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15
16 BEFORE THE
17 CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
18

19 HEARING ON THE MATTER OF
20 CALIFORNIA DEPARTMENT OF WATER
RESOURCES AND UNITED STATES
21 BUREAU OF RECLAMATION REQUEST
FOR A CHANGE IN POINT OF DIVERSION
22 FOR CALIFORNIA WATER FIX.
23

**PART TWO TESTIMONY OF ROBERT
GRANBERG, P.E.**

24
25 This testimony is offered on behalf of the City of Stockton ("City" or "Stockton").

26 **I. INTRODUCTION**

27 I currently serve as the Assistant Director of Stockton's Municipal Utilities
28 Department (MUD) and have done so since 2013. A detailed description of my

1 background and qualifications are included in my testimony for Part One and my
2 resume. (See Exhibits STKN-010, STKN-011.) My testimony for Part Two will
3 summarize the impacts from the California WaterFix Project ("WaterFix" or "Project") to
4 the City's Regional Wastewater Control Facility (RWCF), compliance with the National
5 Pollution Discharge Elimination System (NPDES) permit for the RWCF, and the public
6 interest. In summary, there is substantial evidence that the Project will cause adverse
7 impacts to the water quality of the San Joaquin River, which will require Stockton to
8 invest in additional wastewater treatment processes, increase the potential for NPDES
9 permit violations and more stringent NPDES permit terms, degrade public trust
10 resources, and increase health risks to Stockton's residents. The Department of Water
11 Resources (DWR) and U.S. Bureau of Reclamation (collectively referred to as
12 "Petitioners") have neither acknowledged these impacts, nor identified mitigation
13 measures that would address them. By failing to address these impacts, the Petitioners
14 have shifted the burden of mitigating the impacts of WaterFix on to Stockton.

15 II. STOCKTON'S REGIONAL WASTEWATER CONTROL FACILITY

16 The City owns, operates, and maintains wastewater collection and treatment
17 facilities that serve the entire Stockton Metropolitan Area population under the waste
18 discharge requirements / NPDES permit issued by the Central Valley Regional Water
19 Quality Control Board (Central Valley Water Board).

20 The City's RWCF is a wastewater treatment plant located in southwest Stockton
21 providing primary, secondary, and tertiary levels of treatment. The RWCF consists of
22 headworks, primary sedimentation, trickling filters (biotowers), secondary clarifiers,
23 facultative ponds, treatment wetlands, nitrifying biotowers, dissolved air flotation,
24 filtration, chlorine disinfection, and dechlorination prior to discharge of tertiary treated
25 effluent to the San Joaquin River just upstream of Rough and Ready Island. The
26 location of the RWCF is shown on Exhibit STKN-001. Solids handling consists of
27 anaerobic digestion producing methane gas for cogeneration, solids dewatering, and
28 disposal as soil amendment for non-food producing agricultural uses. Permitted

1 discharge is 55 million gallons per day (MGD). Average dry weather discharge (July
2 through September) in 2017 was 24.6 MGD. Wastewater treatment and discharge to the
3 San Joaquin River is, and will continue to be, one of the essential services that the City
4 provides to its residents.

5 The RWCF operates under a NPDES permit (No. CA0079138) and consequently
6 is subject to regulation based on numerous applicable water quality standards.
7 (Exhibit STKN-020; Exhibit STKN-055 is a true and correct copy of Attachment F of
8 Central Valley Water Board Order R5-2014-0070-03, NPDES No. CA0079138.) The
9 City has made considerable investments in its wastewater treatment processes to
10 achieve the effluent and receiving water limitations and other requirements set forth in its
11 NPDES permits. In 2008, the City invested tens of millions of dollars in ammonia
12 removal treatment. As a result of the 2014 NPDES permit renewal, the City must
13 implement another major requirement to reduce total nitrogen in its discharge to the
14 San Joaquin River. The improvements currently being designed for nitrogen removal will
15 cost the City \$74.6 million. This is the cost today to comply with a nitrogen removal
16 criteria based on current water quality conditions. If San Joaquin River or downstream
17 Delta water quality conditions worsen due to the Project, as evidence submitted in Part 1
18 of these proceeding suggests, Stockton may be faced with even more stringent
19 discharge limitations through the NPDES permitting process that translate into further
20 treatment requirements, which are not known at this time and have not been evaluated
21 and considered by Petitioners in their Project impact analysis, or in any evidence
22 submitted to date in this proceeding, to the level that would adequately inform the State
23 Water Resources Control Board (State Water Board), Stockton, and other potentially
24 impacted parties.

