#### **EXHIBIT A**

# City of Reno TMWRF/Huffaker Reservoir Effluent Interconnection Pipeline Evaluation

#### SCOPE OF SERVICES

Stantec Consulting Services, Inc. (Stantec) is pleased to offer its services to assist in the evaluation of the opportunities, infrastructure needs, costs, and operational constraints associated with the proposed interconnection pipeline for seasonally storing treated effluent from the Truckee Meadows Water Reclamation Facility in the Huffaker Reservoir located at the South Truckee Meadows Water Reclamation Facility.

### INTRODUCTION

The Reno, Sparks, and Washoe County entities, (henceforth collectively referred to as "RSW") are considering the benefits to the community of an interconnection pipeline that would allow seasonal storage of treated effluent from the Truckee Meadows Water Reclamation Facility (TMWRF) in the Huffaker Reservoir for later use in the RSW reclaimed water systems. Huffaker Reservoir is currently owned and operated by Washoe County and is used to store treated effluent from the South Truckee Meadows Water Reclamation Facility (STMWRF) for sole use in the Washoe County reclaimed water system.

Preliminary discussions suggest there are a number of potential benefits to be gained from the proposed interconnection pipeline, including:

- Increased operational flexibility for the RSW reclaimed water systems;
- The ability to seasonally store TMWRF treated effluent, thereby maximizing the use of treated effluent not subject to return flow requirements (i.e., maximize use of the groundwater component);
- Increased opportunities available to STMWRF and TMWRF for effluent disposal;
- Reduced reliance on effluent discharge to the Truckee River by TMWRF;
- Increased opportunities to improve Truckee River summer/fall flows through timing of TMWRF effluent discharges;
- Improving TMWRF's ability to comply with NPDES Permit requirements (particularly total nitrogen [TN], total phosphorus [TP], and total dissolved solids [TDS] limits) through re-timed discharges, increased diversions to the reclaimed water systems, and/or or alternative disposal locations;
- Increases the regional volume of available treated effluent for reuse customers;
- Improves water quality in Huffaker Reservoir through increased turnover, dilution, and stabilization of storage levels;
- Potential to decrease the seasonal use of surface water at STMWRF to meet reclaimed water demands.
- Provide more robust effluent disposal strategies that are less vulnerable to changing demands in the reuse customer base.

These benefits have the added potential to allow the deferral and/or avoidance of costly treatment process improvements at TMWRF and possibly STMWRF. There may be additional benefits afforded by the considered project that have not yet been identified and that may be revealed through this study.

#### STUDY OBJECTIVES

The purpose of this study is to refine the understanding of the potential interconnection pipeline benefits; define the operational strategies, constraints, and issues related to discharge permit compliance (in the near- and long-term); understand and define return flow requirements within an operational context; and develop planning level cost estimates for the infrastructure needed to implement the interconnection pipeline. To better understand the overall study objectives, it is helpful to enumerate the questions being asked of this study:

- What infrastructure would be needed to seasonally store TMWRF treated effluent in the Huffaker Reservoir and return it to the Reno and Sparks reclaimed water systems?
- Assuming the ability to seasonally store treated effluent, what TMWRF effluent management strategies become available to maximize the use of the groundwater component or other treated effluent not subject to return flow requirements?
- What TMWRF effluent management strategies (maximized reuse or disposal at rapid infiltration basins) become available to meet short- and long-term discharge limitations (TN, TP, and TDS)?
- What infrastructure is needed within the existing RSW reclaimed systems to implement the management strategies?
- Can discharge limits be met solely with seasonal effluent storage strategies, and if not, what is the maximum plant flow for which they can be met?
- Would the proposed project adversely impact or require major modifications to TMWRF and STMWRF discharge permits or to the RSW reclaimed water system permits?
- What are the planning-level costs associated with the interconnection pipeline infrastructure?

