



Stantec Consulting Services Inc.  
6995 Sierra Center Parkway, Reno, Nevada, 89511

April 29, 2019

**Attention: Alan Jones, P.E.**

Washoe County Community Services Department  
1001 E. Ninth St.  
Reno, NV 89512

Dear Alan,

**Reference: Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station**

Stantec Consulting Services Inc. (Stantec) is pleased to offer our services to assist Washoe County with upgrades to the existing South Truckee Meadows Steamboat Lift Station (SLS) and the addition of a new primary force main. At the County's request, this first proposal is for a feasibility study to provide alternatives for upgrading the SLS and providing a new force main. An additional proposal will be submitted to the County for design services once the preferred improvements have been defined.

**INTRODUCTION**

The SLS was commissioned in 1991 and currently has a firm capacity of 4.1 million gallons per day (MGD) and a peak wet weather flow (PWWF) capacity of 6.5 MGD. In Technical Memorandum 2, Hydraulic Model Update (December 2018), Carollo Engineers (Carollo) recommends the SLS have a peak wet weather flow (PWWF) capacity of 9.5 MGD to meet anticipated 2035 flow conditions. This recommendation will serve as the principal design flow criterion for the proposed project.

In addition to requiring expansion to meet future flow conditions, the County wishes to address certain redundancy and reliability concerns. These concerns are primarily related to having no redundant force main and periodic fouling of the pumps and/or intakes by construction and other debris. Other important concerns noted by the County include aging infrastructure (the lift station is almost 30 years old); higher than normal pump impeller wear (frequent pump replacement); and the difficult and hazardous steps necessary to take the wet well off line for maintenance, repairs, and clearing of blockages.

This proposal describes the services and budget Stantec proposes for developing and evaluating alternatives for expanding the SLS PWWF firm capacity to 9.5 MGD, addressing redundancy and reliability concerns, and improving facility operations. The proposed scope of services and budget are presented below. Stantec understands that design services will be addressed by an additional proposal to the County once a preferred improvement alternative is selected.

**Reference:** Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station

## **SCOPE OF SERVICES**

Stantec proposes to complete the services described in the tasks presented below.

### Task 1 – Project Management

Stantec's project management services includes project administration, schedule compliance monitoring, preparation of Stantec field work safety plans, subconsultant coordination, project progress and budget monitoring, billing, and office support services to manage the project. Stantec assumes this first planning phase of the project will be completed within five months of authorization to proceed.

*Deliverables: Deliverables under this task includes monthly progress billing and project status reports.*

### Task 2 – Data Collection and Property Owner Coordination

Stantec will gather information to understand the project needs, existing conditions, and other items as may be necessary to complete the work described herein. This may include collecting information about existing equipment (e.g., standby generator, controls systems, pipe sizes/materials, electrical systems, etc.), discussing project objectives with County staff and contract operator (SPB Utilities), reviewing plans and specifications for existing infrastructure, and researching development requirements with local agencies.

Stantec will need access to the following parcels to survey site features, conduct aquatic resource delineations, and/or conduct geotechnical investigation activities:

- APN 163-010-04
- APN 163-010-07
- APN 163-090-07
- APN 165-011-31
- APN 163-010-03
- APN 163-020-11

Stantec will contact the owners of these parcels in an effort to obtain their written authorization to perform the needed activities on their property. We anticipate that the property owners will likely be unaware of the SLS project and its urgency. Stantec will be prepared to explain the project and provide the owner information on the project and a detailed description of the activities we wish to conduct on their property, including any restoration activities that may be needed to address disturbances caused by the geotechnical investigation activities. Stantec will prepare a draft access agreement between each owner and Washoe County for the owners review and signature.

Stantec will provide the County a draft of the access agreement for review and comment before distribution to any property owner. Stantec will include the County in all communications and meetings with the property owners.