25 Stockton is unique in that its surface water rights are directly tied to the discharge
26 of its treated wastewater. The City diverts water to its Delta Water Supply Project Water
27 Treatment Plant (DWSPWTP) under Permit 21176, which contains Condition 15 that
28 limits the amount of water that Stockton may divert to the amount of wastewater

1 a significant cost. The determination of the need for, and calculation of, effluent
2 limitations, is a function of various factors, including receiving water quality. In general,
3 the lesser the receiving water quality the more likely it is that there will be effluent
4 limitations for a constituent and the more stringent any effluent limitations are likely to be.
5 Also, wastewater treatment plant operators must respond promptly to changing
6 conditions, and substantial changes from day-to-day in the quality of RWCF effluent can
7 have adverse consequences on the City's ability to discharge treated wastewater.

8 **a. Electrical Conductivity**

9 Increased salinity, measured as electrical conductivity (EC), in Stockton's drinking
10 water system has a direct correlation to salinity in Stockton's wastewater discharge. The
11 City's NPDES permit limits treated wastewater discharge EC to a calendar year average
12 of 1,300 micromhos per centimeter ($\mu\text{mhos/cm}$). (Exhibit STKN-056 is a true and correct
13 copy of the City's most recent progress report on the annual salinity Pollution Prevention
14 Plan (PPP).) Any long-term increase in EC at the City's drinking water intake due to the
15 Project will have a detrimental effect on the City's ability to comply with its NPDES
16 permit, which in turn could limit Stockton's ability to divert under its water right
17 Permit 21176, result in a change in drinking water sources or in the addition of costly
18 treatment measures (such as reverse osmosis), and also contribute to the economic
19 impacts of turning away industrial development that may need capacity for discharge to
20 the City's sewer system.

21 As noted above, the City's wastewater NPDES permit limits salinity in the City's
22 treated wastewater discharge to the San Joaquin River and requires the City to prepare
23 and annually update a PPP for salinity in order to meet the requirements of Water Code
24 section 13263.3(d)(3). (Exhibit STKN-050.) The provisions of Water Code
25 section 13263.3 (Section 13263.3) specify that the PPP estimate all sources of salinity in
26 the publicly owned treatment works (POTW) influent, analyze the methods that could be
27 used to prevent the discharge of salinity to the POTW and the associated costs, and
28 impacts to implement a PPP. One source of salinity in the City's wastewater discharge

1 is the salinity in the City's source water supply. (Exhibit STKN-021.) Whenever the
2 salinity concentration of water at the intake increases above 110 milligrams per
3 liter (mg/L), in order to meet demand for drinking water, the City is faced with the
4 decision to forego diversions under its Delta water right, and either purchase water or
5 pump groundwater, which is higher in salinity measured as Total Dissolved Solids (TDS).
6 More frequent or larger increases in the salinity of the City's potable supply, as may be
7 caused by the WaterFix project, could force the City to implement expensive additional
8 drinking water treatment, such as reverse osmosis.

9 Increased salinity in the City's source water has a direct effect on Stockton's
10 ability to comply with its NPDES permit, which establishes limits on the salinity in the
11 City's wastewater discharge. (Exhibit STKN-021.) This information was presented in the
12 City's March 17, 2017 comments to the State Water Board's 2016 Phase 1 Bay-Delta
13 Plan amendment and Substitute Environmental Document. As part of the City's effort to
14 control source water salinity, the City procured and incorporated the DWSPWTP water
15 right into its supply and obtained a corresponding reduction in effluent salinity. (Exhibit
16 STKN-040, pp. 7-9.) Increasing salinity in Delta source water for municipal and industrial
17 use due to the Project has the potential to cause NPDES violations. If the City were
18 required to fund additional treatment technology to reduce salinity in the water diverted
19 from the Delta, that would necessarily increase treatment process and service costs and
20 directly impact the City's ability to serve its customer base, which includes a substantial
21 number of economically disadvantaged persons.

