

Huntsville Town
Request for Proposals for
Redundant Potable Water Source Project

February 21, 2015

The Town of Huntsville invites you to submit a proposal to perform a feasibility study for a redundant Town potable (culinary) water source project, as defined in this request for proposals (RFP). Proposals are due to the Town by March 10, 2015.

Introduction

The incorporated Town of Huntsville is located in Weber County, Utah, in Ogden Valley and just east of Pineview Reservoir. The Town's potable water system provides service to approximately 300 residential connections, both within the Town boundary as well as to some residents living in the unincorporated county. The system also serves potable water to approximately 18 commercial connections, for a total combined 336 equivalent residential connections (ERCs).

The Town receives secondary water service through the Huntsville Waterworks Corporation. This service is provided by means of a pressurized irrigation system. This allows the Town potable water system to generally provide only indoor water service, which results in only modest water demand peaks during the summer.

A 1-million gallon potable water storage reservoir located in the foothills southeast of Town provides elevated storage for the distribution system. The Town's potable water distribution system is described in a report titled "Town of Huntsville Culinary Water Master Plan – 2011" by Sunrise Engineering, pertinent portions of which are included in [Attachment A](#).

The sources of potable water for the Town are three springs located in the foothills southeast of Town. They are: Upper Bennett, Lower Bennett and Peterson Springs. Because at least one of these springs has been determined to be under surface water influence, the springs water is purified and treated at a direct filtration water treatment plant owned and operated by the Town. The treatment plant often operates at flow rates up to 180 gallons per minute (gpm). A summary of the treatment plant and process are included in [Attachment B](#). The springs water quality is relatively stable, and of high quality. A summary of the feed water quality is included in [Attachment C](#).

The Town shares the water right and yield of Upper Bennett Spring with the Abby of the Holy Trinity Monastery. The Monastery uses its portion (60%) of Upper Bennett Spring for potable water needs at the Monastery buildings, and for outdoor irrigation of the landscaped areas surrounding those buildings.

The Town also owns three additional water rights for source water that are not currently being used. They are:

- Hawkins Spring, located almost directly south of the Town;
- An exchange agreement with Weber Basin Water Conservancy District for 30 acre-feet (AF) of surface water annually (from Pineview Reservoir or other surface source); and
- Some shares of Huntsville Irrigation Company stock, with the potential of diverting this water directly from the South Fork of the Ogden River.

Project Background

The Utah Division of Drinking Water regulations contemplate each public water system having at least two redundant water sources. Although this is not mandated for Huntsville Town, because it treats a surface source, the Town desires to establish a redundant water supply for more safety and security. The Town recently applied for a grant from the Community Impact Board (CIB) to assist in this effort. A preliminary plan for such a system, involving diversion of surface water from the South Fork of the Ogden River to the treatment plant, was included with the application. This preliminary plan is included at [Attachment D](#). The CIB has approved a grant for up to \$606,000 to assist the Town in this project, with a small percentage of additional local funding required of the Town.

The Town has had discussions with the Monastery about the potential for more sharing of Upper Bennett Spring flows with the Town, in exchange for some water improvements and potable water services from the Town to the Monastery. These water services may include the provision of fire suppression water at the Monastery buildings, which does not now exist. The Town has executed a Memorandum of Understanding (MOU) with the Monastery on some of these concepts. The Town will hold discussions about the MOU, and possible water improvements for the Monastery, with the successful proposing firm(s). No proposer may contact any representative of the Monastery during the proposal period.

Project Objectives

The Town desires to retain an engineering firm or team to conduct a feasibility study. The firm/team will hold discussions with the Town about possible redundant water sources/improvements. The firm/team will then investigate the feasibility of:

- Constructing an underground water well to provide backup/redundancy in potable water supply;
- Divert South Fork surface water to the Town's water treatment plant site as feed water, including the pipe system needed to convey this water; and
- Treating South Fork water in the existing or new water treatment process and facilities.

In addition to the redundant water source investigations listed above, the Town will hold discussions with the firm/team about ideas and concepts to provide mutually beneficial water services between the Town and the Monastery. One of the main objectives of these discussions will be to provide more Upper Bennett Spring water flows available to the Town for treatment at its water treatment plant.

