



PROJECT BACKGROUND

Special Areas is investigating opportunities to expand access to potable water throughout the Special Areas, with a focus on extending existing potable water systems.

This investigation has focused on the technical feasibility of extending systems located in:

- Watts area
- Scapa area
- Spondin area (Hanna East Water Co-op)
- Cessford area
- Oyen (west) area
- Cappon area
- Youngstown area

As a part of this feasibility work, Special Areas is engaging with potential users in these areas to better understand the level of interest in future potable water systems. Feedback received through this engagement will help inform future development priorities, including information about cost-sharing and service levels.

If you would like to receive updates on this feasibility work, please send an email to public.input@specialareas.ab.ca.

FREQUENTLY ASKED QUESTIONS

Q: Where will the water come from?

A: The water source for projects being investigated through this feasibility study would be from the Henry Kroeger Regional Water Services Commission (HKRWSC) in Hanna. The HKRWSC currently supplies potable water to the Town of Hanna and HKRWSC has waterlines to the east and west, servicing communities as far east as Oyen and Acadia Valley, west to Craigmyle and Delia, and northwest to Byemoor and Endiang.

Q: How are new potable waterline extensions being designed?

A: New (potential) potable waterline extensions which have been investigated have been designed to build on existing potable waterlines/systems. For each separate project area, new potential potable waterline(s) would extend from the existing (main) waterline. From this extension, new individual services could then be installed.

Areas being investigated for waterline extensions are listed below; maps of each potential waterline extension area have been included in this information package. On these maps, existing waterlines are displayed in a dark blue line, with potential extensions displayed in a teal color with a dotted line. Households which could be serviced are shown in orange.

SCAPA AREA	The current HKRWSC waterline (through Stettler County transmission network) could be extended from Endiang to Scapa, allowing for new waterlines to be installed south of Scapa. A reservoir, booster station and truck fill are also being investigated in Scapa.
CESSFORD AREA	A new waterline could be constructed west of Cessford along Highway 561. This new extension would connect to the HKRWSC line (Cessford transmission network) located east of Cessford.
WATTS AREA	A new extension could be constructed along Highway 862 towards Highway 9. This new extension would connect to the current HKRWSC water line near Watts.
HANNA EAST AREA	A new waterline could be constructed to service the Hanna East area, heading northeast towards the Spondin region. This waterline would be an extension of the Hanna East Water Co-op (HKRWSC) waterline installed in 2003.
OYEN WEST AREA	The existing HKRWSC waterline extends south at Oyen. A new waterline could be connected from this main, heading west. A booster station and reservoir would likely be required for this extension.
CAPPON AREA	A new waterline could be constructed which would connect to the existing HKRWSC line from the Highway 570 & 895 corner. It would branch out west and south of Cappon in a network to feed several rural users. A booster station and reservoir would likely be required.
YOUNGSTOWN AREA	A new potable water line could be constructed which connects to the existing HKRWSC line at Youngstown at Highway 9, heading south along Highway 884 towards the Wind River Colony. This new waterline would likely require a booster station and reservoir. This system could service several residents along Highway 884 as well as amenities in Blood Indian Park.

Q: When would construction be completed for these projects? How long would it take to complete?

A: No decisions have been made about any of these projects; work being done is intended to better understand the feasibility of projects, including the level of interest from potential users. Funding decisions depend on a number of factors, including available grant funding and overall project costs. This engagement is a part of this feasibility work and is intended to share information about potential projects and identify the level of interest in them.

Generally, if a project is approved and moves into construction, the construction process takes around a year.

Q: How would I be able to connect if a new waterline was constructed?

A: In most cases, a 2" or 3" service main would be installed from the new rural waterline to residences. The line size would be reduced to a 1" service line near the residence property line. A meter vault would be installed on this service line close to the property line.

A farm cistern would be filled from the service line and the household would be supplied from the cistern (tank) via a pressure pump in the cistern. Individual residences would be responsible for the installation of the pipe, cistern, and household pumping system downstream of the meter vault.

Q: How much water would I be able to get if I connected?

A: The meter vault would restrict the flow to 0.5 Imperial gallons per minute (lgal/min). Due to the flow restriction, a cistern would be required to accommodate the daily household water usage.

The average daily household usage in Alberta is 220 lgal/day. At a constant flow of 0.5 lgal/min, each service connection could be supplied with a maximum of 720 Imperial gallon per day (24 hours).

Q: Why only 0.5 Imperial gallon per minute?