*Deliverables: Draft and final property access agreements.*

**Reference:** Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station

*Assumption: Requests for access to the required parcels will include a basic description of the proposed project and the activities to be completed on the parcels. The effort for this task is limited to coordinating the requests and responses. The basic agreement will be between the County and the property owner and granting access to the County and its designee. Any resistance to granting access will be brought to the County's attention.*

### Task 3 – Aquatic Resource Delineation

To provide guidance on the extent of wetlands in the project area, Stantec will assess up to 25 acres for the potential presence of aquatic resources in the vicinity of the proposed new force main and lift station. This survey area will be assessed for the potential presence of wetlands and drainage channels. The assessment will be conducted through a desktop analysis and a field survey. The desktop analysis will consist of mapping potential wetlands and drainage channels in the survey area based on aerial imagery and the United States Fish and Wildlife National Wetlands Inventory (NWI) data.

A Stantec wetland scientist will conduct the field survey and assess the potential wetland areas and drainage channels to verify the presence of wetland and channel characteristics. Drainage channels characteristics include bed and bank and other signs of deposition or erosion, which the United States Army Corps of Engineers (ACOE) calls the "Ordinary High Water Mark" (OHWM). The OHWM will be documented using photographs and completing an ACOE OHWM Datasheet. Stantec will map the drainages exhibiting OHWM within the survey area using a GPS receiver with sub-meter accuracy. Stantec will delineate the extents of wetlands within the survey area. Stantec will dig at least two test pits (one wetland test pit and one non-wetland test pit) to determine the extents of the wetland. When in the field, Stantec will also record any previously unmapped wetlands, if applicable. In the field, wetlands will be assessed for their presence or absence of wetland characteristics including hydrophytic vegetation, hydrology, and hydric soils. This information will be recorded on an ACOE Arid West Wetland Delineation field form. Stantec will map the extent of the wetland sites using a GPS receiver with sub-meter accuracy. Where the extents may be critical to the project (such as where the new force main will cross Thomas Creek), Stantec will also set stakes that will be surveyed to fix their position.

*Deliverables: Map of potential wetlands and drainage channels.*

### Task 4 – Geotechnical Investigation

Stantec, through its subconsultant Construction Materials Engineers, Inc. (CME), will conduct a geotechnical evaluation of the new force main alignment and the possible new lift station site. The investigation will establish the development and foundation design criteria, as well as define the nature and type of existing soils in the area. A key element of the investigation will be to develop shoring and dewatering recommendations for excavations extending below groundwater.

The geotechnical investigation will obtain borings approximately 50 feet deep at the existing lift station location, at the potential new lift station location, as presented in the Stantec Statement of Qualifications, and at either end of the potential trenchless crossing of Thomas Creek and the surrounding wetland areas. Up to four shallower borings will also be completed elsewhere along the pipeline route.

*Deliverables: Geotechnical report summarizing the geotechnical investigation findings and recommendations.*

**Reference:** Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station

### Task 5 – Topographic Surveying

Stantec, through its subconsultant, Andregg Psomas, will collect survey topographic data (1-foot contours) and identify man-made and natural land features in the vicinity of the force main alignment and lift station as needed for this preliminary evaluation and for final design. Survey data will be collected by stereo aerial photography and augmented with survey topographic and location data collected in the field. The approximate limits of the survey area is shown on the attached figure. This will include details pertaining to location, size, and height of the features. Elevations and grading features will be presented as contour lines on a plot.

It is anticipated that easements and/or land will need to be acquired for the force main and a potential new lift station. Andregg Psomas can prepare property descriptions (meets and bounds / legal descriptions) for the needed easements and/or land purchase. However, because the project details and spatial needs are unknown at this time, we propose deferring these services to the design phase. As such, cost for these services are not included in this proposal.

*Deliverables: Survey in AutoCAD Civil 3D and printed copy for design purposes.*

### Task 6 – Lift Station Alternatives

At the core of this project is the development of improvement alternatives from which the County can select the most appropriate alternative. Stantec will develop up to four different improvements that range from a simpler upgrade that addresses capacity needs to a more complex replacement facility that addresses reliability and operational deficiencies and addresses the project's construction challenges (high groundwater and deep excavations).

