

Appendix F

CULTURAL HERITAGE AND ARCHAEOLOGICAL ASSESSMENT

- **Stage 1 Archaeological Assessment (AECOM Canada Ltd. September 12, 2019)**
- **MHSTCI Letter of July 7, 2020 – re: Stage 1 Report Entered into Register**
- **MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes Checklist**

Town of Collingwood

**Stage 1 Archaeological Assessment
Collingwood WTP Class EA
Part of Lot 44, Concession 7, Geographic
Township of Nottawasaga, Simcoe County,
Now the Town of Collingwood, Ontario**

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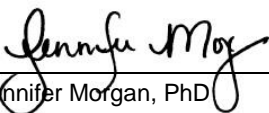
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Quality Information

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Impact Assessment and Permitting (IAP)

Executive Summary

AECOM Canada Ltd. (AECOM) was retained by the Town of Collingwood to conduct a Stage 1 archaeological assessment for the Collingwood Waste Water Treatment Plant (WTP) Environmental Assessment (EA) in the Town of Collingwood, Ontario. The study area is located on part of Lot 44, Concession 7, in the Geographic Township of Nottawasaga, in the County of Simcoe, now the Town of Collingwood, Ontario (Figures 1 and 2).

The Stage 1 archaeological assessment was conducted as part of a Municipal Class Environmental Assessment study during the design stage of the project and was triggered by the requirements of the *Environmental Assessment Act* in accordance with subsection 11(1) (Ontario Government 1990a). This project is subject to the requirements of the *Ontario Heritage Act* (Government of Ontario 1990b) and the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

AECOM's Stage 1 archaeological assessment for the Collingwood WTP EA determined that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with the construction of the Raymond A. Barker Ultrafiltration WTP and underground utilities. **Based on these findings, no further archaeological work is required.**

The MTCS is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As no further archaeological assessment is required, archaeological concerns for the Collingwood WTP EA in the Town of Collingwood, Ontario have been fully addressed.

Please note that this archaeological assessment report has been written to meet the requirements of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011); however, properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the MTCS. In order to maintain compliance with the MTCS and the *Ontario Heritage Act* (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the MTCS stating that the recommendations provided herein are compliant and that the report has been accepted into the MTCS' register of archaeological reports.

Project Personnel

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Technical Lead	Jennifer Morgan, PhD. (R1176)
Licensed Archaeologist	Samantha Markham. MES (P438)
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Acknowledgements

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1. Project Context

1.1 Development Context

AECOM Canada Ltd. (AECOM) was retained by the Town of Collingwood to conduct a Stage 1 archaeological assessment for the Collingwood Waste Water Treatment Plant (WTP) Environmental Assessment (EA) in the Town of Collingwood, Ontario. The study area is located on part of Lot 44, Concession 7, in the Geographic Township of Nottawasaga, in the County of Simcoe, now the Town of Collingwood, Ontario (Figures 1 and 2).

The Stage 1 archaeological assessment was conducted as part of a Municipal Class Environmental Assessment study during the design stage of the project and was triggered by the requirements of the *Environmental Assessment Act* in accordance with subsection 11(1) (Ontario Government 1990a). This project is subject to the requirements of the *Ontario Heritage Act* (Government of Ontario 1990b) and the *Standards and Guidelines for Consultant Archaeologists* (Government of Ontario 2011).

This EA is being completed as part of the expansion of the Raymond A. Barker Ultrafiltration WTP. The plant capacity will be increased through the addition of a new low lift pumping station, a UV building, and other process upgrades. All archaeological consulting activities were conducted under PIF number P438-0186-2019 issued to Professional Archaeologist Samantha Markham in accordance with the Ministry of Tourism Culture, and Sport's (MTCS) *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Permission to enter the property to conduct fieldwork, including the collection of artifacts when present, was provided by the Town of Collingwood.

1.1.1 Objectives

The objective of the Stage 1 background study is to document the archaeological and land use history and current conditions within the study area. This information will be used to support recommendations regarding cultural heritage values or interests, as well as assessment and mitigation strategies. The results of Stage 1 archaeological assessment presented in this report are drawn in part from:

- Recent and historical maps of the study area;
- Reports of previous archaeological assessments within 50 m of the study area;
- The MTCS Archaeological Sites Database (ASDB) for a listing of registered archaeological sites within a 1 km radius of the study area;
- A visual inspection of the existing conditions of the study area and surroundings; and,
- Archaeological management plans or other archaeological potential mapping, where available.

The Stage 1 archaeological assessment has been conducted to meet the requirements of the MTCS *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011).

1.2 Historical Context

Years of archaeological research and assessments in southern Ontario have resulted in a well-developed understanding of the historic use of land in Simcoe County, from the earliest First Nation people to the more recent Euro-Canadian settlers and farmers. Table 1 provides a breakdown of the cultural and temporal history of past occupations in southern Ontario.

Table 1: Cultural Chronology for Southern Ontario

Archaeological Period	Time Period	Characteristics
Early Paleo	9000-8400 BC	<ul style="list-style-type: none"> Fluted Points Arctic tundra and spruce parkland, caribou hunters
Late Paleo	8400-8000 BC	<ul style="list-style-type: none"> Holcombe, Hi-Lo and Lanceolate Points Slight reduction in territory size
Early Archaic	8000-6000 BC	<ul style="list-style-type: none"> Notched and Bifurcate base Points Growing populations
Middle Archaic	6000-2500 BC	<ul style="list-style-type: none"> Stemmed and Brewerton Points, Laurentian Development Increasing regionalization
Late Archaic	2000-1800 BC	<ul style="list-style-type: none"> Narrow Point Environment similar to present
	1800-1500 BC	<ul style="list-style-type: none"> Broad Point Large lithic tools
	1500-1100 BC	<ul style="list-style-type: none"> Small Point Introduction of bow
Terminal Archaic	1100-950 BC	<ul style="list-style-type: none"> Hind Points, Glacial Kame Complex Earliest true cemeteries
Early Woodland	950-400 BC	<ul style="list-style-type: none"> Meadowood Points Introduction of pottery
Middle Woodland	400 BC – AD 500	<ul style="list-style-type: none"> Dentate/Pseudo-scallop Ceramics Increased sedentism
	AD 550-900	<ul style="list-style-type: none"> Princess Point Introduction of corn horticulture
Late Woodland	AD 900-1300	<ul style="list-style-type: none"> Agricultural villages
	AD 1300-1400	<ul style="list-style-type: none"> Increased longhouse sizes
	AD 1400-1650	<ul style="list-style-type: none"> Warring nations and displacement
Contact Period	AD 1600-1875	<ul style="list-style-type: none"> Early written records and treaties
Historic	AD 1749-present	<ul style="list-style-type: none"> European settlement (French and English)

