Central Valley Water Reclamation Facility

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September 12, 2016

Mr. James Harris
Utah Division of Water Quality
PO Box 144870
Salt Lake City, UT 84114-4870

Subject: ***Comments on the 2016 Integrated Report***

Dear Mr. Harris:

Central Valley Water Reclamation Facility offers the following attached comments with regard to the Division of Water Quality's 2016 Integrated Report. These general comments are based on our observations of Mill Creek and more specific response documents developed for the Jordan River/ Farmington Bay Water Quality Council, by Dr. Theron Miller, and from the July 25, 2016 comment document prepared by Mr. Leland Myers, PE, on behalf of Central Davis Sewer District.

We appreciate the level of effort that has gone into preparation of your 2016 Integrated Report and hope that all comments received may help inform a collaborative response that strengthens the document and results in cost effective protection of water quality in the state of Utah.

Sincerely,

Thomas A. Holstrom, PE
General Manager

Philip Heck, Ph.D., PE
Assistant General Manager/Process Engineer

Enclosure

Central Valley Water Reclamation Facility

2016 Integrated Report Comments

Mill Creek

Jordan River/Utah Lake UT 16020204-026

Mill Creek from confluence with Jordan River to Interstate 15

Not Supporting Dissolved Oxygen

Central Valley Water Reclamation Facility has been in compliance with the D.O. requirement of 5.5 mg/L in its permit (measured immediately downstream of reaeration) and the actual D.O. levels in our discharge downstream of the cascade aeration at the edge of Mill Creek are generally 1 mg/L higher than values measured for permit compliance. Since our flow is a significant proportion of the streamflow during most flow conditions, this leads us to believe the D.O. levels downstream of our discharge should be more than adequate. Are the sample locations that show D.O. impairment of the creek upstream or downstream of CVWRF discharge?

During and after precipitation events, we observe significant solids and dark coloration of the flow in Mill Creek upstream of our discharge and downstream from our discharge emanating from the Vitro Ditch. In addition, there is often an oily sheen on the water surface or both streams. This appears to be organic material washed from urban surfaces including roads and parking lots and would be expected to exert significant oxygen demand. We also observe significant flow of Utah Lake water in Mill Creek upstream of our discharge due to irrigation exchanges during the summer months. This water is turbid with and laden with algae and other organic material which also likely exerts a significant oxygen demand. Are the sample locations that show D.O impairment of the creek upstream or downstream of our discharge or the discharge location of the Vitro Ditch? Were the samples taken in the summer months or during/after precipitation events when significant organic material is entering the creek from other sources?

It is also our understanding that DWQ has likely used instantaneous DO readings to declare impairment as if they represented 7-day or 30-day average values. We understand that this method differs from EPA's 1986 guidelines (Water Quality Criteria for Dissolved Oxygen). We request that the sample locations and methods used for this assessment and the accompanying data be provided.

Not Supporting O/E Bioassessment

Please provide a list of reference sites which were used to compare O/E conditions against this reach of Mill Creek. Does this assessment and comparison take into account degradation of the aquatic habitat from the annual dredging of Mill Creek from the confluence with Jordan River to several hundred yards upstream of CVWRF's discharge point by Salt Lake County to maintain the creek as a flood control channel? Does this assessment take into account degradation of habitat from the organics/oils/debris from the irrigation exchange of Utah Lake water and the significant urban runoff that enters Mill Creek? Also, please list the site-specific physical characteristics which were used to compare Mill Creek and the reference sites.

Not Supporting E. coli

Central Valley Water Reclamation Facility has been in compliance with the E. coli parameter in its permit and the E. coli levels in our discharge are typically 10 times lower than the permit requirements. We suspect that the source of E. coli in the stream reach is most likely wildlife and the large numbers of waterfowl that inhabit this segment. There are typically dozens of ducks and geese in the stream reach downstream of CVWRF's discharge. Is there any information on the source of the E. coli (i.e., human origin, avian or other)? We request clarification of the sample locations and rationale for this listing.

Jordan River

Jordan River/Utah Lake UT 16020204-001, 002, 003

Jordan River from Farmington Bay to Confluence with Little Cottonwood Creek

Not Supporting O/E Bioassessment

Please provide a list of reference sites which were used to compare O/E conditions against these three reaches of the Jordan River. Also please list the site-specific physical characteristics which were used to compare these three reaches of the Jordan River and the reference sites.

TMDL Approved (Phase 1) for Dissolved Oxygen

We believe that available data demonstrates that low D.O. in these three reaches of the Jordan River is a result of high-flow introduction and suspension of rapidly oxidizable organic materials during storm events and that DWQ has yet to address the use attainability issues surrounding this impairment. We remain convinced that organic materials exiting our secondary clarifiers do not materially contribute to the settled organic load that is re-mobilized during these infrequent storm events and request DWQ's view on this issue.

Not supporting E. coli

As described above for Mill Creek, Central Valley Water Reclamation Facility has been in full compliance with the E. coli parameter in its permit. We suspect that the source of E. coli in these reaches of the Jordan River is most likely wildlife and the large population of waterfowl that

inhabit the river. Is there any information on the source of the E. coli (i.e., human origin, avian or other)? We request clarification of the rationale for this listing and request consideration be given to a site-specific UAA that addresses these issues.

Jordan River/Utah Lake UT 16020204- 003

Jordan River from North Temple to 2100 South

Not Supporting Total Phosphorus

What was the threshold for P used in this determination? How was this threshold developed?

Evaluation of Harmful Algal Bloom Data in Farmington Bay Great Salt Lake

Central Valley has received and reviewed a copy of the "Utah 2016 Integrated Report Comments" provided by Central Davis Sewer District and prepared by Mr. Leland Myers, PE. We concur with the content of Mr. Myers' well-researched paper and offer the following reiteration of key points contained therein:

It is generally recognized that not all cyanobacteria produce toxins. Use of cell count data in lieu of toxin concentration is tenuous to prompt water body closure or to declare a water body impaired. However, we recognize that prudence must be exercised in water body postings or closure and believe that this activity should be distinct from any declaration of impairment. We believe that the State of Utah should use toxin level as the metric for declaring a water body impaired. The State could employ the enzyme-linked immunosorbent assay (ELISA)-based testing kits to measure total microcystin concentration in water. Use of the 20 ug/L public advisory limit for impairment listing appears appropriate.

Sampling of a water body should be consistent with State management criteria and not driven by attempts to sample only accumulation zones, or, conversely to ignore the same in an attempt to expose lower levels representative of only open water. The State should establish such consistent sampling criteria.

Declaring Farmington Bay as impaired due to cyanobacteria ignores the crucial role of cyanobacteria as an important part of that ecosystem's food chain. Historically, cyanobacteria has naturally occurred in Farmington Bay. Therefore, its existing uses for recreation should not include stated conditions related to cyanobacteria. The existing use as a food source for birds and their necessary food chain may conflict with the desire to have infrequent primary and secondary contact as a beneficial use -- including a cyanobacteria limitation.

Listing of Farmington Bay as impaired also ignores the historic alteration of the lake through causeway construction, which impedes the past circulation patterns in the lake.