby the Water Board will receive important new scientific information from the scientific community. The Public Water Agencies look forward to participating in such a process.

Sincerely Yours,



Daniel G. Nelson
Executive Director
San Luis & Delta-Mendota Water Authority

Terry L. Erlewine
General Manager
State Water Contractors

Attachment 1

The SWC organization is a nonprofit mutual benefit corporation that represents and protects the common interests of its 27 member public agencies in the vital water supplies provided by California's State Water Project ("SWP"). Each of the member agencies of the State Water Contractors holds a contract with the California Department of Water Resources ("DWR") to receive water supplies from the SWP. Collectively, the SWC members deliver water to more than 25 million residents throughout the state and more than 750,000 acres of agricultural lands. SWP water is served from the San Francisco Bay Area, to the San Joaquin Valley and the Central Coast, to Southern California. The SWC's members are: Alameda County Flood Control and Water Conservation District Zone 7; Alameda County Water District; Antelope Valley-East Kern Water Agency; Casitas Municipal Water District; Castaic Lake Water Agency; Central Coastal Water Authority; City of Yuba City; Coachella Valley Water District; County of Kings; Crestline-Lake Arrowhead Water Agency; Desert Water Agency; Dudley Ridge Water District; Empire-West Side Irrigation District; Kern County Water Agency; Littlerock Creek Irrigation District; Metropolitan Water District of Southern California; Mojave Water Agency; Napa County Flood Control and Water Conservation District; Oak Flat Water District; Palmdale Water District; San Bernardino Valley Municipal Water District; San Gabriel Valley Municipal Water District; San Gorgonio Pass Water Agency; San Luis Obispo County Flood Control & Water Conservation District; Santa Clara Valley Water District; Solano County Water Agency; and Tulare Lake Basin Water Storage District.

The Authority is a joint powers authority, established under California's Joint Exercise of Powers Act. (Gov. Code, § 6500 *et seq*.) The Authority is comprised of 29 member agencies, 27 of which hold contractual rights to water from the federal Central Valley Project ("CVP"). The Authority member agencies have historically received up to 3,100,000 acre-feet annually of CVP water for the irrigation of highly productive farm land primarily along the San Joaquin Valley's Westside, for municipal and industrial uses, including within California's Silicon Valley, and for publicly and privately managed wetlands situated in the Pacific Flyway. The areas served by the Authority's member agencies span portions of seven counties encompassing about 3,300 square miles, an area roughly the size of Rhode Island and Delaware combined. The Authority's members are: Banta-Carbona Irrigation District; Broadview Water District; Byron Bethany Irrigation District (CVPSA); Central California Irrigation District; City of Tracy; Columbia Canal Company (a Friend); Del Puerto Water District; Eagle Field Water District; Firebaugh Canal Water District; Fresno Slough Water District; Grassland Water District; Henry Miller Reclamation District #2131; James Irrigation District; Laguna Water District; Mercy Springs Water District; Oro Loma Water District; Pacheco Water District; Pajaro Valley Water Management Agency; Panoche Water District; Patterson Irrigation District; Pleasant Valley Water District; Reclamation District 1606; San Benito County Water District; San Luis Water District; Santa Clara Valley Water District; Tranquillity Irrigation District; Turner Island Water District; West Side Irrigation District; West Stanislaus Irrigation District; and Westlands Water District.

Attachment 2

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