Notes: Taken from Ellis and Ferris (1990)

The following sections provide a detailed summary of the archaeological cultures that have settled in the vicinity of the study area. As Chapman and Putnam (1984) illustrate, the modern physiography of southern Ontario is largely a product of events of the last major glacial stage and the landscape is a complex mosaic of features and deposits produced during the last series of glacial retreats and advances prior to the withdrawal of the continental glaciers from the area. Southwestern Ontario was finally ice free by 12,500 years ago. With continuing ice retreat and lake regressions the land area of southern Ontario progressively increased while barriers to the influx of plants, animals, and people steadily diminished (Karrow and Warner 1990). The land within this area of southern Ontario has been

extensively utilized by pre-contact First Nation people who began occupying southwestern Ontario as the glaciers receded from the land.

1.2.1 Pre-Contact First Nation Settlement

The Paleo Period

In this area the first human settlement can be traced back to 11,000 BC; these earliest well-documented groups are referred to as Paleo which literally means old or ancient. During the Paleo period people were non-agriculturalists who depended on hunting and gathering of wild food, they moved their encampments on a regular basis to be in the locations where these resources naturally became available, and the size of the groups occupying any particular location would vary depending on the nature and size of the available food resources (Ellis and Deller 1990). The picture that has emerged for the early and late Paleo is of groups at low population densities who were residentially mobile and made use of large territories during annual cycles of resource exploitation.

The Archaic Period

The next major cultural period following the Paleo is termed the Archaic, which is broken temporally into the Early, Middle, and Late Archaic periods. There is much debate on how the term Archaic is employed; general practice bases the designation off assemblage content as there are marked differences in artifact suites from the preceding Paleo and subsequent Woodland periods. As Ellis *et al.* (1990) note, from an artifact and site characteristic perspective the Archaic is simply used to refer to non-Paleo manifestations that pre-date the introduction of ceramics. Ellis *et al.* (1990) stress that Archaic groups can be distinguished from earlier groups based on site characteristics and artifact content.

Early Archaic sites have been reported throughout much of southwestern Ontario and extend as far north as the Lake Huron Basin region and as far east as Rice Lake (Deller *et al.* 1986). A lack of excavated assemblages from southern Ontario has limited understandings and inferences regarding the nature of stone tool kits in the Early Archaic and tool forms other than points are poorly known in Ontario; however, at least three major temporal horizons can be recognized and can be distinguished based on projectile point form (Ellis *et al.* 1990). These horizons are referred to as Side-Notched (*ca.* 8,000-7,700 BC), Corner-Notched (*ca.* 7,700-6,900 BC), and Bifurcated (*ca.* 6,900-6,000 BC) (Ellis *et al.* 1990). Additional details on each of these horizons and the temporal changes to tool types can be found in Ellis *et al.* (1990).

The Middle Archaic period (6,000-2,500 BC), like the Early Archaic, is relatively unknown in southern Ontario. Ellis *et al.* (1990) suggest that artifact traits that have come to be considered as characteristic of the Archaic period as a whole, first appear in the Middle Archaic. These traits include fully ground and polished stone tools, specific tool types including banner stones and net-sinkers, and the use of local and/or non-chert type materials for lithic tool manufacture (Ellis *et al.* 1990).

The Late Archaic begins around approximately 2,000 BC and ends with the appearance of ceramics and the Meadowood Phase at roughly 950 BC. Much more is known about this period than the Early and Middle Archaic and a number of Late Archaic sites are known. Sites appear to be more common than earlier periods, suggesting some degree of population increase. True cemeteries appear and have allowed for the analysis of band size, biological relationships, social organization, and health. Narrow and Small point traditions appear as well as tool recycling wherein points were modified into drills, knives, end scrapers, and other tools (Ellis *et al.* 1990). Other tools including serrated flakes used for sawing or shredding, spokeshaves, and retouched flakes manufactured into perforators, graters, micro-perforators, or piercers. Tools on coarse-grained rocks such as sandstone and quartz become common and include hammerstones, net-sinkers, anvils, and cobble spalls. Depending on preservation,

several Late Archaic sites include bone and/or antler artifacts which likely represent fishing toolkits and ornamentation. These artifacts include bone harpoons, barbs or hooks, notched projectile points, and awls. Bone ornaments recovered have included tubular bone beads and drilled mammal canine pendants (Ellis *et al.* 1990).

Throughout the Early to Late Archaic periods the natural environment warmed and vegetation changed from closed conifer-dominated vegetation cover, to the mixed coniferous and deciduous forest in the north and deciduous vegetation in the south we see in Ontario today (Ellis *et al.* 1990). During the Archaic period there are indications of increasing populations and decreasing size of territories exploited during annual rounds; fewer moves of residential camps throughout the year and longer occupations at seasonal campsites; continuous use of certain locations on a seasonal basis over many years; increasing attention to ritual associated with the deceased; and, long range exchange and trade systems for the purpose of obtaining valued and geographically localized resources (Ellis *et al.* 1990).

The Woodland Period

The Early Woodland period is distinguished from the Late Archaic period primarily by the addition of ceramic technology, which provides a useful demarcation point for archaeologists but is expected to have made less difference in the lives of the Early Woodland peoples. The settlement and subsistence patterns of Early Woodland people shows much continuity with the earlier Archaic with seasonal camps occupied to exploit specific natural resources (Spence *et al.* 1990). During the Middle Woodland well-defined territories containing several key environmental zones were exploited over the yearly subsistence cycle. Large sites with structures and substantial middens appear in the Middle Woodland associated with spring macro-band occupations focussed on utilizing fish resources and created by consistent returns to the same site (Spence *et al.* 1990). Groups would come together into large macro-bands during the spring-summer at lakeshore or marshland areas to take advantage of spawning fish; in the fall inland sand plains and river valleys were occupied for deer and nut harvesting and groups split into small micro-bands for winter survival (Spence *et al.* 1990). This is a departure from earlier Woodland times when macro-band aggregation is thought to have taken place in the winter (Ellis *et al.* 1988; Granger 1978).