The firm/team will hold progress meetings with the Town, and will issue a written report of its findings, conclusions and recommendations to the Town. Based on these discussions and the

final feasibility study report, the Town will decide on and define the plan and project it will undertake during 2015. That will conclude the feasibility study services by the firm/team under the contract contemplated in this RFP.

The Town will then issue a new RFP for final engineering design and engineering construction services for the defined water project, select a firm/team, and proceed with the engineering and construction of that project. The Town reserves the right to select a new firm/team as a result of the new RFP process, or to negotiate an amended contract directly with the feasibility study firm/team to perform the additional professional services.

Scope of Work

The scope of work for this feasibility study should include the following tasks:

- Hold an initial project briefing and concepts discussion with the Town. Identify project information and data needed by the firm/team that is available to or possessed by the Town.
- Participate with the Town in an on-site meeting with the Monastery to view existing facilities, ask how the current water system operates, and discuss ideas for mutually beneficial water operations and/or improvements.
- Consider a range of options in which the Town could propose and implement or construct mutually beneficial operations or new water facilities to achieve more Upper Bennett Spring water available to the Town for feed water at its water treatment plant.
- Investigate the feasibility of drilling, constructing and equipping a potable water well that could pump backup water into the Town's treated water pipeline(s), with a reliable flow rate of at least 60 gallons per minute (gpm). Consider modern drilling methods, water right issues, potential interference with other existing wells, and levels of uncertainty. Estimate construction and operation costs.
- Investigate the feasibility and facilities that would be needed to divert South Fork water to the Town's water treatment plant. Identify preliminary pipeline routing and vertical profile. Estimate construction costs. Investigate the seasonal reliability of water yield from South Fork.
- Investigate the pertinent water quality parameters of South Fork water, including seasonal variations. Study the feasibility of treating South Fork water via the existing treatment process and facilities. Identify any new treatment process and facilities that would be needed to treat South Fork water as a redundant, backup supply for the Town. Estimate construction and operation costs.
- Hold at least three progress meetings with the Town during the process of feasibility investigations and studies.
- Make final recommendations to the Town, with a written report of the feasibility investigations, findings, conclusions and recommendations.

Preliminary Schedule

The Town desires to proceed in an expedited schedule with this feasibility study phase. The Town desires to make scoping decisions for the next phases of this project at the end of the feasibility study phase; and to proceed with the design phase during the late spring of 2015 and with the construction phase during the summer/fall of 2015.

To assist in accomplishing this expedited schedule, the Town will pursue the following schedule for this feasibility phase of the project:

- Issue RFP by February 23, 2015
- Receive proposals by March 10, 2015
- Complete proposals evaluation, select firm(s), and begin negotiation of contract by March 24, 2015

Multiple Firms Proposing as a Team

Due to the diverse engineering and technical disciplines involved in this project, the Town is willing to receive proposals from multiple firms in partnering arrangements. If this is the case, the firms should identify which firm will act as the lead firm for purposes of contracting with the Town and for providing a Project Manager for the project team. A list of invited firms and firms that have requested copies of the RFP is available from Gail Ahlstrom at Huntsville Town upon request.

Proposal Content and Submission

Your technical proposal should include the following information:

- Qualifications: Identify the key members of the team listed by name and role in the format of a Project Team Chart. Indicate the education, experience, and expertise of each team member (it is acceptable to provide this in resume format in an appendix). Sample figures or drawing(s) from applicable previous projects may be included in the appendix. Include evidence demonstrating compliance with the Minimum Qualifications section of this RFP.
- Work Plan: Include a detailed work plan which addresses the scope of the work and identifies key issues. A final agreed upon work plan will be incorporated into a schedule of the Agreement for this project. Include with the work plan a table showing the number of hours planned for each position for each major work task. Include subtotals of all labor hours for the feasibility study phase. Do not include any billing rate or cost information in this work plan table. All billing rate and cost information must be submitted in a separate sealed envelope, or in a separate email, in accordance with the fee proposal instructions.
- Project Schedule: Include a project schedule of the key tasks and note the availability of project team members with respect to current workload and project start and completion dates.
- Past Performance: Provide information about past completed projects which satisfy the Minimum Qualifications requirements. Information about additional completed projects

which the Proposer feels would be relevant may also be submitted. The past project performance information should include:

- 1) Brief description of project and scope of services performed,
- 2) Name of owner and owner's contact information,
- 3) Role which proposed Project Team members fulfilled on past project(s),
- 4) Original engineering fee amount, and
- 5) Final engineering fee amount.

