

Northern Nevada Water Planning Commission

STAFF REPORT

DATE: April 25, 2019

TO: Chair and members, Northern Nevada Water Planning Commission (“NNWPC”)

FROM: Jim Smitherman, Water Resources Program Manager, Western Regional Water Commission (“WRWC”)

SUBJECT: Discussion and possible recommendation to the WRWC for approval of a proposal by the Regional Effluent Management Team (“Team”) for funding, in an amount not to exceed \$75,000 from the Regional Water Management Fund (“RWMF”), to evaluate the feasibility of discharging Reno Stead Water Reclamation Facility (“RSWRF”) effluent to Long Valley Creek.

SUMMARY

The 2016-2035 Regional Water Management Plan, Section 9.3.3, states that expansion of the RSWRF capacity from 2 to 4 million gallons per day (“MGD”), average annual flow, will require the development of new reuse or disposal options to utilize the increased treatment capacity. Section 9.3.3 also identifies a small number of effluent management alternatives for the Stead/Lemmon Valley area, which include expansion of the existing reuse system for irrigation, storage in either or both surface reservoir(s) or underground, and discharge to locations outside Lemmon Valley, such as Long Valley Creek. The City of Reno expects to initiate the RSWRF expansion in the summer of 2019 and finish in 2021, in anticipation of forecasted growth in the Stead/Lemmon Valley area.

After discussing effluent management options, the Team concluded that the feasibility of the Long Valley Creek alternative should be studied because a discharge point outside the Lemmon Valley basin could provide the greatest degree of reliability and flexibility compared to other alternatives. Near-term, in-basin expanded reuse options may be of value by incrementally increasing effluent management capacity, however long-term usefulness may be limited considering the seasonal nature of irrigation reuse and Swan Lake flooding issues. Also, previous cost estimates of facilities and operations associated with discharge to other locations outside Lemmon Valley are higher in comparison to the estimates for Long Valley discharge. In its discussions, the Team acknowledged the ongoing feasibility study concerning the possible future use of Category A+ reclaimed water technology, and emphasized that investigations are at a relatively early stage of a long-term study with no guarantee of a positive outcome.

The following list outlines the proposed tasks related to investigating the feasibility of the Long Valley Creek alternative.

1. Discuss with involved parties, including local and state governments and property owners
2. Develop water balance to estimate the quantity and timing of water to be discharged using:
 - a. 2017 water year (“WY”) as a base case with a daily assessment of effluent discharge/reuse
 - b. Modified WY2017 to “design” rainfall, effluent flows, and modified discharge strategy to Swan Lake
 - c. Discharge strategy for flood conditions on both Long Valley Creek and Swan Lake
3. Identify Long Valley Creek existing conditions and topics of possible concern, including
 - a. Beneficial uses
 - b. Endangered species present
 - c. Flooding issues/concerns
 - d. 303 (d) listings (high risk of pH & DO problems from bio-stimulation)
 - e. Hydrograph/flow patterns
4. Characterize effluent water quality and reliability features with respect to
 - a. National and state toxics rules
 - b. Disinfection
 - c. Nutrients
 - d. Biological oxygen demand, suspended solids, dissolved solids, turbidity
5. Identify and characterize discharge location alternatives
 - a. Develop accurate map of Long Valley Creek and its known tributaries relative to state line and previously proposed pipe route
 - b. Determine land ownership at alternative discharge points and between discharge point and Long Valley Creek
 - c. Discuss with property owners
6. Determine conveyance issues based on water balance forecasts:
 - a. Estimate effluent residence time in pipe when discharging and forecast of water quality change (if any), and mitigation (if any, e.g., in-pipe aeration).
 - b. Procedures to drain the pipe when not in use
 - c. Determine whether first-flush from a dry pipe is of concern, and if so, mitigation measures
7. Identify discharge point facilities
 - a. At minimum, a caged flap valve, rip-rap and energy dissipation features, and secure sampler (small building or vault)
 - b. Holding basin and ancillary facilities for first flush, if necessary
 - c. Power requirements

FISCAL IMPACT

If approved, the fiscal impact to the RWMF will not exceed \$75,000 for Fiscal Year 2019-2020. The Fiscal Year 2019-2020 draft tentative budget recommended by the NNWPC, and approved by the WRWC, includes adequate budget for this project. Budget authority is located in Fund Group 766, Fund 7066, Account Number 710100, Professional Services, Cost Object WP310201.

RECOMMENDATION

Staff recommends that the NNWPC consider the proposal from the Team and provide a recommendation for approval to the WRWC.

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