Delta Diablo Sanitation District

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January 14, 2013

VIA ELECTRONIC MAIL

Ms. Cindy Messer
Delta Plan Program Manager
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON RECIRCULATED DRAFT PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT FOR THE DELTA PLAN

Dear Ms. Messer:

The Delta Diablo Sanitation District (District) submits this letter in response to the November 30, 2012, Notice of Availability of a Recirculated Draft Program Environmental Impact Report for the Delta Plan. The District previously provided written comments to the Delta Stewardship Council on the Notice of Preparation for the Draft Environmental Impact Report in February, 2011, and on the Fourth Draft of the Delta Plan in June, 2011. The comments provided in this letter are consistent with the previous comments submitted by the District.

The District understands and fully supports the coequal goals in the Delta Plan, as set out in the Delta Reform Act of 2009: *providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem.* To that end, the District continues to pursue the development and implementation of long-term sustainable resource development projects that further the District's long-standing commitment to progressive environmental stewardship. Because of the broad scope and complexity of the environmental challenges the Delta faces, the District recognizes a suite of projects will be required to achieve the coequal goals of the Delta Plan. Accordingly, in response to the Notice of Preparation for the Draft Environmental Impact Report for the Delta Plan, the District provided a comment letter to the Delta Stewardship Council in February, 2011 (copy enclosed), recommending the planning and environmental review of a new water supply in the western part of the Delta, in addition to the other alternatives under consideration. Subsequently, in June, 2011, the District provided comments on the Fourth Draft of the Delta Plan (copy enclosed) outlining in detail the significant benefits of a western Delta water supply alternative, and the distinct advantages of this concept over any other alternative under consideration.

Based upon the feasibility studies completed by the District, the western Delta water supply would provide new yield from water that has already flowed through the Delta, providing benefits to the Delta ecosystem. The siting of a brackish desalination plant in the western portion of the Delta would be significantly more cost effective than an ocean desalination facility, due to comparatively lower energy demands for treatment and processing of the lower dissolved solids. Because of the significant advantages of brackish desalination over ocean desalination, the District recommends identifying brackish water desalination as a distinct type of reliable water supply project in Section 2 and Section 3 of the Recirculated Draft Environmental Impact Report.

Thank you for this opportunity to provide comments on the Delta planning process. You may contact me at garyd@ddsd.org or call me at (925) 756-1920.

Sincerely,

for

Gary W. Darling
General Manager

DE:lk/dcj

Enclosures

cc: DDSD Board of Directors
Mary Piepho, Supervisor, District III
John Greitzer, Contra Costa County Water Agency
Robert Pyke, Consultant
Richard Denton, Consultant
John Cain, American Rivers
District File RWF.CORRES-XX
Chron File

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February 16, 2011

VIA ELECTRONIC MAIL

Ms. Terry Macaulay
Deputy Executive Officer
Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON NOTICE OF PREPARATION FOR THE DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE DELTA PLAN

Dear Ms. Macaulay:

The Delta Diablo Sanitation District (DDSD) submits this letter in response to the December 10, 2010 Notice of Preparation for the Environmental Impact Report (EIR) for the Delta Plan issued by the Delta Stewardship Council. The comments provided are consistent with previous comments submitted to the Bay Delta Conservation Planning (BDCP) process.

DDSD is located at the western edge of the statutory Delta and provides wastewater treatment services to a population of approximately 200,000, as well as provides recycled water service to two major power plants that have a capacity to serve over 1 million homes. DDSD's Strategic Plan gives priority to the development of long term sustainable resource development projects that further the District's commitment to progressive environmental stewardship. To that end, the District has taken a leadership role in a 14-agency coalition that has secured a federal partnership to deliver 30,000 acre-feet of recycled water in the Bay Area with an additional 40,000 acre-feet in the project planning and design phase. In addition, the District is taking a lead role in a 16-agency coalition that is developing a biosolids to energy project that is envisioned to provide an alternative biosolids disposal option that will process biosolids into a green renewable energy supply for the Bay Area, while reducing greenhouse gas impacts.

DDSD recognizes that there likely is not one individual solution that will adequately address the environmental challenges that the Delta faces. All solutions should be explored, including re-operations of the State and Federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage; engineered solutions to redirect flows, etc. One solution that should be included in the planning and environmental review of any forward planning in the Delta is the development of a new water supply from the western part of the Delta. Such a water supply could be fish "friendly" by diverting water during times when protected species have moved into the Delta interior; less energy intensive than a traditional ocean desalination supply alternative since the western Delta is brackish; be an "on-demand," new water supply that does not require storage; and be located in a region where there are existing major diversion points and water transmission facilities.