Incomplete projects (on-going work) may be used but may result in a lower grade for this section in the evaluation phase.

Submit five hard copies of your technical proposal to Gail Ahlstrom, Town Clerk/Recorder, at:

7309 East 200 South
P.O. Box 267
Huntsville, UT 84317
Office tel: (801) 745-3420
Mobile tel: (801) 791-0914

You may deliver your proposal by email, instead of delivering hard copies, noting attention to Gail Ahlstrom, at: clerk@HuntsvilleTown.com.

Your proposal should be delivered by March 10, 2015. The Evaluation Committee will appreciate your limiting your proposal to 6 pages, excluding any attachments or appendices that you believe are useful and important to your proposal. However, 6 pages is not an absolute limit for this RFP.

Fee Proposal Instructions

A fee proposal (one copy) must be included under separate cover which will define the compensation required for the project. The fee proposal should be provided in a spreadsheet format. The hourly billing rate for each position, number of hours per task by position, and any fees for reimbursable expenses and overhead factors should be clearly indicated. The total proposed fee for the feasibility phase of the project will be considered a maximum not-to-exceed fee amount, with monthly billings for time spent and expenses incurred.

The fee proposal must be submitted in a separate sealed envelope. Alternatively, it can be sent via separate email to Gail Ahlstrom. The Evaluation Committee will first consider and rank the proposals based upon the qualifications, work plan, and past performance information included in the proposal. If the Evaluation Committee determines that a proposal is non-responsive, the fee proposal will not be opened and the firm will be removed from further consideration.

The Town has a tentative budget for this feasibility study of \$30,000.

Selection Method

Huntsville Town will appoint an Evaluation Committee of at least three individuals with knowledge of the Town's water system and professional/technical expertise. The Evaluation Committee will keep the proposals confidential, and will not share the contents of any proposal with competing proposers. They will first consider the minimum qualifications of each proposal, and will then use the evaluation criteria to score and rank each responsive technical proposal.

The Evaluation Committee will only open fee proposals of firms/teams that meet the minimum qualifications; and only after evaluating and scoring the technical proposals. The proposed fees will be considered among the other criteria during the evaluation of proposals.

Minimum Qualifications

Proposers must meet the following minimum experience requirements to be considered responsive to the RFP:

- 1) The firm (or at least one firm in the case of a partnering arrangement) and Project Manager (or a senior team member, in the case of a partnering arrangement) must each demonstrate the following experience:
 - a. At least two similar projects involving process and civil design and construction of public supply water treatment plants, each with a capacity of at least 200 gpm.
 - b. At least two similar projects involving design and construction of distribution piping, with diameters of at least 8 inches and lengths of at least 1000 linear feet, for potable public water supply.
 - c. At least two similar projects involving geological or aquifer studies, well design, well drilling and development including rotary drilling methods, and well pumping facilities design and construction.
- 2) The firm(s) and Engineer(s) of Record must be licensed to practice within Utah.

Experience with groundwater studies and well drilling in Ogden Valley is preferred, but not part of the minimum qualifications.

Evaluation Criteria

The Evaluation Committee members will first individually read and evaluate the proposals. Then the Committee will be convened to discuss and consider which proposals are responsive to the RFP and Minimum Qualifications. The Evaluation Committee will then rank the responsive proposals based on the following criteria:

Demonstrated qualifications to meet the scope of work:

- a. Firm resources that satisfy the defined minimum qualifications; and demonstrated availability of firm resources to the project team.
- b. Project Manager and key team members with the education, expertise, and experience necessary as required for the project. (Experience with groundwater studies and well drilling in Ogden Valley is considered valuable to the Town, and will receive higher scores.)