Because the preferred pump type will affect the overall lift station design, Stantec will prepare a brief technical memorandum (TM1) describing the advantages and disadvantages of different pump types (e.g., submersible, vertical turbine, etc.) for the County's consideration and to provide selection of a preferred pump type. Once a preferred pump type is selected by the County, Stantec will develop lift station improvement alternatives that take into consideration the County's preferred pump type.

All lift station improvement alternatives developed will address capacity deficiencies. However, each lift station improvement alternative will address increasing levels of reliability and operational improvements. Operational and reliability improvements will include structural systems such as sediment traps, floatables traps, debris (construction) traps, and mechanical systems such as screens that would limit wear, clogging, and damage to the pumps. It will also include items such as flow bifurcation to allow the shutdown of a pump train (wet well) for maintenance and repair while maintaining a second train in service.

In developing the alternatives, Stantec will explore approaches that eliminate the need to place staff inside a wet well to remove materials clogging the pumps and that incorporate existing infrastructure into the improvements, to the extent practical. Stantec will also consider techniques for easy equipment retrieval, such as the use of davit or overhead monorail cranes. Stantec will also attempt to fit the improvements inside the County-owned parcel, however it is anticipated that additional land will be needed for alternatives that address operational and reliability deficiencies. For each alternative developed, Stantec will prepare preliminary design concept drawings to help visualize the alternatives and define the spatial needs.

**Reference:** Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station

*Deliverables: Draft and final TM1 and draft TM2.*

#### Task 7 – Force Main Alignment Alternatives

Based on the results of the aquatic resources delineation and the geotechnical investigation, Stantec will explore alternative force main alignments. It is possible that a single alignment will be the obvious choice. However, if more than one alignment is reasonably feasible, up to three alternative alignments will be presented to the County as part of TM2 (from Task 6). TM2 will include a discussion of the advantages and disadvantages of each alternative (if more than one). A Class 4 AACE cost estimate will be prepared for each alternative and included in TM2. The force main alignment(s) will be presented on preliminary design concept drawings to help visualize the project and define the spatial needs for each alternative.

Based on the apparent preferred alignment (or variation thereof) presented in the Stantec Statement of Qualifications, it is assumed that tunneling below Thomas Creek will be preferred over impacting the creek with open cut construction and incurring permitting and mitigations costs and delays. Stantec will incorporate Horizontal Directional Drilling (HDD) considerations into the force main alignment considerations and costs.

*Deliverables: Draft TM2.*

#### Task 8 – Cost Estimate

Stantec will prepare a Class 4 AACE cost estimate for each of the three alternatives. Due to the constrained existing site, depth of construction, and presence of shallow groundwater, this task will include input from a Stantec construction manager with experience on pricing excavation and shoring of deep excavation projects. The alternatives will be presented in a draft technical memorandum (TM2) provided to the County. TM2 will include cost and non-monetary ranking criteria for use in a workshop held with the County to review and select the preferred alternative.

*Deliverables: Cost results will be incorporated into TM2.*

#### Task 9 – Alternatives Analysis Workshop and Selection

After delivery of draft TM2, Stantec will hold a workshop with County engineering and operations staff to review the alternatives and ask questions about the concepts. This will give County operation staff an opportunity to better understand the alternatives and express any concerns regarding the operations of the alternatives.

Following a review and discussion of the alternatives, the alternatives will be scored for their cost and non-monetary ranking criteria by the workshop attendees. The scoring process will be used to recommend the preferred alternative.

The results of the alternatives ranking and the final project recommendations will be added to TM2. The final TM2 will be provided to the County and will serve as the basis for the design phase of the project.

*Deliverables: Workshop agenda and final TM2.*

Reference: **Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station**

## PROPOSED BUDGET

Stantec proposes to provide the services described above with a not to exceed budget of \$176,804 and in accordance with Stantec's 2019 Standard Fee Schedule (attached). A breakdown of the proposed budget is provided in **Table 1**.

