



CITY OF STOCKTON

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Mr. Jay Simi, Water Resource Control Engineer
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114
Email Jay.Simi@waterboards.ca.gov

CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN COMMENTS ON PROPOSED 303(D) LIST REVISIONS

Dear Mr. Simi:

The City of Stockton (City) and County of San Joaquin (County) (collectively “Permittees”) appreciate the opportunity to review and provide comments on the proposed California Water Code Section 303(d) impairment list (303(d) List) revisions. We recognize that this was a significant effort for the Central Valley Regional Water Quality Control Board (Regional Water Board) staff to compile a large amount of data and prepare this detailed assessment according to the State Water Resources Control Board (State Water Board) Listing Policy.¹

The Permittees manage the municipal separate storm sewer system (MS4) and the corresponding stormwater program for the urbanized areas in the City of Stockton and the County of San Joaquin. For the reasons listed below, the Permittees have recommendations on the proposed 303(d) listings for the Delta Waterways (eastern portion) and Village West Marina (part of Delta Waterways (eastern portion)).

Delta Waterways (eastern portion) Dissolved Oxygen

The Permittees recommend not listing Delta Waterways (eastern portion) as impaired due to Dissolved Oxygen (DO) (Decision ID 55544), based on site specific conditions and insufficient data. The dataset used as the basis for the decision dates back to summer of 2006 with stations that do not represent a large spatial area. Increasing the temporal or/and spatial extent of the data may demonstrate that there is no impairment.

¹State Water Resources Control Board. *Water Quality Control Policy for Developing California’s Clean Water Action Section 303(d) List*. Adopted September 30, 2004 Amended February 3, 2015.
http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2015/020315_8_amendment_clean_ver_sion.pdf

The proposed listing is based on eight of eleven total samples that were below the Basin Plan requirement (i.e. 7 mg/L) as presented in **Table 1** below.

Incomplete Assessment of Site Specific Conditions

Streams and rivers in the Central Valley are subject to low flow conditions in the summertime periods, especially in the late summer when dam releases are lower. Slower moving water tends to encourage algae growth, which in turn drives daily cycling of dissolved oxygen and pH. Cyclic behavior of water quality parameters in streams and rivers will translate into fluctuations in Delta. When dissolved oxygen decreases overnight to minimum values in the morning, it can take into the afternoon before the dissolved oxygen and pH values recover. As observed from the dataset samples taken near noon or afternoon, these values tend to have higher DO values compared to the ones collected earlier in the morning. To account for this daily cyclic behavior, assessment should be based on an averaging period.

Insufficient Data Considered

The recommended impairment listing is based on eight of eleven samples below the Basin Plan objective. The Listing Policy requires a minimum of five samples for an impairment listing.

All of the samples were collected over a three-month period and represent the seasonally worst case condition (late summer) for temperature, pH, and dissolved oxygen in a typical year. One of the eight DO values below 7 mg/L was less than 10% lower, which is within typical laboratory or field measurement error.

Sections 6.1.5.2 and 6.1.5.3 of the Listing Policy provide specific guidance on spatial and temporal data representativeness. Stations 644VWM6, 644VWM7, and 644VWM8 are within 200 meters of each other. Therefore, those stations should be considered spatially similar and data collected should be deemed duplicate. Station pairs 644VWM5-7 and 644VWM5-8 are the only pairs with distance larger than 200 meters. The Listing Policy also specifies that “Samples used in the assessment must be temporally independent. If the majority of samples were collected on a single day or during a single short-term natural event (e.g., a storm, flood, or wildfire), the data shall not be used as the primary data set supporting the listing decision.” While the samples were not collected on the same day, sampling from June to September (late summer) may not be a realistic representative of the sites. Samples are collected in three different days. Three of the low DO values occurred on the same day, and four on another same day. Exceedances on the same day for stations not spatially apart are essentially replicated data points characterizing one daily condition in the water. The only exceedance in the afternoon samples is within 10% was less than 10% lower, which is within typical laboratory or field measurement error.

Table 1. Dissolved Oxygen Data Provided as Basis for Impairment Listing in Delta Waterways (eastern portion)

Station Code	Sample Date	Sample Time	Result
644VWM51	7/19/2006	11:00:00	5
644VWM61	7/19/2006	11:15:00	5.01
644VWM71	7/19/2006	11:30:00	4.82
644VWM52	8/15/2006	10:35:00	4.43

644VWM62	8/15/2006	10:43:00	4.48
644VWM72	8/15/2006	10:51:00	4.41
644VWM82	8/15/2006	10:57:00	4.35
644VWM53	9/13/2006	12:41:00	7.33
644VWM63	9/13/2006	13:18:00	7.17
644VWM73	9/13/2006	12:52:00	7.92
644VWM83	9/13/2006	13:06:00	6.74

In summary, the data used for the assessment do not meet the minimum temporal and spatial requirements of the Listing Policy. Any impairment listing assessment for a general parameter such as DO should consider a wider range of constituents and underlying causes of DO depression.