The period between the Middle and Late Woodland period was both technically and socially transitional for the ethnically diverse populations of southern Ontario and these developments laid the basis for the emergence of settled villages and agriculturally based lifestyles (Fox 1990). The Late Woodland period began with some groups shifting settlement and subsistence patterns, involving an increasing reliance on corn horticulture. Corn may have been introduced into southwestern Ontario from the American Midwest as early as 600 AD. However, it did not become a dietary staple until at least three to four hundred years later. The first agricultural villages in southwestern Ontario date to the 10th century A.D. Unlike the riverine base camps of the Middle Woodland period, Late Woodland sites are located in the uplands, on well-drained sandy soils.

In the Late Woodland period, between 900-1300 AD, villages tended to be small settlements with nearby camps and hamlets that served as temporary spaces for hunting game and gathering resources outside of the villages. At this time, small village sites were characterized by the presence of longhouses with villages being occupied considerably longer than later in the Woodland period. Villages tended to be moved when nearby soils had been depleted by farming and conveniently collected firewood grew scarce. The Jesuits reported that the Huron moved their villages once every 10-15 years as they relied less heavily on corn than did later groups, and since their villages were much smaller, there was less demand on nearby resources. Small amounts of corn appear to have been a dietary component at this time; however, archaeological evidence suggests that its role was not as a dietary staple at this time but was possibly supplemental in nature.

Between 1300 and 1400 AD, village sizes grew significantly, resulting in the development of complex community political systems. This period also marks the emergence of fully developed horticulture, including the cultivation of corn, beans, and squash. Additionally, changes in ceramic styles may reflect increasing levels of inter-community communication and integration. This is supported by Michi Saagiig (Mississauga Anishinaabeg) oral histories,

which speak to the coming of the corn growers and the symbiotic relationships that Algonkian speaking groups had with the Huron-Wendat in particular.

By the beginning of the fourteenth century, larger fortified village sites were often cleared to accommodate the cultivation of corn, beans, and squash as a result of an increasing reliance on horticulture. Longhouses also continued to grow in size until 1450 AD when a decrease in house length is observed. This decrease in house length may be partially attributed to large scale drops in population size associated with the introduction of European diseases.

1.2.2 Post-Contact Period Settlement

The post-contact Indigenous occupation of southern Ontario was heavily influenced by the dispersal of Iroquoian speaking peoples, including the Six Nations of the Iroquois – Mohawk, Cayuga, Oneida, Seneca, Onondaga, and Tuscarora. This was followed by the return of Algonkian speaking groups from northern Ontario, including the Michi Saagig, who had temporarily retreated to their wintering grounds in the mid-1600s to avoid warfare and disease as a result of colonial settlement. Algonkian speaking Ojibwe (Chippewa), Odawa (Ottawa), and Pottawatomi, known as the Three Fires Confederacy, remained in their traditional territory that covered a vast area of southern Ontario as well as eastern Michigan.

As European settlers encroached on their territory the nature of First Nation population distribution, settlement size and material culture changed. Despite these changes it is possible to correlate historically recorded villages with archaeological manifestations and the similarity of those sites to more ancient sites reveals an antiquity to documented cultural expressions that confirms a long historical continuity to systems of Indigenous ideology and thought (Ferris 2009).

It is important to note that, when discussing the historical documentation of the movement of Indigenous people, what has been documented by early European explorers and settlers represents only a very small snap-shot in time. Documentation of where Indigenous groups were residing during European exploration and settlement is restricted to only a very short period of time and does not reflect previous and subsequent movements of these groups. This brief history does not reflect the full picture of the pre- or post-contact period occupation of Indigenous groups or cultures. As such, relying on historic documentation in regards to Indigenous occupation and movement across the landscape can lead to misinterpretation. For example, noting the movement of Indigenous groups into an area may incorrectly suggest to the reader that these groups had not occupied the area previously; however, this is not the case. It is clear from Indigenous oral histories and the archaeological record that pre-contact Indigenous populations were extremely mobile and not tied to any one specific area. Over the vast period of time prior to the arrival of Europeans, Indigenous groups, language families, and cultures were fluid across the landscape.

The study area falls within the boundaries of Treaty 18, also known as the Lake Simcoe-Nottawasaga Purchase. Treaty 18 was signed on October 17, 1818 by representatives of the Crown and the Chippewas of Lake Huron and Simcoe. The main condition of this treaty was that 1,200 pounds of goods were to be given to the Chippewas of Lakes Hurons and Simcoe every year, indefinitely, for the surrender of 1,592,000 ac. This annuity ceased after the signing of the Williams Treaties in 1923 (King 2018) (Figure 3).

1.2.3 Euro-Canadian Settlement

The 1871 (Hoggs 1871) and 1881 (H. Belden 1881) historic maps of Simcoe County were reviewed to determine the presence of 19th century settlement features within the study area, as these elevate the potential for the presence of 19th century archaeological resources. It should be noted that not all features of interest, particularly farmhouses and smaller homesteads, were mapped systematically as this would have been beyond the intended scope of the Ontario historical atlas series. In addition, given that atlases were funded by subscription, preference with regard to the level of detail included was given to subscribers. As such, the absence of structures or other features on historic atlas maps does not preclude the presence of historic features at the time the area was surveyed.

By 1871, the land within the Township of Nottawasaga had been surveyed, with most lots severed and sold off, and nearly all of the land occupied by early settlers. The expansion of the Town of Collingwood was significant in 1871, with the Town plot spread across multiple lots and concessions; however, Lot 44, Concession 7, is not listed to any landowner and only a small portion of the west part of the lot, well outside of the study area, had been surveyed as part of the Town plot. Although no historic structures are illustrated on Lot 44, the Northern Railroad of Canada was constructed through the west side of the lot to access a shipping area on the shore of Georgian Bay (Figure 4). At the time of the 1881 survey of the Township of Nottawasaga, Collingwood had expanded with the town plot extending to include the entirety of Lot 44, Concession 7. Town roads, which are still in use today, were constructed at this time, including parts of Raglan Street (Figure 5). Other than town roads, no structures are illustrated on the map.

A fish hatchery was once located on Raglan Street within the boundaries of the study area. The hatchery was built in 1912 by the Dominion of Canada government and was later taken over by the Ontario Government. The hatchery was constructed to address declining fish stocks in the area as a result of a government report issued in 1894 (Collingwood Museum nd). The hatchery was closed in 1957 and the Raymond A. Barker WTP now stands in its place.

