



PUBLIC NOTICE

Schedule B EA (Phase 1 and 2) for New Water Supply Well for Arran-Elderslie Water Works Municipality of Arran-Elderslie (23-012)

Background

The Municipality of Arran-Elderslie has Arran-Elderslie Water Works that is located in Chesley and provide potable water supply to Chesley & Paisley communities. The water works receives raw water supply from three (3) drilled wells, namely CPW 1, CPW 2 and CPW 3 which are located in Community Park of Chesley. CPW 1 and CPW 2 obtain the raw water supply from one aquifer whereas CPW 3 obtain water supply from a different aquifer. CPW 1 well got contaminated with iron bacteria and has been remediated several times by hiring specialized contractor to restore the water supply in this well. The restoration cost is rising and the frequency for remedial work is increasing, thereby forcing the Municipality to look for an alternative source of water supply.

Generally, well CPW 3 provides comparatively better water supply than CPW 1 and CPW 2. Accordingly, if Arran-Elderslie were to replace the CPW 1 with a new well, it would be better to obtain it from aquifer supplying water to CPW 3 well.

Problem Statement

Arran-Elderslie must replace raw water supplied from Well CPW 1 with an equivalent raw water supply. The new water supply source could be either a new drilled well in the same aquifer or a different aquifer. It can also be an additional water supply from existing well(s) or even a different water supply source such as a river, pond or lake.

Alternatives

Several alternative solutions are available to replace the water supply of well CPW 1. A brief description of each viable alternative and applicable comments are provided in **Table 1** and screening of alternatives is provided in **Table 2**.

Public Input

Arran-Elderslie has prepared this EA document that outlines the problem statement, list of alternatives and their brief details, that are being pursued to upgrade Water Work. Screening of Alternative Solutions is also provided in this document, based on which a Preliminary Recommended Alternative Solution(s) have been identified. Comments from all property owners and stakeholders is being requested.

It may be noted that Arran-Elderslie shall conduct a Public Meeting after completion of Preliminary Recommended Alternative Solution(s).

Please review documentation including Comment Sheet on Arran-Elderslie website at www.arran-elderslie.ca. Provide your comments on the comment sheet and send it to undersigned on June 16, 2023.

Issued on: June 2, 2023



Municipality of Arran-Elderslie
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Table 1 – Alternative Solutions to Upgrading Arran-Elderslie Water Work

June 2, 2023

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ALTERNATIVE	DESCRIPTION	COMMENTS
1. Do Nothing	<ul style="list-style-type: none"> • No improvements or changes would be undertaken to CPW 1 well problem. 	<p>“Do Nothing” alternative represents what would occur if none of the alternative solutions were implemented</p>
2. Decommission CPW 1 well	<ul style="list-style-type: none"> • Decommission and remove well CPW 1 from water works • Obtain amendment to Licence and Permit from MECP • Decommissioning will lead to reduction in water supply capacity of existing AE WW • May limit residential growth in Paisley & Chesley 	<ul style="list-style-type: none"> ➤ Does not address problem ➤ Irresponsible to reduce water supply capacity of existing water system ➤ Will limit growth in Chesley & Paisley
3. Increased water supply from existing well(s)	<ul style="list-style-type: none"> • Hydrogeological investigation to determine if existing well(s) CPW 2 and 3 can supply more water • If yes, obtain permits and approval from MECP • Undertake Sch B EA 	<ul style="list-style-type: none"> ➤ May not provide additional supply in adequate quantity is suitable ➤ Alternative is suitable to supplement other viable alternative(s)
4. Construct new groundwater supply source in currently utilized aquifer(s) and continue to use existing water treatment plant	<ul style="list-style-type: none"> • Drill new water well for additional water supply, (preferably near existing water treatment building’s locations) from aquifers that are currently being utilized • Obtaining water from existing utilized aquifer will ensure raw water is similar and will avoid need for new and different treatment equipment, that could be expensive • Undertake detailed hydrogeological investigation to ensure long-term water supply capabilities • Undertake EA and obtain new License & Permit from MECP • Undertake Source Water Protection study as needed • Connect to exiting water treatment plant 	<ul style="list-style-type: none"> ➤ Risks are associated with new drilled well being incapable of supplying adequate quantity of water, or water quality not complying with ODWS ➤ Relatively easier method to add additional treatment capacity

