

# Northern Nevada Water Planning Commission

## STAFF REPORT

**DATE:** January 26, 2017

**TO:** Chairman and Members, Northern Nevada Water Planning Commission (“NNWPC”)

**FROM:** Jim Smitherman, NNWPC Water Resources Program Manager

**SUBJECT:** Review, discussion and possible direction to staff regarding the draft Regional Water Balance Model for possible inclusion in the “Population Forecast and Projections of Water Demand, Peak Day Requirements and Wastewater Flow” chapter of the 2016 Regional Water Management Plan (“RWMP”) update.

### SUMMARY

Stantec Consulting Services (“Stantec”) has been contracted to update the regional water balance model for inclusion in the “Population Forecast and Projections of Water Demand, Peak Day Requirements and Wastewater Flow” chapter of the 2016 RWMP update. Mr. Buzzone of Stantec last reported to the NNWPC on December 7, 2016, that the water balance was partially completed and that certain assumptions needed to be confirmed before the model could be finished. Since that date the necessary decisions have been made and the model has been completed. Mr. Buzzone will present the final product and answer questions.

### BACKGROUND

The regional water balance model is a spreadsheet model and a GIS-generated geographical flow diagram of a projected 2035 future conditions scenario for water supply, wastewater treatment, reclaimed water and wastewater disposal requirements. The regional water balance is useful to answer questions such as the following.

- How much potable water will be required and in what locations?
- From what sources will potable water originate?
- Once potable water is used, where will wastewater treatment happen?
- Once treated, how much water will be reused and in what locations?
- Where will the remaining effluent be disposed?
- Are there future imbalances in water supply, wastewater reuse/disposal, and if so, where?
- Are there planning areas with adequate capacity to address imbalances?

Stantec has compiled future water demand and wastewater flow projections for 2035 provided by the Truckee Meadows Regional Planning Agency (“TMRPA”), which are distributed within the Truckee Meadows Service Area (“TMSA”) into 6 geographic areas that coincide with the service areas of the 4 major water reclamation facilities (“WRF”):

<u>Area</u>	<u>WRF</u>
1. Cold Springs	Cold Springs WRF
2. Lemmon Valley/Stead	Reno-Stead WRF
3. South Truckee Meadows	South Truckee Meadows WRF
4. Sparks/Spanish Springs	Truckee Meadows WRF
5. Sun Valley GID	Truckee Meadows WRF
6. Truckee Meadows	Truckee Meadows WRF

Water demand projections are a function of residential and non-residential unit projections based on the 2014 Consensus Population Forecast, derived using the TMRPA parcel-based population and employment model and Truckee Meadows Water Authority (“TMWA”) water use coefficients. Projections are reviewed by TMWA for consistency with water demand projections in its 2035 Water Resources Plan (“WRP”).

Wastewater flow projections are derived similarly, using TMWA’s indoor water use coefficients. The methodology is calibrated by modeling 2015 average day annual flows and comparing them to 2015 observed flows at each WRF.

Water demand and wastewater flow projections are compared to plans provided by the service providers for future water supply, wastewater treatment capacity, and effluent management to create a high-level, 20-year water balance scenario for each of the 6 areas.

**RECOMMENDATION**

Staff recommends that the NNWPC accept the report and provide direction to staff as appropriate.

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