1.3 Archaeological Context

1.3.1 Natural Environment

The single most important environmental feature necessary for extended human occupation is potable water. As such, proximity to water is regarded as a useful index for the determination of potential for the presence of archaeological resources. The study area is located on the south shore of Georgian Bay and approximately 400 m northwest of the Nottawasaga River. These water sources served as important pre- and post-contact transportation routes as well as sources of potable water and lake resources.

The study area falls within the Simcoe Lowlands geographic region of southern Ontario, which is positioned between Georgian Bay and Lake Simcoe. This region includes the Lake Simcoe basins and the Nottawasaga River and is characterized by imperfectly drained sand, silt, and clay soils. Extensive marshes and swamps also provide an abundance of organic mud. Dominant tree species in the once dense forests included elm, ash, maple, and cedar (Chapman and Putnam 1984). In addition to forest resources, the study area is located near Collingwood, or Fossil Hill, chert outcrops. These bedrock outcrops were used throughout the pre-contact period and was the preferred raw material used by Paleo populations for tool manufacture.

The modern physiography of southern Ontario is largely a product of events of the last major glacial stage, the Wisconsinan and Late Wisconsinan time (ca. 25,000-10,000 BP) (Ellis and Ferris 1990). The study area would have been completely inundated by Glacial Lakes Algonquin and Lake Nipissing with settlement occurring in the area after the glacial lakes receded (Chapman and Putnam 1984:34).

The availability of food and raw material resources made this area an ideal environment for both temporary and permanent settlement throughout the pre-and post-contact periods and attracted Euro-Canadian settlers in the early 19th century. During the 19th and 20th century, rapid deforestation resulted in significant land clearance across Simcoe County and, over time, the once diverse forest life and wide range of tree species and natural resources would have also been depleted as agricultural and modern residential and commercial development continued. As a result of continuing urban development, this part of southern Ontario is almost completely deforested today.

1.3.2 Previous Archaeological Work

To inform the current Stage 1 archaeological assessment and further establish the archaeological context of the study area, a search of the Ontario Public Register of Archaeological Reports was conducted by AECOM to determine if any previous archaeological work has been completed within the current study area or within 50 m of the study area boundaries. No reports documenting previous archaeological work within the study area or within 50 m were found.

To the best of our knowledge, there are no other reports concerning archaeological work conducted within or in close proximity (i.e. within 50 m) of the study area; however, it should be noted that the MTCS does not maintain a database of all properties that have had past archaeological investigations and searches of the MTCS' public register do not always result in a complete listing of all archaeological work conducted in a given area. In consequence, in some cases the only way a consulting archaeologist will know that a past assessment has been conducted is if they have personal knowledge of it, or if the assessment resulted in the discovery and registration of one or more archaeological sites.

1.3.3 Known Archaeological Sites

AECOM conducted a data search of the ASDB to determine if any known archaeological sites are located within the study area, as well as within 1 km of the current study area boundaries. The results of this search indicated that there are no known archaeological sites registered within 1 km of the study area. It is pertinent to note that a lack of registered archaeological sites does not preclude the presence of archaeological sites within a given study area, but, rather, that minimal archaeological work has been completed in the immediate vicinity.

1.3.4 Existing Conditions

The Collingwood WTP EA study area is located at the existing Raymond A. Barker Ultrafiltration WTP at 10 Raglan Street in the Town of Collingwood, Ontario. It is generally bounded by Raglan Street to the west, public pathways to the north and south, and Nottawasaga Bay to the east. The study area is currently comprised of the existing WTP and associated access roads.

2. Property Inspection

To assist in the evaluation of the Collingwood WTP EA study area, a property inspection was conducted by licensed archaeologist Cody McNea (R414) on August 29, 2019 under PIF # P438-0186-2019 issued to professional archaeologist Samantha Markham (P438). The property inspection was conducted to meet the requirements of *Section 1.2* of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011) and, in accordance with *Section 1.2, Standard 1*, the entire Study Area and its periphery was subject to systematic inspection to identify the presence or absence of any features of archaeological potential.

The weather on August 26, 2019 was sunny and clear with a high temperature of 26°C. The weather conditions permitted excellent visibility and photographs were taken of the visible landscape features (Photos 1-9). Photograph locations and directions, as well as the results of the Stage 1 AA property inspection are provided on Figure 6 of this report. To meet the requirements of *Standard 4, Section 1.2*, an attempt was made to document additional features of archaeological potential not visible on the mapping. No additional features of archaeological potential were identified during the site inspection.

The entirety of the study area has been significantly previously disturbed. This is evidenced by the presence of existing building footprints, grading associated with landscaping conducted around the buildings, and underground utilities.

3. Analysis and Conclusions

3.1 Determination of Archaeological Potential

Archaeological potential is established by determining the likelihood that archaeological resources may be present on a subject property. Criteria commonly used by the MTCS to determine areas of archaeological potential are listed in Section 1.3.1 of the *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011). Distance to modern or ancient water sources is generally accepted as the most important element for past human settlement patterns and when considered alone may result in a determination of archaeological potential. In addition, any combination of two or more of the listed criteria indicates archaeological potential.

Based on a review of the historical, environmental, and archaeological context of the study area, it has been determined that there may be potential for the recovery of pre- and post-contact First Nation and 19th century Euro-Canadian archaeological resources within the study area based on the presence of the following features:

- Distance to various types of water sources (Georgian/Nottawasaga Bay, Nottawasaga River);
- Soil texture and drainage (imperfectly drained);
- Resource areas including food or medicinal plants, scarce raw materials;
- Areas of early Euro- Canadian industry, settlement, and early transportation routes; and,
- Properties listed on municipal register of properties designated under the *Ontario Heritage Act* (Government of Ontario 1990b).

Certain features indicate that archaeological potential has been removed, such as land that has been subject to extensive and intensive deep land alterations that have severely damaged the integrity of any archaeological resources. This includes landscaping that involves grading below the topsoil level, building footprints, quarrying and sewage and infrastructure development (Ontario Government 2011).

Through a visual inspection of the study area, it was determined that the study area has been significantly previously disturbed as a result of the construction of the Raymond A. Barker Ultrafiltration WTP and its associated infrastructure, including underground utilities, and grading as a result of landscaping around the building footprints.

3.2 Conclusions

AECOM's Stage 1 background study for the Collingwood WTP EA has determined that, although there are features that support the potential for the recovery of archaeological resources, the study area has been significantly previously disturbed. As such, archaeological potential within the study area boundaries has been removed as a result of the construction of the Raymond A. Barker Ultrafiltration WTP.