**Table 1 – Summary of Proposed Budget**

<b>Task</b>	<b>Proposed Budget</b>
Task 1 – Project Management	\$9,802
Task 2 – Data Collection and Property Owner Coordination	\$9,020
Task 3 – Aquatic Resources Delineation	\$17,264
Task 4 – Geotechnical Investigation	\$52,100
Task 5 – Topographic Surveying	\$38,539
Task 6 – Lift Station Alternatives	\$26,188
Task 7 – Force Main Alignment Alternatives	\$10,821
Task 8 – Cost Estimate	\$9,282
Task 9 – Alternatives Analysis Workshop and Selection	\$3,788
<b>Total</b>	<b>\$176,804</b>

Because the exact nature of the work and the required level of effort is uncertain, Stantec reserves the right to reallocate budget between tasks, provided the overall authorized budget is not exceeded.

## PROJECT SCHEDULE

Stantec proposes to complete the work in accordance with the schedule presented in **Table 2**.

Reference: Proposal for a Feasibility Study to Upgrade the South Truckee Meadows Steamboat Lift Station

**Table 2 – Proposed Schedule**

Task	Task Duration	Cumulative Duration
Notice to Proceed	Day 1	
Task 1 – Data Collection and Property owner Coordination	1 month	1 month
Task 3 – Aquatic Resources Delineation	2 weeks	1.5 months
Task 4 – Geotechnical Investigation (field work)	3 weeks	1.75 months
Task 5 – Topographic Surveying (map product)	1 month	2.75 months
Task 6 – Lift Station Alternatives	2 months	3.5 months
Task 7 – Force Main Alignment Alternatives	1.5 months	3.5 months
Task 8 – Cost Estimate	2 weeks	4 months
Task 9 – Alternatives Analysis Workshop and Selection	2 weeks	4.5 months
Final TM2 with Preferred SLS Upgrade	2 weeks	5 months

Stantec appreciates the opportunity to provide these services to Washoe County and we are looking forward to a successful project. Please do not hesitate to call me with any questions or concerns.

Regards,

STANTEC CONSULTING SERVICES INC.



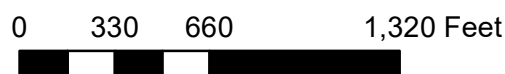
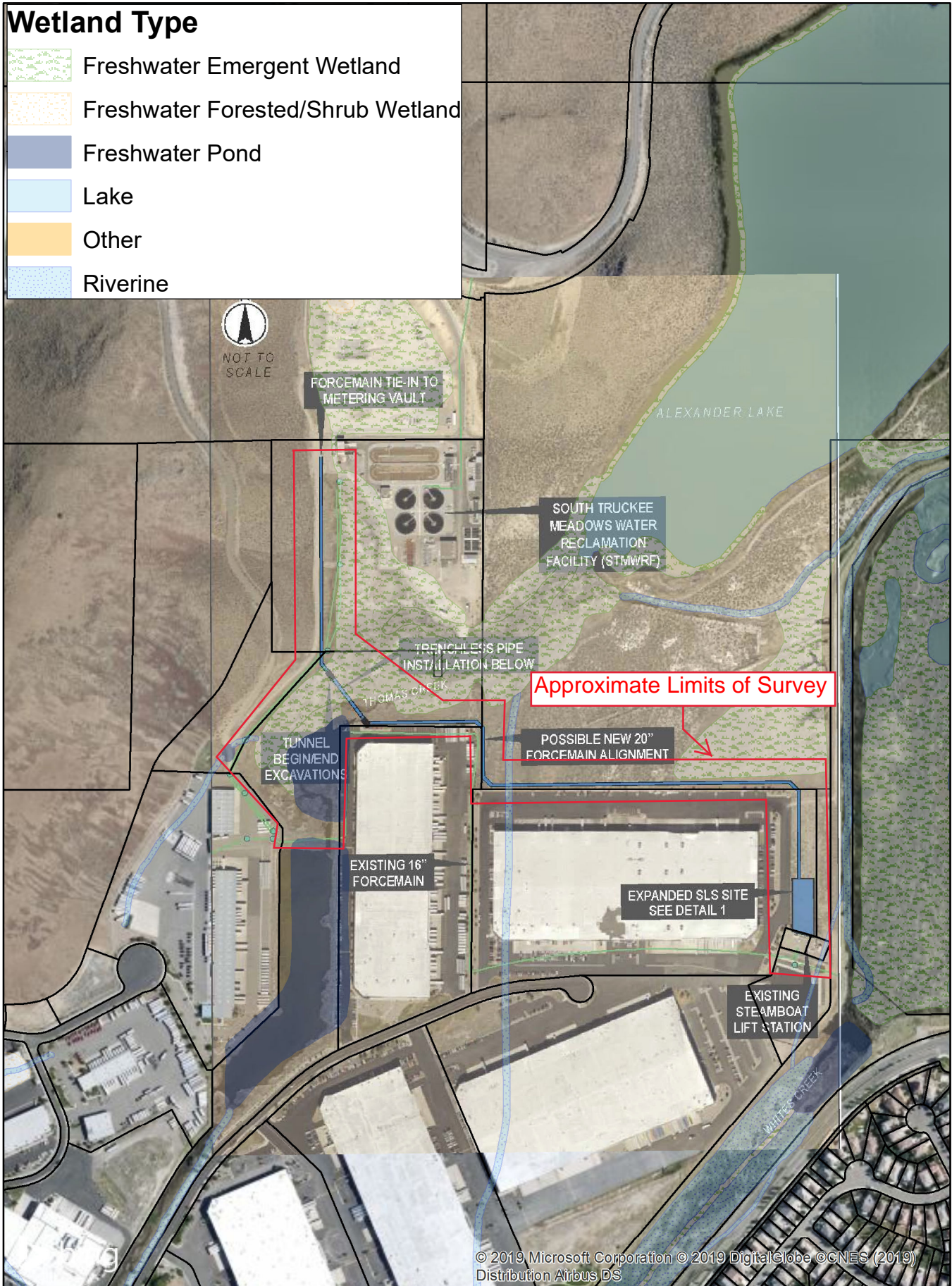
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Attachments: Stantec 2019 Standard Fee Schedule  
Figure 1 – Survey Area