A: This design standard has been adopted for previous rural systems to keep the water line systems as affordable as possible. Due to low population density typical for rural areas, water distribution requires long lines that are cost-prohibitive if designed for full pressure and flow (urban-style) delivery. One way to reduce costs is to adopt this "trickle-system" design standard.

With the system feeding into a farm cistern, each household would receive up to 720 Imperial gallons per day.

Q: Would I need to change my existing water systems?

A: In most cases, the household plumbing would not have to change. The treated water being supplied through the HKRWSC (regional waterline) would just replace the existing water source (i.e. well, etc.). However, it is recommended that the system be flushed when switching over.

If the existing source is groundwater from a well, this well supply would have to be physically disconnected from the new piped water connection.

Q: Could I keep my existing well for other purposes?

A: Yes, the groundwater well may be maintained for watering livestock or for yard irrigation if desired. This system would have to be physically separated from the piped water connection.

Q: How much would it cost to connect to a new waterline if it was built? What would be included in that fee?

A: Special Areas continues to investigate how to reduce costs for users for these potential systems, including grant programs like Water for Life and other provincial / federal grant streams.

The total costs of connecting to a new waterline are not yet fully known as they depend on a number of factors that vary for each potential waterline. Right now, it is known that potential connection fees would likely depend on the number of users and the “density” of the group. Another factor is whether the existing system at the tie-in location has sufficient pressure to supply the regional waterline. If a pump is required to boost pressure, the cost significantly increases.

The economics of rural water development are largely impacted by population density or the average amount of pipe required per user. In recent projects where no booster pump is required, the overall system costs were in the order of \$120 to \$150 per lineal meter (\$120,000 to \$150,000 per km) of rural distribution system length. Depending on cost sharing levels and service density, initial cost per connection could potentially be greater than \$50,000, not including individual extensions and on-property costs.

The landowner would be required to supply and install a cistern (internal or external to a building), complete any pipeline installation to the house, and modify plumbing as required to tie into the home’s internal plumbing. Costs vary dramatically depending on the scope of the on-property work, pipeline distance from the curb stop to the home, etc.

Q: Who would be responsible for installation?

A: If a project was to move forward, Special Areas would be responsible for procuring a contractor to complete the main waterline installation. Hook ups to the service line would be the responsibility of the individual property owners / users.

Q: If a project moved ahead, would construction interfere with my farm operations?

A: Installation of waterlines could require working space(s) through farmed areas.

The majority of the pipe length would likely be installed using Horizontal Directional Drill (HDD). This is a trenchless method resulting in minimal disturbance at the surface. Using this method means excavation is only required for small portions of

the installation such as utility/road crossings, tees/elbows and fusing long sections of pipe together. In some cases, these excavation locations are flexible and can be somewhat adjusted to minimize impact at the surface.

Q: If a project moved ahead, would there be surface obstructions that remain after construction was complete?

A: Buried isolation valves, air release valves, and air release manholes are required along the mains. For the most part, every attempt is made to locate these along fence lines or in other locations that do not interfere with future farm operations.

Sometimes pipes are required to diagonally cross fields to keep costs down. If any surface obstructions are expected, these would be reviewed with the landowner prior to construction. Some examples of surface obstructions are shown below.



Photo 1: Automatic air release valve, before backfilling



Photo 2: Manual air release hydrant



Photo 3: Meter vault installation prior to backfill



Photo 4: Flushing hydrant and curb stop complete with cattle guard fence

Q: What would the cost of bulk water be once the system is in operation?

A: Rates for bulk water are set by the Special Areas Board, based on costs charged by HKRWSC. These costs are reviewed each year and published as a part of Policy 04-04A which is posted on the Special Areas Board website.

Currently, costs are set at \$4.00/m³ for potable water with a minimum usage charge of \$64.00 per month.

Q: Would there be maintenance required?

A: The meter vaults remain the property of Special Areas and would be inspected regularly. Maintenance of the downstream system (i.e. individual user cisterns, pressure pumps and associated connections) would be the responsibility of the user.

Q: If a project is approved, do I have to sign on right away or can I sign up later?

A: Right now, no decisions have been made about any of these projects. Special Areas and MPE are currently looking at each project's overall technical feasibility and trying to determine the level of local interest in each project from potential users.

If a project was to proceed, discussions with potential users would be an important part of the final design and development process. Availability of grant funding would be an important consideration for determining both overall project costs and potential individual user costs.

Q: How do I find out if a project gets approved; can I sign up to get regular updates?

A: As a part of this feasibility work, findings will be shared with the Special Areas Board. A report on what was heard will be published on the Special Areas website. If you would like to receive updates on this work, you can send an email to public.input@specialareas.ab.ca.