4. Recommendations

AECOM's Stage 1 archaeological assessment for the Collingwood WTP EA determined that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with the construction of the Raymond A. Barker Ultrafiltration WTP and underground utilities. **Based on these findings, no further archaeological work is required.**

The MTCS is asked to accept this report into the Ontario Public Register of Archaeological Reports thereby concurring with the recommendations presented herein. As no further archaeological assessment is required, archaeological concerns for the Collingwood WTP EA in the Town of Collingwood, Ontario have been fully addressed.

Please note that this archaeological assessment report has been written to meet the requirements of the MTCS's *Standards and Guidelines for Consultant Archaeologists* (Ontario Government 2011); however, properties that are subject to archaeological assessment are not considered cleared for ground disturbance activities until the associated report has been reviewed and accepted by the MTCS. In order to maintain compliance with the MTCS and the *Ontario Heritage Act* (1990), no ground disturbing activities are to occur until the proponent and approval authority receive a formal letter from the MTCS stating that the recommendations provided herein are compliant and that the report has been accepted into the MTCS' register of archaeological reports.

5. Advice on Compliance with Legislation

This report is submitted to the Ontario Minister of Tourism, Culture and Sport as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18. The report is reviewed to ensure that it complies with the standards and guidelines that are issued by the Minister, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario. When all matters relating to archaeological sites within the project area of a development proposal have been addressed to the satisfaction of the Ministry of Tourism, Culture and Sport, a letter will be issued by the ministry stating that there are no further concerns with regard to alterations to archaeological sites by the proposed development.

It is an offence under Sections 48 and 69 of the *Ontario Heritage Act* for any party other than a licensed archaeologist to make any alteration to a known archaeological site or to remove any artifact or other physical evidence of past human use or activity from the site, until such time as a licensed archaeologist has completed fieldwork on the site, submitted a report to the Minister stating that the site has no further cultural heritage value or interest, and the report has been filed in the Ontario Public Register of Archaeology Reports referred to in Section 65.1 of the *Ontario Heritage Act*.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with Section 48(1) of the *Ontario Heritage Act*.

Archaeological sites recommended for further archaeological fieldwork or protection remain subject to section 48 (1) of the *Ontario Heritage Act* and may not be altered, or have artifacts removed from them, except by a person holding an archaeological license.

The *Funeral, Burial and Cremation Services Act*, 2002, S.O. 2002, c.33 (when proclaimed in force in 2012) require that any person discovering human remains must notify the police or coroner and the Registrar of Burial Sites, War Graves, Abandoned Cemeteries, and Cemetery Closures.

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Collingwood Museum

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1990b *Ontario Heritage Act*. R.S.O. 1990, CHAPTER O.18, Last amendment: 2009, c. 33, Sched. 11, s. 6. Electronic document: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_90o18_e.htm. Last assessed July 2014.
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7. Images



Photo 1: Visually confirmed disturbance (utilities), facing south



Photo 2: Visually confirmed disturbance (building footprint, underground utilities), facing north east



Photo 3: Visually confirmed disturbance (underground utilities, artificial landscaping), facing east



Photo 4: Visually confirmed disturbance (building footprint, underground utilities), facing south



Photo 5: Visually confirmed disturbance (building footprint, access road construction), facing east



Photo 6: Visually confirmed disturbance (building footprint) facing west



Photo 7: Visually confirmed disturbance (underground utilities), facing north east



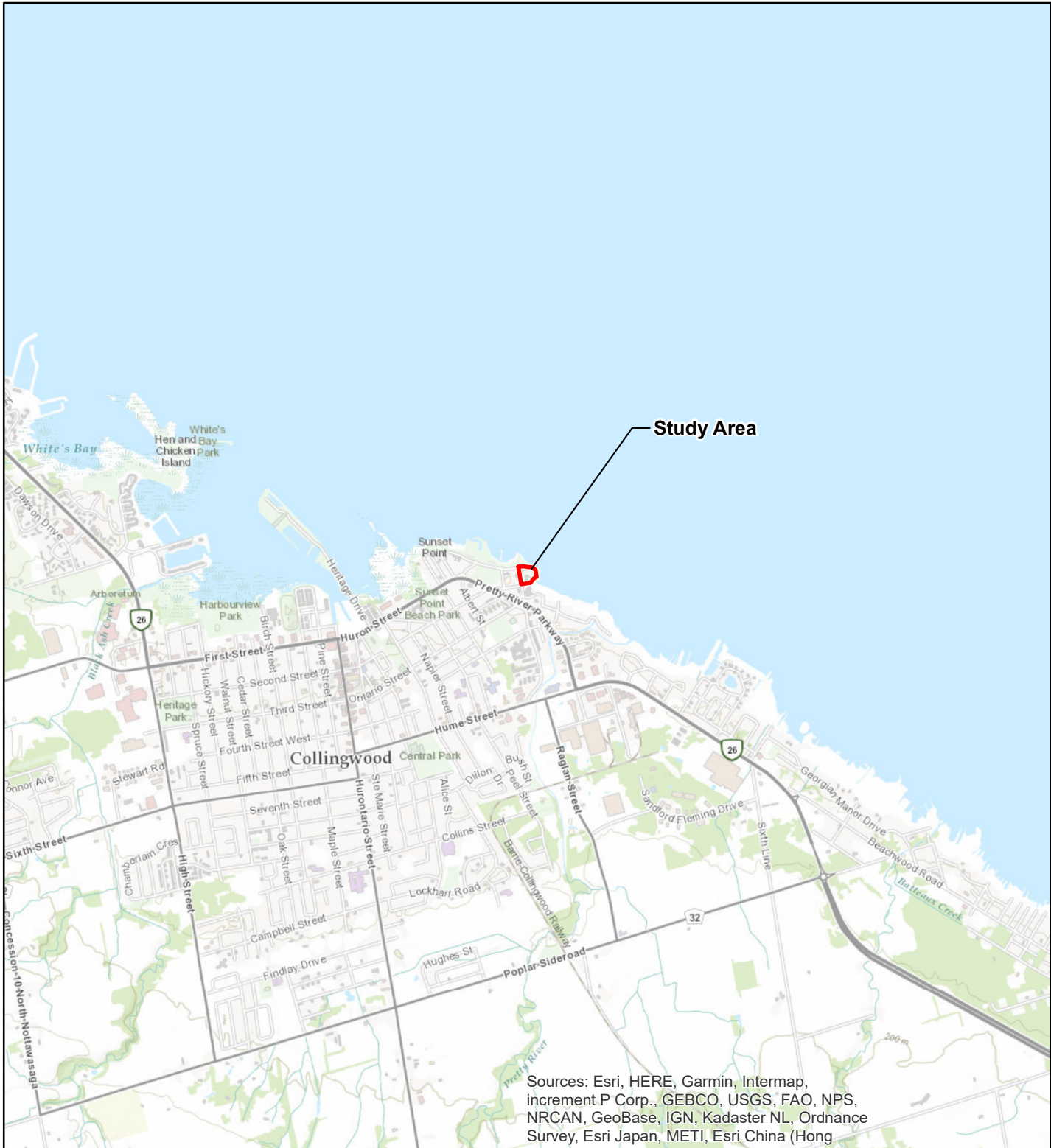
Photo 8: Visually confirmed disturbance (artificial landscaping), facing north east



