

Exhibit A

Feasibility Study for Lower Prune Hill Booster Pump Station

April 12, 2019

HDR is pleased to provide the following scope of work for the City of Camas (City) Feasibility Study for Lower Prune Hill Booster Pump Station (BPS). The study objective is to evaluate up to three project alternatives and facilitate selection of the preferred alternative. The preferred alternative will then be defined in terms of a 10-percent level design and construction cost estimate to allow the City to move into the design phase of the project.

Project understanding includes the following:

- The City is projecting the existing Lower Prune Hill BPS will be under-capacity in the near future, and needs to complete the upgrade project prior to experiencing shortages.
- The existing BPS is operating well and does not require any significant repair. There are three active pumps and one backup pump (offline) located inside the facility. Existing power, controls, and automation is in good working order. There is a large backup generator on the site believed to backup the BPS.
- The existing site location has some open space, but is constrained by two water storage tanks, the generator, and some abandoned structures. The smaller water tank will be replaced in the future. The preferred alternative will need to account for operation of the existing system during construction.
- There are two water supply mains fed by the existing BPS that deliver water directly to the Upper Prune Hill water storage tanks. Hydraulic operations and characteristics between the two locations will need to be verified.

SCOPE OF WORK

TASK 1 PROJECT MANAGEMENT

HDR's project manager (PM) will manage delivery of this scope of work, coordinate directly with City staff, and respond to City emails and inquiries, including contact with the City regarding scope, schedule, and budget performance. A project Kickoff Meeting and site visit will be held at the City of Camas.

Assumptions

- Project Kickoff Meeting will be up to 2 hours long and attended by HDR's PM, Project Engineer, Electrical/Controls Engineer, and Technical Advisor.

- Study priorities, objectives, and relevant information will be discussed at the Kickoff Meeting. The City will confirm three alternatives for further evaluation. The Kickoff Meeting will conclude with a site visit.
- Project duration is assumed to be 6 months.

Deliverables

- Monthly progress reports and invoices
- Notes from the Kickoff Meeting

TASK 2 BACKGROUND AND RESEARCH

The purpose of this task is to provide the necessary information gathering activities and research required to provide an adequate basis for the study.

2.1 Review Available Background Information

The City's Water Master Plan will be reviewed for relevant information including other capital projects that could affect, or be affected, by this project. The review includes available hydraulic information, operational history (SCADA), discussion with City staff, and record drawings.

2.2 Research Available GIS Mapping and Property Maps

GIS mapping systems and publically available property information will be researched.

2.3 Research Applicable Codes or Standards

HDR will research current state and federal codes, standards, or regulations that could affect the project scope or design. The Washington State Department of Health (DOH) Water System Design Manual will be a focus of the research.

Assumptions

- The most current Water System Plan (WSP) and hydraulic model will be provided to HDR.
- Any mapping or property information will be provided by the City or accessible online.
- Research of codes, standards, or regulations will be limited to those that could affect project alternatives or the preferred alternative. Does not include environmental impacts.

Deliverables

- Email correspondence with the City's PM summarizing key issues associated with information gathered, codes, or standards.

TASK 3 EVALUATION OF ALTERNATIVES

The purpose of this task is to complete the necessary steps to establish, define, and evaluate the viable alternatives for the study, allowing for the selection of the preferred alternative.

3.1 **Verify Design Water Demand**

Based on design demands and forecasts included in the City's WSP, the existing hydraulic model, and City input, verify the design demand assessment with regard to required BPS performance. This task includes consideration of the Lower Prune Hill water tank capacity on the upstream side of the BPS, as well as the water supply mains and receiving water storage tanks at the Upper Prune Hill site.

3.2 **Hydraulic Modeling**

HDR will utilize the existing hydraulic model for the overall water system to verify and model up to three design scenarios for the proposed pump station. The focus will be the BPS site location (including reservoirs, inlet lines, and regulation valves), existing water supply mains, and receiving site location at Upper Prune Hill (including reservoirs, inlet lines, and regulation valves). Pump sizing and selection for the different scenarios will be included in the analysis.