The feasibility level studies the District has completed to date include a fisheries study prepared by Hanson Environmental and a technical feasibility study prepared by RW Beck, Inc (copies are available upon request). The studies provide the following conclusions:

1) Location of a brackish desalination plant in the western portion of the Delta costs only a third in terms of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the other two water sources (i.e., the TDS in the western Delta ranges from 500 mg/l to 14,000 mg/l, while the Bay and Ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately $500/acre-foot to $900/acre-foot. A key concept regarding this cost is that it is for a NEW, on-demand water supply compared to other alternatives under consideration that do not provide additional water supplies.

2) The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.

3) An intake in the western part of the Delta can be operated in a fish-friendly way by installing state-of-the-art fish screens and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).

4) Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels raise dramatically as the Delta empties into the Bay (i.e., a desalination project does not add mass, but does increase concentration).

5) A brackish desalination project is scalable in the western portion of the Delta and could be considered as a supplemental water supply for the Bay Area, or a water supply component for other water users of the State and Federal water projects. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately $25 million, a 50 MGD project for $250 million and up to a million acre foot/year project for $3.5 billion. A major benefit of a brackish desalination project in the western Delta is that it is drought proof and requires no new storage.

Thank you for this opportunity to comment on the Delta planning process. DDSD's location and existing publically-owned assets could prove to be very strategic in the development of a new water supply in the western Delta. Please do not hesitate to call me at (925) 756-1920.

Sincerely,

Gary W. Darling
General Manager

GWD:dj

cc: DDSD Board of Directors
District File RWF.CORRES-13
Chron File

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June 30, 2011

VIA ELECTRONIC MAIL

Delta Stewardship Council
980 Ninth Street, Suite 1500
Sacramento, CA 95814

SUBJECT: COMMENTS ON THE FOURTH DRAFT OF THE DELTA PLAN (AN "OUT OF THE BOX" CONCEPT)

Dear Chairman Isenberg and Council Members:

The Delta Diablo Sanitation District (DDSD) submits this letter in response to the fourth draft of the Delta Plan issued by the Delta Stewardship Council. The comments provided are consistent with previous comments submitted in response to the December 10, 2010 Notice of Preparation for the Environmental Impact Report (EIR) for the Delta Plan, as well as comments provided during the Bay Delta Conservation Planning (BDCP) process. It is often said in the presentations that are made regarding the Delta Planning process that the Council is looking for all ideas on addressing Delta challenges, including "out of the box" ideas that may not have been considered before.

"Out of the Box" Concept

Analyze a new Delta water supply in the western Delta that could directly supplement or replace portions of the water supply obligations of the State Water project (SWP) and/or the Central Valley Project (CVP).

DDSD Background

DDSD is located at the western edge of the statutory Delta and provides wastewater treatment services to approximately 200,000 residents in the cities of Antioch, Pittsburg and the community of Bay Point. In addition, DDSD provides recycled water service to two major power plants that have a capacity to serve over 1 million homes (3% of the electricity generated in California). A key objective included in DDSD's 2010 Strategic Business Plan is to *"Establish a leadership role in developing regional solutions to common water and wastewater challenges."* To that end, DDSD is leading three regional coalitions that include over 35 Bay Area agencies to proactively and collaboratively pursue water recycling, biosolids to energy, and household hazardous waste solutions.

DDSD recognizes that there likely is not one individual solution that will adequately address the water supply and environmental challenges that the Delta faces. The District fully supports the coequal goals in the Draft Delta plan: *"Achieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem."* All Delta solutions should be explored, including, but not limited to re-operation of the state and federal projects; decreasing water supply obligations through conservation, water transfers, and recycling; increased storage (above ground and groundwater); and engineered solutions to redirect flows

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through above-ground and below-surface conveyance. It is highly likely that a whole suite of new Delta solutions will need to be implemented over time as water supply demands change, increased environmental regulations are imposed, and climate change impacts the Delta.

Delta Plan Comment:
Include a western Delta water supply alternative in the Delta Plan.

In **Chapter 4** of the Draft Delta Plan, the challenges associated with developing new statewide storage and conveyance are addressed: *"The state must be prepared for the possibility that it could take many more years for the state to select, build, and operate large-scale storage and conveyance improvement projects. As an interim step toward increasing the state's water supply reliability, the state should consider smaller, more incremental operational and storage improvements..... may significantly enhance the operational flexibility of the state's system and improve the state's water supply reliability."* Studies have shown that a western Delta diversion could address the need for operational flexibility in a fish friendly way.

In **Chapter 6** of the Draft Delta Plan, the need to improve the water quality to protect human health and the environment is addressed: *"Improving water quality is key to achieving the coequal goals...Water quality in the Delta is influenced by climatic conditions (freshwater inflows and drought cycles), in-Delta water and land uses, tidal influences, and in-Delta and export diversions and operations. Water quality is generally better in the north Delta than in the central and southern Delta because Sacramento River inflows are greater than inflows from the San Joaquin River, and because the proportion of agricultural drainage discharges into the San Joaquin River is greater than discharges into the Sacramento River."* If water diversions were to occur in the western Delta that included advanced treatment for salts, nutrients, and other constituents of concern, the usage and subsequent return flows to the Delta could result in higher quality return water and less salt distributed in the watershed.

