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**ATTENDING**

Deputy Mayor, Oonagh Proudfoot (Chair),  
Mayor, Wendy Donovan  
Councillor Wendy Elliott,  
John Brustowski, Member-at-Large  
Meghan Swanburg, Member-At-Large  
Marcel Falkenham, Acadia University Representative  
Councillor Peter Allen, Municipality of the County of Kings, and  
Karen Outerleys, Recording Secretary

**ALSO ATTENDING**

Tim Bouter, Director of Engineering & Public Works  
Alex deSousa, Manage of Engineering  
Colin Walker CBCL, Hydrogeologist

**ABSENT WITH REGRET**

Shane Warner,  
Dawn MacNeill, Nova Scotia Department of Environment  
Devin Lake, Director of Planning & Development  
Mike Allen, Nova Scotia Department of Environment

**CALL TO ORDER**

Chair, Deputy Mayor Oonagh Proudfoot, called the meeting to order at 2:35 pm

**1. APPROVAL OF THE AGENDA**

**CARRIED**

**2. APPROVAL OF THE SOURCE WATER PROTECTION ADVISORY COMMITTEE MINUTES OF THE REGULAR MEETING OF JANUARY 13, 2021**

**CARRIED**

**3. APPROVAL OF THE SOURCE WATER PROTECTION ADVISORY COMMITTEE MINUTES OF THE REGULAR MEETING OF OCTOBER 13, 2021**

**CARRIED**

**4. BUSINESS**

**a. INTRODUCTION OF COMMITTEE MEMBERS**

- Colin Walker, hydrogeologist from CBCL will be replacing Terry Henniger
- Tim Bouter, Director of Engineering & Public Works



- Alex deSousa, Manager of Public Works
- John Brustowski introduced himself as a Community Member.
- Meghan Swanburg newest committee member, Community Member
- Marcel introduced himself as the representative from Acadia.
- Peter Allen advised he represented the Municipality of Kings.
- Wendy Elliott introduced herself as a Councillor.
- Mayor Wendy Donovan
- Councillor Mayor Proudfoot introduced herself as the Chair of Source Water Protection.

**b. PRESENTATION FROM CBCL \_ COLIN WALKER**

**Part 1, Well & Aquifers in Wolfville.**

- PowerPoint will be made available to all committee Members.
- Wickwire Well the main source for the Town's drinking water, this well is the purer of the two wells the other being Cherry Lane well. Wickwire Well requires less treatment.
- Wickwire Wellhead is outside, and the Cherry Lane Wellhead is housed inside a structure.
- Both wells draw water from the same deposit of sand and gravel.
- Acadia University uses geothermal wells, which there are two, one pumps water out of the aquifer that generates heat the second returns the water to the aquifer.
- At the present time hydrogeologist don't feel that the salt water in the estuary interferes with the aquifer. Our increasing salt numbers over the years is most likely from road salt usage.

**Part 2, Multi -Barrier Approach includes Source Water Protection**

- Protect the source
- Provide treatment – disinfected commonly with chlorine, surface water will require more types of treatment.
- Monitoring & Enforcement
- NSE-Recommended Zones, the idea is that the farther from the Well the level of protect and risk gets lower and lower. Well Site Control Zone (immediately around the well), Zone 1 - 2year travel time, Zone 2 - 5year travel time and Zone 3 - 25year travel time.
- Contaminates following groundwater flow paths can flow vertically as well as horizontally into the aquifer. A barrier blocking (like clay or bedrock) the flow of groundwater is important when assessing flow zones.
- When thinking of source water protection, the source, the pathway and receptor are important to consider when thinking about risk to the wellfield.
- Biologicals are the most concerning if they enter the water system.
- Various approaches are being used to protecting drinking water, they include, education, Cooperative Agreements, LUB and zoning, development agreements ands the NSE Protected Water Area.