Responsiveness of work plan:

- a. Clearly written work plan responding to the requirements of this RFP which indicates an understanding of the key issues and deliverables required for this project. Higher scores may be given to proposals which note suggested revisions to the scope of work which would lead to an enhanced outcome.
- b. Project schedule which identifies completion dates for key milestones, and a final completion date that will assist the Town in proceeding with the design phase during the spring of 2015 and the construction phase in the summer of 2015.

Fee amount.

Contact, Questions and Suggestions:

Proposers may ask questions or make suggestions to Huntsville Town on any element of this RFP. Proposers may not make any contact with the Monastery. Questions or suggestions should be submitted to either of the following project or Town representatives:

Scott Richardson, Huntsville Town Water Manager

Email: scott.richardson@imail.org

Mobile phone: 801-698-1867

Richard Bay, Water Engineering Representative

Email: rpbay1@gmail.com

Mobile phone: (801) 518-1059

Questions about the Town's water treatment plant, or requests to visit the plant, may be directed to:

Dee Jette, Chief Operator

Email: dapats13@gmail.com

Mobile phone: (801) 791-2578

Attachment A
Pertinent Selections from
Town of Huntsville Culinary Water Master Plan – 2011
By Sunrise Engineering

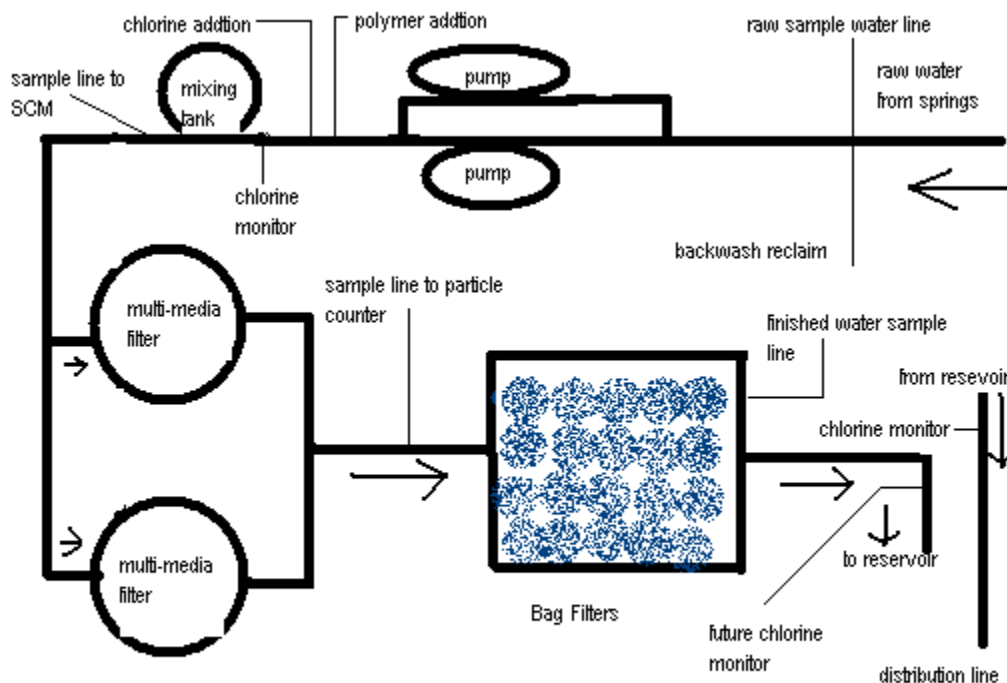
(Attached as two electronic files with an RFP that is electronically sent to Proposer)

Attachment B

Summary of Huntsville Town Water Treatment Plant Process and Facilities

by Dee Jette, January, 2015

The first part below is a diagram of our plant and a little on the multi-media filter configuration. I had prepared this for a peer review (Northern Utah Water Quality Alliance) in 2004, so it is dated, but will give a general idea. Since this time we have added another bank of filters. The filters shown on the diagram are Strainrite filters, using HPM97-A-2SS bags. After this bank of filters we now have 5 of the Harmsco filters. They use the YO72 HC/170-LT2 1266-275 cartridges. We produced very good quality water prior to the addition of these filters, but in order to get the log removal needed to meet newer requirements, these were added just over a year ago.