A Western Delta Diversion Concept Defined
The western Delta concept would include the potential use of existing (or construction of new) point(s) of diversion in the western Delta, west of the Antioch Bridge, that would allow the SWP and/or the CVP to divert water during times when those projects diversions are limited by environmental constraints or by increased levels of salinity. Having new point(s) of diversion available would give the **SWP and CVP the flexibility to avoid impacts to protected aquatic species that move from the western Delta into the central Delta during lower flow periods when salinity increases in the western Delta**. During those times, the water in the western Delta is brackish and would require treatment (desalination) prior to being usable for agricultural or domestic supplies. However, that treated water would essentially become a **drought-proof, fish "friendly" new or supplemental water supply that is "on-demand" and could potentially not require any new storage**. A very attractive aspect of an "on-demand" western Delta water supply is that, compared to other alternatives under consideration in the Delta Plan, a western Delta alternative could generate **new yield from water that has already flowed through the Delta and provided many of the environmental benefits**.

A western Delta water supply fits in very well with the goals outlines in **Chapter 4** related to statewide storage and conveyance. A western Delta intake(s) would provide operational flexibility for the state and federal systems. DDSD completed technical studies in 2005 and 2008 that concluded that a western Delta water supply treatment system is very cost competitive with the development of any new water supply, and can be operated in a way to avoid impacts to protected aquatic species. In addition, a western Delta treated water supply addresses the water quality goals outlined in **Chapter 6**. Simply put, if the water diverted from the Delta is treated to reduce or eliminate salts and other water quality constituents of concern before it is delivered to agricultural, industrial or domestic users, then the watershed runoff, tail water, and treated effluent will be of a higher water quality. The impacts associated with land applying salty water south of the Delta would be lessened significantly.

The feasibility level studies the District has completed to date include a fisheries study prepared by Hanson Environmental and a technical feasibility study prepared by RW Beck, Inc. Copies are available on DDSD's website at www.ddsd.org located under the tab titled Regional Coalitions. The studies provide the following conclusions:

1) Location of a brackish desalination plant in the western portion of the Delta costs a third of energy and dollar costs compared to developing a desalination project in the San Francisco Bay or the Pacific Ocean. The main reason this is true is because the salinity fluctuations are a third or less than the bay or ocean (i.e., the Total Dissolved Solids (TDS) in the western Delta ranges from 500 mg/l to 14,000 mg/l, while the bay and ocean TDS are 30,000 mg/l). Depending on the partners investing in the project, the cost to construct and operate a project varies from approximately $500/acre-foot to $900/acre-foot.

2) The water from a brackish water desalination facility can be treated to any level desired, from bottled water quality for human consumption, to a very much improved low salinity water supply for agricultural purposes. Generating and utilizing a high quality, low salinity water source helps to decrease the salinity levels in outfalls and/or runoff.

3) An intake in the western part of the Delta can be operated in a fish-friendly way by installing state-of-the-art fish screens and avoiding pumping periods when protected aquatic species cannot be adequately screened (i.e., during the egg and larvae stage).

4) Brine disposal is feasible in the western portion of the Delta by exporting the brine further to the west where salinity levels rise dramatically as the Delta empties into the bay. A desalination project does not add mass, but it does increase concentration. Brine discharge considerations will need to include not impacting other users of Delta water, as well as not impacting protected species.

5) A brackish western Delta desalination project is scalable. Preliminary capital cost estimates (completed in 2006) indicate that a five million gallon per day (MGD) project could be constructed for approximately $25 million, a 50 MGD project for $250 million, and up to a **million acre foot/year project (i.e., new drought-proof yield) for $3.5 billion (treatment**

facility cost only). A major benefit of a brackish desalination project in the western Delta is that it is "on-demand" and potentially would not require any new storage. While a million acre-foot-facility is larger than any desalination facility in the world and may not be practical in the short run, the projected costs should be appealing for a project of a smaller scale facility that produces new yield, compared to other alternatives being investigated.

6) DDSD has publicly-owned assets that could be made available for a starter project in the 5 to 10 MGD range. A starter project could be used to validate current cost estimates and better measure any environmental impacts of diversion and brine disposal. Some pilot testing has been completed.

Thank you for this opportunity to comment on the Delta planning process. Please do not hesitate to contact me at garyd@ddsd.org, or call me at (925) 756-1920.

Sincerely,

Gary W. Darling
General Manager

GWD:dj

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