Table 1 – Alternative Solutions to Upgrading Arran-Elderslie Water Work

June 2, 2023

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ALTERNATIVE	DESCRIPTION	COMMENTS
<p>5. Construct new water supply well in a different aquifer and construct new treatment equipment as needed in existing treatment plant building or new building</p>	<ul style="list-style-type: none"> • Drill new water well for needed water supply, preferably near existing water treatment plant building location. • Undertake detailed hydrogeological assessment • Undertake EA • Obtain PTTW and Licence & Permit from MECP • Undertake Source Water Protection study as needed • Construct new or upgrade existing water treatment plant equipment and building, as required • Procure new land(s) as needed. 	<ul style="list-style-type: none"> ➤ Risks are associated with new drilled well capability of supplying adequate water quantity, or water quality not complying with ODWS ➤ This alternative is next best solution after a combination of alternatives #3 and #4 and can be pursued if alternatives #3 & #4 fail.
<p>6. Construct new surface water supply source intake and associated treatment plant</p>	<ul style="list-style-type: none"> • N. Saugeen River is a potential water supply source • Determine suitable location and construct river water intake, after obtaining all approvals • May be required to construct raw water pumping station to supply water to treatment plant • Construct new WTP building or expand existing treatment plant building and connect to existing water distribution networks. Existing plant building shall not have room to accommodate new treatment equipment • Undertake Sch C EA • Obtain PTTW and also complete Source Water Protection Study 	<ul style="list-style-type: none"> ➤ Surface water sources are more prone to contamination and have more variable water quality ➤ Treatment process can be far more complex and expensive when compared to groundwater source ➤ Operators need to remain on guard during period of water quality changes during spring and fall and take timely corrective steps. Highly skilled operation is required ➤ Generally, less desirable option when good groundwater supply source is readily available ➤ Capital Project Cost is anticipated to be highest among all alternatives ➤ Timeline for this alternative is anticipated to be much longer than other viable alternatives

Table 1 – Alternative Solutions to Upgrading Arran-Elderslie Water Work

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ALTERNATIVE	DESCRIPTION	COMMENTS
<p>7. Treated water supply from another Water Work in Arran-Elderslie or adjacent municipality</p>	<ul style="list-style-type: none"> • Will require approval from County and neighbouring municipality that could supply water • Arran-Elderslie has Tara WW, but with insufficient spare capacity to support Arran-Elderslie Water Works • Shall require construction of long water mains, associated booster pumping system and re-chlorination facility(ies) • Hanover is another water works that <u>may</u> be able to spare supply, but is at a significant distance 	<ul style="list-style-type: none"> ➤ Not likely a viable option ➤ Tara water works is not capable to supply additional water without significant upgrading of existing water works ➤ Hanover is another water works that <u>may</u> be able to spare supply, but is at a significant distance ➤ Typically, neighbouring municipalities saves surplus capacity of their water works for their own use rather than provide to others

TABLE 2 – Screening of Alternative Solutions

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ALTERNATIVE	DECISION	RATIONALE FOR NOT CARRYING FORWARD
1. Do Nothing	✓	Carried forward – must be considered
2. Decommission CPW 1	X	Screened – does not address the problem
3. Increased water supply from existing well(s)	✓	Carried forward in conjunction with Alternative #4
4. Construct new groundwater supply source in currently utilized aquifer and continue to use existing water treatment plant)	✓	Carried forward – feasible alternative
5. Construct new water supply well in a different aquifer and construct new treatment equipment as needed in existing treatment plant building or new building	✓	Carried forward – feasible alternative, and to be pursued only if Alternatives #3 & #4 are unable to address problem definition
6. Construct new surface water supply source intake and associated treatment plant	X	Screened – addresses the problem but time consuming and expensive and with operational challenges
7. Treated water supply from another Water Work in Arran-Elderslie or adjacent municipality	X	Screened – not a feasible alternative

Preliminary Recommended Alternative

Based on information outlined in **Table 1 and Table 2**, Arran-Elderslie proposes to undertake further steps to complete Alternative #3 and Alternative #4 simultaneously.

Alternative #3 shall explore hydrogeological assessment of existing water supply wells CPW #2 & #3 by way of desk top assessment of background reports and wells operational data to determine if the existing water wells could supply additional water on long term basis.

Alternative #4 shall focus on long term pump testing of new Well CPW #4 to determine whether it can match or exceed water supply that was originally available from existing Well CPW #1.

Public Input for
Schedule B EA
for Construction of Replacement Well
Municipality of Arran-Elderslie

June 2, 2023

23-012

Comment Sheet

Background

The Municipality of Arran-Elderslie, Arran-Elderslie needs to replace existing well CPW 1 with a new well to maintain water supplies in sufficient quantity and obtain Province's License and Permit for Water Works. The Municipality is obligated to search for methods to replace the well with an equivalent capacity well in order that the water works can continue to supply potable water meeting Ontario Drinking Water Standards to water consumers.

Question and Comments

Question 1 Do you agree that this project is needed? Please indicate why or why not?

Question 2 Construction and testing of a new ground water supply well (Alternative #4) and hydrogeological assessment of existing wells (Alternative #3) has been identified as the **Preliminary Recommended Alternative Solution**. Do you agree with this solution? Is there any other information that should be considered?

Question 3 Is there any other information or comment that you would like to provide or be considered in the EA process?

Question 4 You are: (check all those that apply):

___ Resident or Business Owner of Arran-Elderslie (please specify Town/village)_____.

___ Member of an Interest group (Please specify)_____.

___ Agency Representative (Please specify)_____.

___ Other (Please specify)_____.

Thank you for participating in this study.

Please return this completed Comment Sheet to Municipal Office to the attention of Mr. Scott McLeod by **June 16, 2023**.



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