Below is a narration of how our plant works:

1. Description of unit process elements: Huntsville Town's water treatment plant is a direct filtration plant. It is a pressurized system; all components of the system are "closed". The following are steps through the plant with any challenges as noted:
 - Raw water from the springs enters the plant

- The computer picks up the raw water turbidity and adds polymer according to preset levels applied to changing turbidity levels
 - Chlorine is added
 - “Treated” water enters a 2200 gallon mixing tank
 - Water passes through 2 multi media filters in parallel.
 - Water passes through 20 bag filters (strainrite)
 - Water passes through 5 Harmsco cartridge filters
 - On to the reservoir (1,000,000 Gallons) positioned up on the hill. This elevation is close to that of the springs.
 - Back wash water is collected in 2 ponds just outside the plant. A back wash reclaim pump allows this water to be introduced at the head of the plant for treatment at 10 GPM. I have not had a lot of luck recycling the backwash. Previously I think it was due to the location of the raw water sample line. We changed this location with the upgrade in an attempt to get a better mixed read of the spring water and backwash water mixed, but when I tried it last spring, our effluent water quality was not as good, so have not tried it again)
2. Chemicals used: gas chlorine and coagulant (Nalcolyte 8100, “polyamines”).
 3. Polymer doses: Anywhere from about .06 PPM to .9 PPM.
 4. The plant source water comes from 3 springs: Upper Bennett, Peterson, and Lower Bennett. Upper Bennett is shared with the Abby of the Holy Trinity Monastery. This spring has been determined to be under the influence of surface water. About half of our total water comes from this spring. During the snowmelt we get increased levels of turbidity. The pilot plant was being operated before the lower 2 springs were redeveloped and when there was more snowmelt and moisture (spring of 2000?). Reviewing last year’s data our raw water turbidity ran from about 4 to 5 NTU beginning at the end of February (our typical runoff begins), to in March running close to about 3 to 4 NTU through March into June. Towards the end of June we were about 2 NTU, July around 1 NTU. By the end of August we are about .5 NTU and this is about where we remain for the rest of the year. I have seen 8 NTU which is more typical of a higher snowfall year. I have seen quite high turbidities momentarily (like above 15 NTU). Our plant seems to handle this higher turbidity water well, but I have never seen these higher turbidity events last very long. We had a set point of 15 NTU to shut the plant down, but I know the plant can handle it; at least short term.
 5. Alkalinity and hardness tests were done with the pilot plant, but I have not been able to find the results of those tests.
 6. The filter media configuration as described in the general specifications for each filter (I believe we are fairly close to the specifications, but have not measured all layers) are as follows:
 - 8th Layer: 18” Anthracite
 - 7th layer: 8” Silica
 - 6th layer: 4” garnet
 - 5th Layer: 3” Quartz gravel (3/4” x 1/2 “)

- 4th layer: 3" Quartz gravel (1/2" x 1/4")
 - 3rd layer: 3" Quartz gravel (1/4 " x 1/8")
 - 2nd layer: 3" garnet No 8
 - 1st layer: 3" Underbed Gravel, round hard river run gravel
7. Description of the filter underdrain type and configuration: The filter vessels are 96 inches in diameter, 72 inches high with a cross sectional surface area of 50.27 square feet. The internal data, again from the specifications are as follows:
- Upper distributor size: 6 inches
 - Upper distributor design: Header/Lateral with drilled holes
 - Lower distributor size: 6 inches
 - Lower distributor design: Header/Lateral with drop strainers

Our filter media has not been evaluated since the beginning operations of the plant.

Overall we produce very good water, easily achieving under .1 NTU in our effluent water. As noted above, our water is fairly clean most of the year. I did a lot of E. coli sampling 2004 to 2007. I will attach that data in the lab provided excel spread sheet.

Attachment C

Summary of Three Springs Water Quality as Feed Water to Town Water Treatment Plant

(Attached as three electronic files with an RFP that is electronically sent to Proposer)

Attachment D

Preliminary Potable Water Redundant Supply Plan Submitted with CIB Grant Application

(Attached as an electronic file with an RFP that is electronically sent to Proposer)