Village West Marina (part of Delta Waterways (eastern portion)) Dissolved Oxygen

The Permittees recommend not listing Village West Marina (part of Delta Waterways (eastern portion)) as impaired due to Dissolved Oxygen (DO) (Decision ID 56904), based on site specific conditions and insufficient data used. Stations used for this assessment are very close to each other and the data is from late summer of 2006. Increasing temporal or/and spatial extent of data may demonstrate that there is no impairment.

The proposed listing is based on nine of twelve total samples that were below the Basin Plan requirement (i.e. 7 mg/L) as presented in **Table 2** below.

Incomplete Assessment of Site Specific Conditions

Stations used to collect samples for Village West Marina (part of Delta Waterways (eastern portion)) are very similar to the ones used in making a decision for DO in Delta Waterways (eastern portion) (discussed previously). Similarly, time of sample collection plays an important role so that samples collected in the evening have a tendency to show larger values as opposed to the afternoon samples. The reason is pertained to decreasing trend of DO over night and early morning which takes into afternoon to improve the condition.

Insufficient Data Considered

The recommended impairment listing is based on nine of twelve samples below the Basin Plan objective. The Listing Policy requires a minimum of five samples for an impairment listing.

All of the samples were collected over a three-month period and represent the seasonally worst case condition (late summer) for temperature, pH, and dissolved oxygen in a typical year. One of the nine DO values below 7 mg/L was less than 10% lower, within typical laboratory or field measurement error.

All four stations used (i.e. 644VWM1, 644VWM2, 644VWM3 and 644VWM4) are within 200 meters distance and should be considered spatially similar as provided by Sections 6.1.5.2 of the Listing Policy. Data collected at those stations should be considered duplicate. As for temporal requirements, sampling from June to September is not representative of the whole year and listing decision cannot be based upon this time span. Similar to Delta Waterways (eastern

portion), samples are collected in three different days. Four of the low DO values occurred on the same day, and four on another same day. Exceedances on the same day for stations not spatially apart are essentially replicated data points characterizing one daily condition in the water. The only exceedance in the afternoon samples is within %10 was less than 10% lower, within typical laboratory or field measurement error.

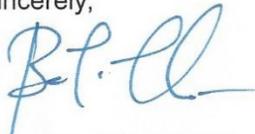
Table 2. Dissolved Oxygen Data Provided as Basis for Impairment Listing in Village West Marina (part of Delta Waterways (eastern portion))

Station Code	Sample Date	Sample Time	Result
644VWM11	7/19/2006	10:12:00	4.75
644VWM21	7/19/2006	10:25:00	5.19
644VWM31	7/19/2006	10:36:00	5.13
644VWM41	7/19/2006	10:51:00	4.79
644VWM12	8/15/2006	10:04:00	3.55
644VWM22	8/15/2006	10:11:00	3.68
644VWM32	8/15/2006	10:19:00	3.77
644VWM42	8/15/2006	10:25:00	3.62
644VWM13	9/13/2006	11:06:00	7.67
644VWM23	9/13/2006	11:28:00	8.73
644VWM43	9/13/2006	11:45:00	7.67
644VWM43	9/13/2006	12:17:00	6.46

In summary, the data used for the assessment do not meet the minimum temporal and spatial requirements of the Listing Policy. Any impairment listing assessment for a general parameter such as DO should consider a wider range of constituents and underlying causes of DO depression.

If you have any questions, please contact Christina Walter of City of Stockton at (209) 937-8155 or Christina.Walter@stocktongov.com or Gerardo Dominguez of San Joaquin County at (209) 953-7948 or gdominguez@sjgov.org.

Sincerely,



CITY OF STOCKTON
BA T. THAN, P.E.
DEPUTY DIRECTOR MAINTENANCE & COLLECTIONS



COUNTY OF SAN JOAQUIN
BRANDON W. NAKAGAWA, P.E.
WATER RESOURCES MANAGER

Cc: Karen Ashby, Larry Walker Associates
Christina Walter, City of Stockton
Gerardo Dominguez, County of San Joaquin