22 **b. Nitrate plus Nitrite**

23 The City's 2014 NPDES permit included a final effluent limitation for nitrate plus
24 nitrite of 10 mg/L and a compliance date of June 1, 2024, based upon the Central Valley
25 Water Board's decision to protect the State Water Project from potential taste and odor
26 impacts associated with algal blooms. The City's Part 1 evidence demonstrated that the
27 Project will result in a substantially higher proportion of San Joaquin River flow (poorer
28 water quality) at the City's RWCF discharge location. This change due to the Project's

1 operations is likely to result in corresponding higher nitrate concentrations, which could
2 further burden the City by requiring further reductions in nitrate plus nitrite through future
3 NPDES permit limits. The City would have to construct additional facilities or treatment
4 processes to lower nitrate plus nitrite even further. This impact would further burden the
5 City's ratepayers as the Petitioners have failed to address this issue through the
6 Project's environmental analysis, leaving the City and its ratepayers to speculate on the
7 future of the City's ability to adequately treat wastewater in a cost-effective and
8 environmentally responsible manner.

9 **c. Dissolved Oxygen**

10 The City's NPDES permit limits Dissolved Oxygen (DO) to 6 mg/L from
11 September 1 through November 30 and 5 mg/L throughout the remainder of the year.
12 (Exhibit STKN-020.) The Project's final environmental impact report/environmental
13 impact statement (EIR/EIS) discusses the occurrence of low DO concentrations
14 coinciding with periods of low flow conditions, indicating that flow, channel morphology
15 and nutrient loading in the San Joaquin River are important factors influencing DO
16 conditions in the Stockton Deep Water Ship Channel downstream of the City's discharge
17 location. (Exhibit SWRCB-102, Final EIR-EIS Chapter 8 – Water Quality, pp. 8-51
18 to 8-52.) Future San Joaquin River conditions that result in lower river flow, or higher
19 nutrient loading in the Stockton Deep Water Ship Channel caused by Project operations,
20 could place a greater burden on the City through lower limits on ammonia nitrogen or
21 other oxygen demand through the NPDES permit process. The resulting need for
22 additional investment in treatment technology would unfairly burden City ratepayers by
23 forcing them to mitigate Project impacts. The Project EIR/EIS failed to analyze this
24 potential impact to Stockton and therefore is inadequate to inform the State Water
25 Board's decision regarding the requested water rights change petition, including whether
26 the requested change will adversely affect water quality or whether it is in the public
27 interest.

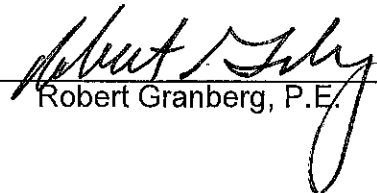
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1 IV. CONCLUSION

2 Petitioners have failed to acknowledge and address the significant adverse
3 impacts of WaterFix on the City, and have therefore, shifted the burden of responding to
4 water quality impacts caused by the Project onto the City and its residents. NPDES
5 permits for the RWCF are based on flows and water quality in the Delta. The WaterFix
6 would alter those flows and cause water quality changes that would threaten Stockton's
7 ability to comply with its NPDES permit and could force Stockton to invest in additional,
8 expensive wastewater treatment processes. The costs for implementing additional
9 wastewater treatment due to water quality degradation caused by the Project would be
10 borne by the City's residents, a substantial proportion of whom are socioeconomically
11 vulnerable. The City's concerns, and the concerns of the region as a whole, must be
12 addressed before the change petition can be considered. It is in the public interest to
13 deny the requested change petition, at least until more information relevant to the City's
14 concerns is provided for review, and the appropriate assurances are provided (in the
15 form of permit terms and conditions) that would avoid any harm to the City's water
16 supply or its ability to comply with its NPDES permit, including potential harm should
17 approval of the change petition lead to more stringent NPDES permit requirements.

18 I declare under penalty of perjury under the laws of the State of California that the
19 foregoing is true and correct.

20 Executed on this 29th day of November, 2017 in Stockton, California.

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24 Robert Granberg, P.E.
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