For RSW to make an informed decision as to whether or not to pursue the interconnection pipeline, it is necessary to quantify the amount of treated effluent that can be diverted and used in the reclaimed system or disposed of at an alternate location. By extension, diverting treated effluent to the reclaimed systems or an alternative disposal site will also reduce the amount of TN, TP, and TDS discharged to the Truckee River, and reducing the TN discharges in particular to the Truckee River may allow the deferral or avoidance of constructing advanced treatment processes at TMWRF to comply with discharge requirements. Quantifying that potential TN discharge reduction will be a goal of this study. Additionally, there may be other regional benefits and operational strategies afforded by the proposed project that need further definition.

Once operational strategies are identified for managing treated effluent, the benefits, costs, and operational constraints can be estimated for comparison against other alternatives for complying with TMWRF discharge requirements, such as those described in the TMWRF Technical Memorandum Unit Process Update (Carollo, 2013).

To address these issues, Stantec proposes to perform the services described in the nine tasks presented below.

# Task 1 - Project Management and Progress Meeting

This task is to ensure the project objectives, tasks, and deliverables are executed timely and within the established budget. This task also includes activities related to project administration.

In this task, Stantec reserves time for conducting a progress meeting with RSW staff to review preliminary results for the work described below in Tasks 3 and 4. The purpose of the meeting is to provide an opportunity to refine the scenarios and strategies to be examined and modeled. It is anticipated that a 2 hour meeting will be adequate to present and discuss preliminary results and refine subsequent project direction.

## Task 2 - Data Gathering

This project element centers on gathering the information and data necessary to conduct the study. The notable information to be obtained includes:

- Water distribution model for the Sparks reclaimed system;
- Weekly average TN, TP, TDS data for TMWRF;
- TMWRF and STMWRF effluent flow rates (weekly current and year 2033)
- Other TMWRF effluent water quality data as may be necessary:
- RSW reclaimed water demands (weekly current and year 2033);
- Huffaker Reservoir storage model;
- STMWRF effluent water quality data;
- STMWRF process design criteria and process and piping layout (export building, chlorine contact basin, sand filters, pump building, reservoir piping, and other as may be necessary); and
- Other information as may be found necessary.

It is assumed RSW will make the above items available upon request.

# <u>Task 3 – Water Balance Modeling (Strategies to Maximize Effluent Available for Reuse)</u>

Stantec will develop a spreadsheet water balance model using TMWRF and STMWRF historical weekly effluent production rates, RSW reclaimed water system demands, and return flow constraints (e.g., groundwater component, etc.). The model will be linked to the Washoe County Huffaker Reservoir model and used to explore two scenarios:

- Maximize treated effluent diversion under current (2013) flow and demand conditions (fully lined reservoir)
- Maximize treated effluent diversion under future (2033) flow and demand conditions (fully lined reservoir)

The model will be used to explore management strategies that take advantage of seasonal discharge limitations while maximizing the amount of treated effluent available to the RSW reclaimed systems. The objective of this task is to develop management strategies that maximize the amount of treated effluent diverted to the RSW reclaimed water systems, but still

complies with the return flow requirements. Stantec will assume average year meteorological conditions and water demands in the modeling analysis.

### <u>Task 4 – Analysis of Total Nitrogen Management Strategies</u>

Using the water balance modeling tools developed in Task 3, Stantec will develop and model management strategies that seek to optimize compliance with TN discharge limitations. The strategies will be developed assuming no return flow constraints on TMWRF treated effluent. Strategies will be developed for 2013 and 2033 flow conditions using the provided water quality and flow projections. TP and TDS loadings will also be calculated for each scenario using the provided loading and flow projections.

With the completion of the TN modeling analysis, Stantec will hold a workshop with RSW representatives to share the preliminary results and to refine the approach, clarify feasible management strategies and operations, and develop two or three additional scenarios to model that are a hybrid of the TN compliance and maximized effluent diversion strategies. With concurrence from RSW, Stantec will model up to three additional scenarios and develop a relationship between the tradeoffs of maximized treated effluent diversions (which may require additional water rights to implement) and compliance with TN discharge limitations.