Photo 9: Visually confirmed disturbance, building footprint and infrastructure), facing north


8. Figures

All figures pertaining to the Stage 1 archaeological assessment for the Collingwood WTP Class EA in the Town of Collingwood, Ontario are provided on the following pages.

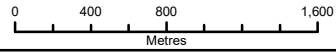


Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong

Legend

 Study Area



Stage 1 Archaeological Assessment Collingwood WTP Class EA Amendment Town of Collingwood, Ontario		
Location of Study Area		
September 2019	1:40,000	Datum: NAD 83 UTM17 Source: LIO 2018
PH: 60609900	V#:	
AECOM		Figure 1
		
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Map Source: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong

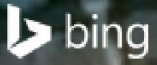


Georgian Bay (baie Georgienne)

Saint Lawrence St


Radlan St

Simcoe St



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Legend

 Study Area



Stage 1 Archaeological Assessment
Collingwood WTP Class EA Amendment
Town of Collingwood, Ontario

Study Area in Detail

September 2019

1:1,000

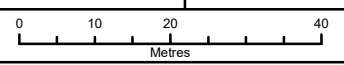
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PH: 60609900

V#:

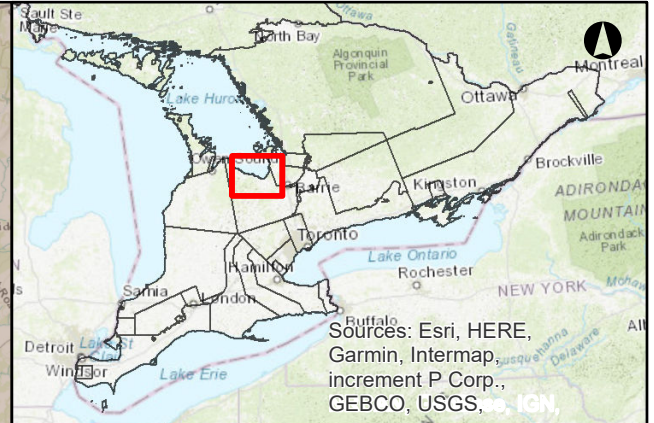
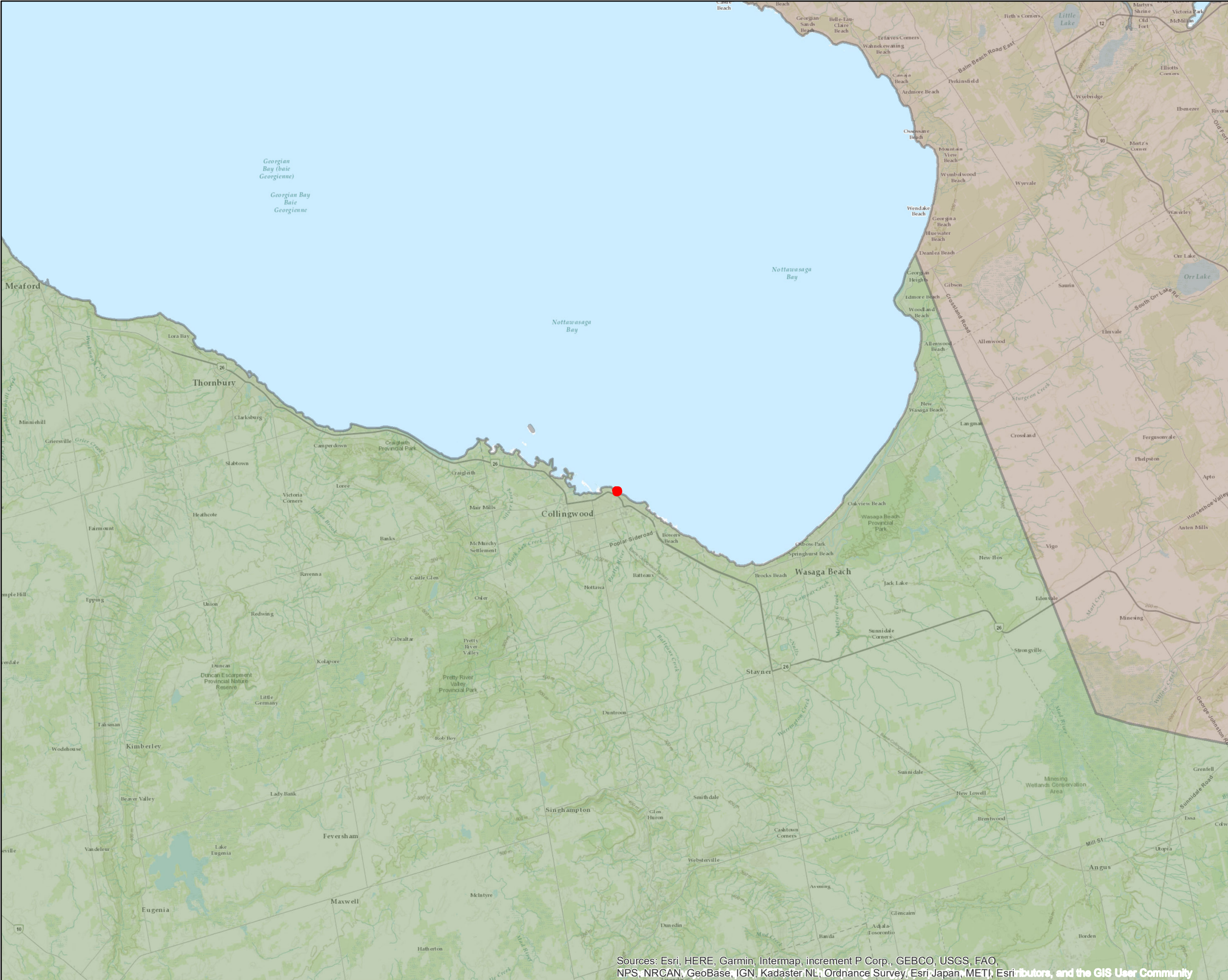