# Steamboat Lift Station-National Wetlands Inventory Resources







**EXHIBIT A**  
**STANTEC CONSULTING SERVICES INC.**  
**Reno Office**  
**STANDARD FEE SCHEDULE**  
**Rate Table 3 - 2019**

Listed herein is a schedule of fees for engineering, planning and surveying services most frequently performed by Stantec Consulting Services Inc. Invoices will be submitted on completion of a project and become due on presentation. For jobs lasting longer than four weeks, monthly progress invoices will be submitted and become due on presentation and in accordance with client contract conditions. Overtime and weekend work may be charged at time and one-half.

**STAFF BILLING LEVELS**

**RATE / HOUR**

PROFESSIONAL

Levels	17 – 19 .....	\$234.00 - \$245.00
Levels	14 – 16 .....	\$201.00 - \$225.00
Levels	11 – 13 .....	\$168.00 - \$185.00
Levels	8 – 10.....	\$142.00 - \$158.00
Levels	4 – 7.....	\$107.00 - \$137.00

Expert Witness (Research & Meetings, Etc., plus expenses).....	\$400.00
Expert Witness (Depositions, Testifying, Etc., plus expenses) .....	\$500.00

TECHNICAL

Two-Man Survey Crew (non-prevailing wage).....	\$165.00
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Two-Man Survey Crew Prevailing Wage Rates: These rates will be computed per project based on contract, published rates, zone rates and distance from a central location.

Levels	8 – 11 .....	\$142.00 - \$168.00
Levels	4 – 7 .....	\$107.00 - \$137.00

**OTHER DIRECT COSTS**

General Disbursements (e.g., postage, FedEx, courier, plotting) .....	8% of invoiced labor
ATV Quad .....	\$100.00 / day
Mileage (Or Current GSA Rate) .....	\$0.58 / per mile
Supplies .....	Cost + 10%
Outside Services .....	Cost + 10%
Per Diem.....	Expenses

Fee Schedule, 2019, RT3, is valid through December 31, 2019