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### **Water Study\_Results**

- The study focused on what the capacity of the two wells Wickwire & Cherry Lane and how does it compare to what the Town is using currently and what will be needed in the future.
- Wickwire well is pretty much at capacity but the Cherry Lane Well can be used when needed.
- Growth in water use will require the use of both wells, and if one of these wells go down there would be a water shortfall, so a third well is being considered as a backup well, possible locations being considered as well as the logistics.

### **5. OTHER DISCUSSION ITEMS**

- a. The terms of reference for this committee have been updated by council along with others and it can be shared with the committee members.
- b. Various Maps were included in the agenda package as requested by committee members. Maps show some of the Zones regarding the heat oil tank study from 2008.

### **6. QUESTON PERIOD**

- When does fluoride enter the drink water, fluoride is naturally present in some kinds of rock and can be present in a gravel aquifer? However, the Town fluorinates the drinking water. Fluoride is not part of the treatment of the water supply. Fluorination is more a decision of each individual municipal unit whether they want the water fluorinated. Mostly used for dental health. Committee members will bring to Council a request directing staff to gather more information as to when fluoride was added and why it was added to the Town water supply.
- Zones, basic housing is fine in the 2year zone, it is possible to get non-conforming uses in the 2year zone as the infrastructure may have existed before the well for example sewage and oil tanks.
- 3:24pm Noted Peter Allen had another meeting to attend.
- Comment about the most dangerous items of contamination of being the prior, but what about the lesser dangerous that may accumulate, do these then become more of a risk. Depends on the “thing”, for example if you build more and more houses with oil tanks, there is a possible risk but only if the tanks were leaking.
- Why is on Wellhead inside and one outside? Previously both were developed in the 1970’s Wickwire was one time inside but decommissioned 15 years ago, the new well was installed outside the building. Wells were built inside a structure with the idea that they would be more protected and out of the elements, but it turned out they were not being maintained.
- Has Wolfville had any known issues with arsenic? Arsenic comes from the rock where the well is built, the Wolfville aquifer does not contain arsenic. As far as groundwater with the shallow type of sand & gravel the water is in the ground for less time and doesn’t have time to dissolve the rock and minerals so it contains less of everything, and which makes for very good drinking water. Acadia tests their geothermal wells quarterly and there has been no arsenic detected.
- Has the location of the 3<sup>rd</sup> well been determined? The well would be inside the sand and gravel aquifer, west of the Cherry Lane Well. The new well location will take into consideration if there is surface water and what infrastructure is in the area. There would need an exploration program, updating the Water Utility Rate Study, preliminary work will be done, but the official program will be rolled out in the future.



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- Does the Town have a plan to determine the increasing salt numbers in the Town water? The Water Study didn't indicate it as a high priority. Concentrations guideline for chloride (salt) has 250 ml /litre, since the 1970's the number has increased from 10 to between 50 and 70, so it is well below the drinking water guideline. If it were sea water, there would be a break and the numbers would shoot way up and then that would be prioritized as a serious problem.
  - The Cherry Lane has double the capacity of Wickwire Well, however mechanically Cherry Lane's capacity to pump is about equal to Wickwire. Cherry Lane water also needs more treatment than Wickwire.
  - What is the possibility of running out of water in the aquifer? The goal is to take as much water that is being replenished. More study is being required to make sure that precipitation is replenishing the aquifer at a higher rate than water being used.
  - As part of the capacity study there have been growth projects for both the east and west of Town as well as any infill.
  - What about other communities that might be drawing from the aquifer, are we sharing or do the other communities draw from other sources? There are no significant takers on our system. The Regional aquifer is under stress and the province is very aware of how much water is being extracted from the source regionally. This wouldn't not affect Town of Wolfville decisions.
  - The current 2011 Source Water Protection Policy needs to be reviewed and updated.

**7. NEXT MEETING: January 23, 2023**

**8. ADJOURNMENT:** The meeting adjourned at 3:55pm

**Approved at the November 21, 2022, Source Water Protection Advisory Committee Meeting.**

**As recorded by Karen Outerleys, Administrative Assistant Public Works**