Figure 2



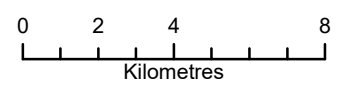
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Map Source: Microsoft (2019) DigitalGlobe (2019) CNES (2019) Distribution Airbus DS
 PH: 60609900 V#: 1:1,000
 Datum: NAD 83 UTM17 Source: LIO 2018
 Figure 2
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Legend

- Study Area
- Lake Simcoe Purchase, Treaty 16, 1815
- Nottawasaga Purchase, Treaty 18, October 17, 1818



Stage 1 Archaeological Assessment Collingwood WTP Class EA Amendment Town of Collingwood, Ontario

Ontario Treaties Map

September 2019	1:200,000	Datum: NAD83 UTM17 Source: www.ontario.ca/page/map-ontario-treaties-and-reserves#17
P#: 60609900	V#:	



Figure 3

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri Contributors, and the GIS User Community

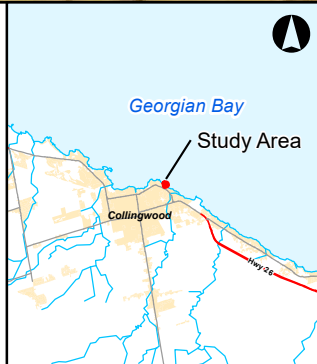
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Map location: \\collingwood\gis\workspace\PROJECT\GIS\60609900\Collingwood WTP Class EA Amendment\60609900\Collingwood WTP Class EA Amendment\60609900\Work\2019-09-29\GIS\Graphics\Design\17_Reports\AS11\Fig3_TreatiesPurchases.mxd Date saved: 2019/09/29 12:14 PM User Name: gahb



Legend

 Study Area



Stage 1 Archaeological Assessment
Collingwood WTP Class EA Amendment
Town of Collingwood, Ontario

Portion of the 1871 Map of Simcoe County

September 2019

1:25,000

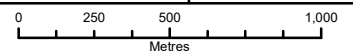
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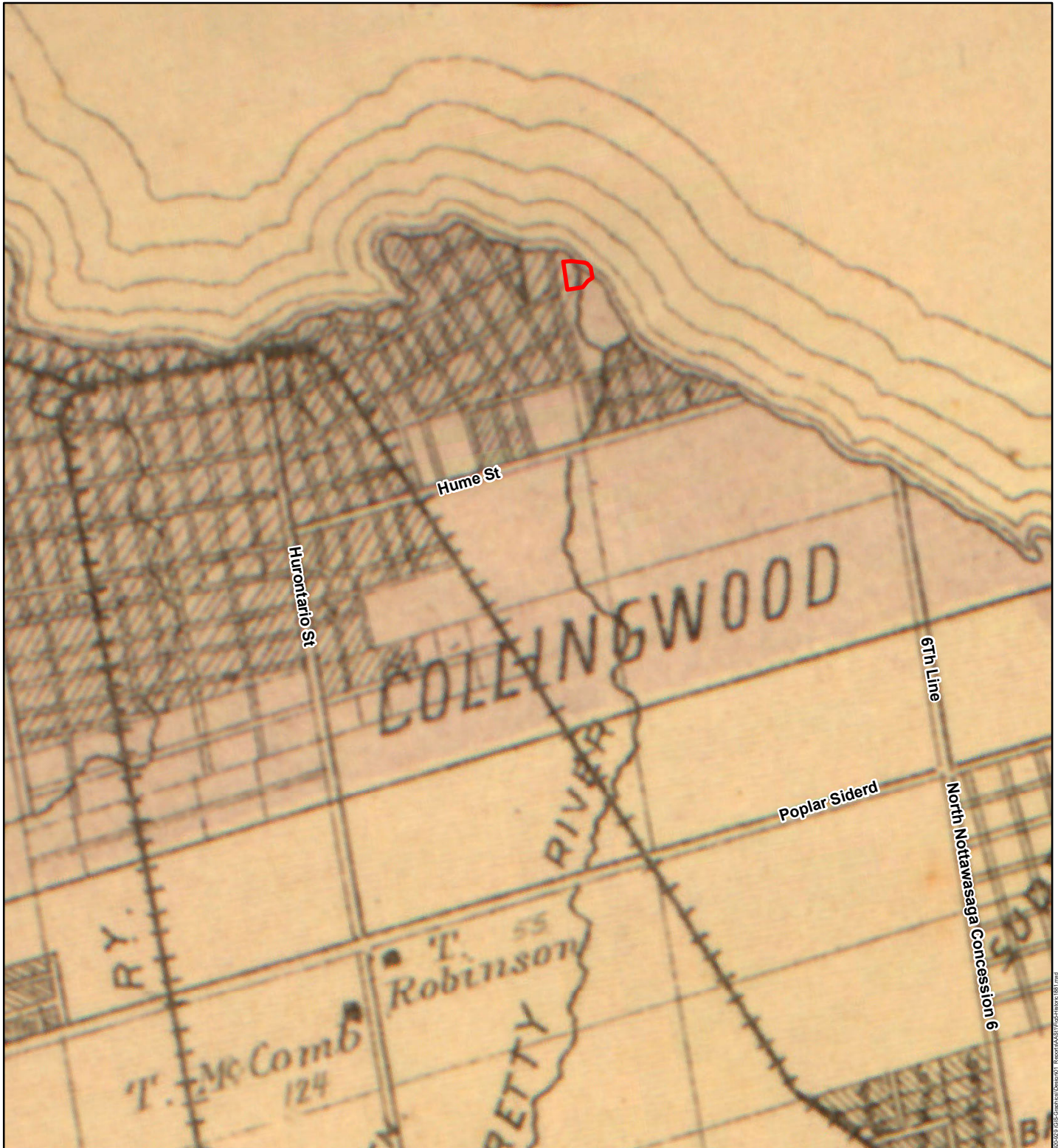
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Figure 4

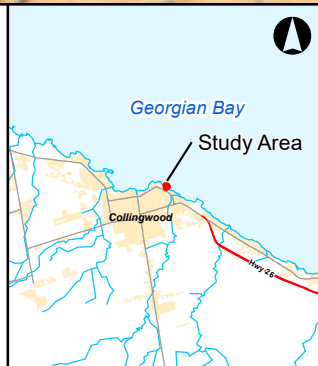


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Legend

 Study Area



Stage 1 Archaeological Assessment
Collingwood WTP Class EA Amendment
Town of Collingwood, Ontario

Portion of the 1881 Map of Simcoe County

September 2019 1:25,000

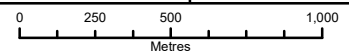
Drawn: NAD 83 UTM17
Source: LIO 2018, 1881 Simcoe
Supplement in Illustrated Atlas of the
Dominion of Canada, Toronto: H. Belden, 1881.

