What is chloraminated water?

Chloramination is the process of disinfecting water using chloramines, compounds of chlorine and ammonia. Chloramination is a better choice than using chlorine alone because it produces lower levels of disinfectant by-products like trihalomethanes, which form when chlorine combines with natural organic substances found in water.

Is chloraminated water safe?

Chloraminated water is safe for drinking, cooking, bathing, laundry, gardening and all other general household uses and it is safe for lawns, flowers and vegetable gardens.

Because chloramine does not accumulate in the body it is safe for:

- women who are pregnant, babies and children,
- mixing baby formulas and,
- cleansing cuts, scrapes and wounds.

However, just like chlorine, precautions should be taken to neutralize or remove chloramines by these special groups:

- kidney dialysis patients,
- owners of aquariums, reptiles, amphibians or backyard fish ponds,
- restaurants and supermarkets with live seafood tanks,
- photo labs and businesses or laboratories requiring high-purity water.

It is best to contact specific distributors or manufacturers of equipment or products related to each special group to determine the effects of chloraminated water on these products.

Why is chloramination important?

Disinfectants such as chlorine or chloramines are added to the water supply to protect drinking water from disease-causing organisms, or pathogens. The Town of Vermilion formerly relied on the presence of chlorine to ensure the safety of the drinking water from the well supply. Chloramination is a better choice for the new ACE drinking water because it a longer-term disinfectant solution for water that is travelling a greater distance before reaching the end user.

What is the ACE Water like compared to our old water?

<table>
<thead>
<tr>
<th>Substance</th>
<th>Unit of Measure</th>
<th>ACE Water</th>
<th>Well Water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Hardness</td>
<td>mg/L</td>
<td>170</td>
<td>338</td>
</tr>
<tr>
<td>Total Dissolved Solids</td>
<td>mg/L</td>
<td>204</td>
<td>905</td>
</tr>
<tr>
<td>Total Organic Carbon</td>
<td>mg/L</td>
<td>1.6</td>
<td>6.55</td>
</tr>
<tr>
<td>Total Alkalinity (CaCO3)</td>
<td>mg/L</td>
<td>130</td>
<td>489</td>
</tr>
<tr>
<td>Nitrate-N</td>
<td>mg/L</td>
<td>0.04</td>
<td>0.375</td>
</tr>
<tr>
<td>Ammonia</td>
<td>mg/L</td>
<td>*0.13</td>
<td>1.5</td>
</tr>
<tr>
<td>Potassium</td>
<td>mg/L</td>
<td>0.7</td>
<td>10.4</td>
</tr>
<tr>
<td>Sodium</td>
<td>mg/L</td>
<td>5.4</td>
<td>200</td>
</tr>
</tbody>
</table>

Still have questions? Please contact us at....

Town of Vermilion
Transportation & Utilities Department
780-581-2415
emiller@vermilion.ca
What is A.C.E.?

The Alberta Central East Regional Water System is the corporation comprised of the following twelve municipalities (shareholders) created to supply potable water.

- County of Two Hills
- County of Minburn
- Town of Two Hills
- Village of Willingdon
- County of Vermilion River
- Village of Dewberry
- Village of Marwayne
- Village of Kitscoty
- Village of Paradise Valley
- Village of Innisfree
- Village of Mannville
- Town of Vermilion

How does the system work?

The regional system includes over 350 kilometers of pipeline and multiple booster stations that feed potable water from a transfer station in Vegreville to the twelve municipalities.

The water will be supplied from the North Saskatchewan River by EPCOR Utilities Inc. through the Capital Region Vegreville Corridor Water Services Commission.

What is the total cost to build the regional system?

There are five phases to the ACE Regional Water System and the total cost of the regional water system is estimated to be in the range of $128 million to $163 million with the provincial government contributing a majority of the costs (approximately 90%). The remaining costs will be shared between the twelve municipalities through a pro-rated share (based on population) for each phase of development.

Phase 1 (to Lavoy and Two Hills) & Phase 2 (to Vermilion) are complete. They are the most expensive phases, accounting for 54% of the costs of the total project. Currently the Town of Vermilion (as well as the other twelve municipalities) have paid for both Phase 1 & 2.

It is estimated to take between 10 to 15 years to complete all five phases. When Phase 3, 4 & 5 are constructed, Vermilion will have to pay for its portion of those costs as well. Vermilion's total cost (post provincial grant) for the ACE water system is estimated at $5.4 million with a life expectancy of 75 years.

Once a municipality has connected to the system, they will start contributing to the annual operation and maintenance costs (user fee). This user fee will be based on each municipality’s actual water consumption.

How much will it cost me?

The proposed household cost of water is estimated to be $3.85/m³ during the construction/debenture process of the system. Once all five phases of the regional water system is complete and the debenture is paid (approximately 2023) the household cost of water is estimated to be $2.50/m³.

### Estimated Cost of Water During Construction/Debenture

<table>
<thead>
<tr>
<th>Phase</th>
<th>Low-end User 7.5 m³</th>
<th>Mid-end User 15 m³</th>
<th>High-end User 30 m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$28.88/ month</td>
<td>$57.75/ month</td>
<td>$115.50/ month</td>
</tr>
<tr>
<td>Cost/m³</td>
<td>$3.85/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Estimated Cost of Water After Debenture

<table>
<thead>
<tr>
<th>Phase</th>
<th>Low-end User 7.5 m³</th>
<th>Mid-end User 15 m³</th>
<th>High-end User 30 m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$18.75/ month</td>
<td>$37.50/ month</td>
<td>$75.00/ month</td>
</tr>
<tr>
<td>Cost/m³</td>
<td>$2.50/m³</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>