3.3 **Evaluate Site Power Supply and Telemetry**

HDR will evaluate existing infrastructure with respect to the new (and likely larger) power requirements of the pump station alternatives including the backup generator. HDR will also review recent upgrades to the existing site telemetry and make recommendations if needed.

3.4 **Evaluate Viable Alternatives**

Based on information gathered, hydraulic modeling, discussions with the City, and narrowing of the feasible options, evaluate up to three viable alternatives for comparison. HDR's PM will confirm the alternatives with the City's PM prior to proceeding. Each alternative will be evaluated with regard to existing site and facility constraints, constructability, construction cost, and impacts to operations/maintenance. Design elements such as pump size, redundancy, valving, compliance with design standards, and impact to site infrastructure will be included. Other elements to be considered in the evaluation include electrical/power, automation and controls, and structural. A technical memorandum with associated exhibits will be provided summarizing each alternative.

Deliverables

- Draft technical memorandum summarizing project alternatives (electronic copies in Adobe *.PDF format). Review comments stemming from review of this draft will be incorporated into the Task 4.2 draft report.

3.5 Selection of Preferred Alternative

Following City review of the technical memorandum, HDR will attend and facilitate a review meeting at the City (up to 2 hours) to discuss the findings and compare the alternatives. The City, in collaboration with recommendations from HDR, will determine the preferred alternative.

Assumptions

- The hydraulic modeling task will be limited in nature and focus on the area described in Task 3.2. Assessment of broader system impacts or anomalies are not included.
- Evaluation of design water demand will be limited in nature and rely on the demand growth analysis and forecasting provided in the Water System Plan.
- The technical memorandum will be succinct in nature, and only include findings and conclusions relevant for comparison. An alternatives scoring matrix will not be provided. Schematic level exhibits will be provided on GIS or Google Earth type exhibits, or as a schematic facility plan. The City will provide necessary as-built drawings or property information to adequately scale the exhibits.
- Cost estimates will be Class 5 based on AACE International Recommended Practice No. 18R-97, which includes cost estimate classifications, methodologies, and accuracy ranges.
- For scoping purposes, it is assumed that the three alternatives for evaluation include 1) retrofit within the existing facility, 2) expansion of the existing facility, 3) construction of a new BPS on the existing BPS property.
- Evaluation of critical areas, land-use, permitting, and/or environmental impacts is not included. Any impacts related to these subjects will be provided by the City.

Deliverables

- Meeting notes summarizing selection of the preferred alternative

TASK 4 FEASIBILITY STUDY REPORT

The purpose of this task is to further define the preferred alternative in terms of preliminary design and construction cost, and summarize relevant findings, conclusions, and exhibits into a report format.

4.1 10-percent Design for the Preferred Alternative

The preferred alternative will be further examined and detailed to a 10-percent level of design. 10-percent level design will be provided for the site plan and facility plan. The construction cost estimate will be advanced commensurate with the design. Plans will be provided on scaled drawings with an HDR title-block.

4.2 Draft Feasibility Study Report

A draft feasibility study report will be prepared that summarizes the background information, research, alternatives, and the preferred alternative. HDR will include recommendations and

conclusions with regard to the design, construction cost estimate, constructability, operations and maintenance, and project schedule.

4.3 Final Feasibility Study Report

A final feasibility study report will be prepared that incorporates review comments and guidance from review of the draft report.

Assumptions

- The study does not include evaluation of alternate properties for the BPS.
- Any right-of-way impacts or costs are not included.
- No subconsultant efforts such as survey or geotechnical evaluation are included.
- Evaluation of seismic slope stability at the pump station, and determining cost estimate for ground improvements (if required to meet current seismic code); is not included in this scope.
- Cost estimate will be Class 4 based on AACE International Recommended Practice No. 18R-97, which includes cost estimate classifications, methodologies, and accuracy ranges.

Deliverables

- Draft and Final Feasibility Study Report (electronic copies in Adobe *.PDF format)