### <u>Task 5 – Infrastructure Needs Assessment</u>

Using the information obtained from the previous tasks and a review of the existing STMWRF process and piping layouts, Stantec will develop recommendations for infrastructure improvements at STMWRF needed to implement the proposed project. Recommendations are expected to address:

- Conveyance into the reservoir (improvements within the STMWRF site)
- Conveyance out of the reservoir (improvements within the STMWRF site)
- Filtration (at STMWRF or offsite)
- Disinfection (at STMWRF or offsite)
- Export pumping (improvements at TMWRF and STMWRF)

Stantec will also use the Sparks water distribution model to assess possible operational strategies for delivering treated effluent to proposed rapid infiltration basins (RIBs) in Spanish Springs and improvements needed in the distribution system. This analysis will not consider or evaluate the disposal capacity of the RIBs, but will rely on previous work estimating their capacity.

### Task 6 – Analysis of Permitting Issues

In this task, Stantec will assist RSW assess the likely impacts to discharge permits (reclaimed permits and discharge permits). This may include participating in a meeting between RSW and the Nevada Division of Environmental Protection (NDEP) to discuss the likelihood of minor and major permit modification, as may be required by NDEP. Other issues such as required monitoring and compliance points will also be considered and evaluated.

# <u>Task 7 – Planning-Level Cost Estimates</u>

With the identification of infrastructure needed to implement the proposed project, Stantec will develop planning-level costs estimates for the identified infrastructure. It is anticipated that cost estimates will be developed for the following infrastructure systems:

- Pipeline (and appurtenances such as PRV stations)
- STMWRF reservoir piping
- Filtration and disinfection
- Huffaker reservoir lining
- Pumping systems
- RSW reclaimed water system improvements

## Task 8 - Prepare Technical Memorandum

Stantec will summarize the information obtained, the results of the analysis, and the planning-level cost estimates in a technical memorandum with figures and drawings as needed. A draft memorandum will be provided for review and comment. Stantec will finalize the memorandum upon receipt of review comments.

### <u>Task 9 – Project Contingency</u>

Because the full nature of this effort is not fully known at this time, additional services may be needed to carry out the objective of this study. Stantec will provide additional services on an as requested basis. These services will be provided only upon written direction from the City of Reno and only for services and budget agreed upon in advance by the City of Reno and Stantec. A total budget of \$5,000 is assigned to this task and will be expended only at the City of Reno's discretion (in writing).

### Fee Estimate and Schedule

Stantec is pleased to offer these services on a time and expense basis with a budget of \$45,000. This budget will not be exceeded without prior written authorization. A breakdown of the budget is provided in Table 1 below, which also includes an estimate of the total Stantec labor hours for each task. Attached is Stantec's Standard Fee Schedule, which has been discounted 5%, and will be in effect for this project. Stantec reserves the right to reallocate costs between tasks as long as the total authorized budget is not exceeded.

Table 1 – Project Budget and Hourly Breakdown

Task	Estimated Labor Hours (all staff)	<b>Estimated Cost</b>
1 – Project Management	23	\$4,000
2 – Data Gathering	12	\$1,500
3 – Water Balance Modeling	36	\$6,000
4 – Analysis of Total Nitrogen Management Strategies	34	\$6,000
5 – Infrastructure Needs Assessment	52	\$8,500
6 – Analysis of Permitting Issues	8	\$1,500
7 – Planning Level Cost Estimates	29	\$4,500
8 – Prepare Technical Memorandum	48	\$8,000
Total, Tasks 1-8	252	\$40,000
9 – Project Contingency		\$5,000
Total, Tasks 1-9		\$45,000

The Draft Technical Memorandum will be provided by October 23, 2014, assuming the Notice to Proceed is received by September 2, 2014. The progress meeting is anticipated to be held on October 28, 2014. The Final Technical Memorandum will be provided within three days of progress meeting.

Thank you for the opportunity to perform this evaluation on behalf of the City of Reno. Please do not hesitate to contact me if you have any questions regarding this proposed scope of work.

STANTEC CONSULTING SERVICES INC.

Mike Wilkin, PE

Principal

Mike Wilkin, PE

Principal

Tel: (775) 398-1234 Fax: (775) 850-0787

Mike.Wilkin@Stantec.com