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Figure 5






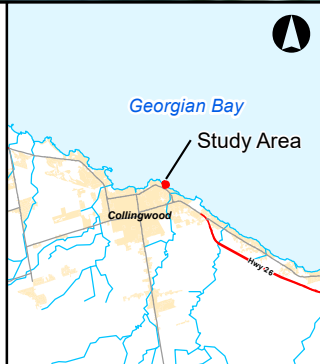
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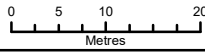
Map Source: Modified from 1881 Map of Simcoe County, Ontario, LIO 2018, 1881 Simcoe Supplement in Illustrated Atlas of the Dominion of Canada, Toronto: H. Belden, 1881. Digitized by the University of Toronto, 2018.



Legend

-  Photo Location and Direction
-  Study Area
-  Visually Confirmed Disturbance



Stage 1 Archaeological Assessment Collingwood WTP Class EA Amendment Town of Collingwood, Ontario		
Results of the Stage 1 Property Inspection		
September 2019	1:800	Datum: NAD 83 UTM17 Source: LIO 2018
PH: 60609900	V#:	Figure 6
		
		
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MHSTCI Letter of July 7, 2020

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Industries

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Jul 7, 2020

Samantha Markham (P438)
AECOM
410 - 250 York London ON N6A 6K2

**RE: Review and Entry into the Ontario Public Register of Archaeological Reports:
Archaeological Assessment Report Entitled, "Stage 1 Archaeological Assessment
Collingwood WTP Class EA Part of Lot 44, Concession 7, Geographic Township of
Nottawasaga, Simcoe County, Now the Town of Collingwood, Ontario ", Dated Nov
4, 2019, Filed with MTCS Toronto Office on Nov 26, 2019, MTCS Project Information
Form Number P438-0186-2019, MTCS File Number 0011307**

Dear Ms. Markham:

This office has reviewed the above-mentioned report, which has been submitted to this ministry as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, R.S.O. 1990, c 0.18.¹ This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 *Standards and Guidelines for Consultant Archaeologists* set by the ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report documents the assessment/mitigation of the study area as depicted in Figure 6 of the above titled report and recommends the following:

AECOM's Stage 1 archaeological assessment for the Collingwood WTP EA determined that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with the construction of the Raymond A. Barker Ultrafiltration WTP and underground utilities. Based on these findings, no further archaeological work is required.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment are consistent with the ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences. This report has been entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,

Heather Kerr
Archaeology Review Officer

cc. Archaeology Licensing Officer
Brian Sahely, AECOM Canada Ltd.
TBD TBD, Ministry of the Environment, Conservation, and Parks

¹*In no way will the ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.*

MHSTCI Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes Checklist

The **purpose of the checklist** is to determine:

- if a property(ies) or project area:
 - is a recognized heritage property
 - may be of cultural heritage value
- it includes all areas that may be impacted by project activities, including – but not limited to:
 - the main project area
 - temporary storage
 - staging and working areas
 - temporary roads and detours

Processes covered under this checklist, such as:

- *Planning Act*
- *Environmental Assessment Act*
- *Aggregates Resources Act*
- *Ontario Heritage Act* – Standards and Guidelines for Conservation of Provincial Heritage Properties

Cultural Heritage Evaluation Report (CHER)

If you are not sure how to answer one or more of the questions on the checklist, you may want to hire a qualified person(s) (see page 5 for definitions) to undertake a cultural heritage evaluation report (CHER).

The CHER will help you:

- identify, evaluate and protect cultural heritage resources on your property or project area
- reduce potential delays and risks to a project

Other checklists

Please use a separate checklist for your project, if:

- you are seeking a Renewable Energy Approval under Ontario Regulation 359/09 – [separate checklist](#)
- your Parent Class EA document has an approved screening criteria (as referenced in Question 1)

Please refer to the Instructions pages for more detailed information and when completing this form.

Project or Property Name
Raymond A. Barker Water Treatment Plant Expansion Class Environmental Assessment

Project or Property Location (upper and lower or single tier municipality)
Town of Collingwood

Proponent Name
Mr. Ken Kaden

Proponent Contact Information
kkaden@collingwood.ca

Screening Questions

1. Is there a pre-approved screening checklist, methodology or process in place? Yes No

If Yes, please follow the pre-approved screening checklist, methodology or process.

If No, continue to Question 2.

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found **not** to be of cultural heritage value? Yes No

If Yes, do **not** complete the rest of the checklist.

The proponent, property owner and/or approval authority will:

- summarize the previous evaluation and
- add this checklist to the project file, with the appropriate documents that demonstrate a cultural heritage evaluation was undertaken

The summary and appropriate documentation may be:

- submitted as part of a report requirement
- maintained by the property owner, proponent or approval authority

If No, continue to Question 3.

3. Is the property (or project area): Yes No

- a. identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value? Yes No
- b. a National Historic Site (or part of)? Yes No
- c. designated under the *Heritage Railway Stations Protection Act*? Yes No
- d. designated under the *Heritage Lighthouse Protection Act*? Yes No
- e. identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office (FHBRO)? Yes No
- f. located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site? Yes No

If Yes to any of the above questions, you need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report, if a Statement of Cultural Heritage Value has not previously been prepared or the statement needs to be updated

If a Statement of Cultural Heritage Value has been prepared previously and if alterations or development are proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No, continue to Question 4.

Part B: Screening for Potential Cultural Heritage Value

	Yes	No
4. Does the property (or project area) contain a parcel of land that:		
a. is the subject of a municipal, provincial or federal commemorative or interpretive plaque?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has or is adjacent to a known burial site and/or cemetery?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. is in a Canadian Heritage River watershed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. contains buildings or structures that are 40 or more years old?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Part C: Other Considerations

	Yes	No
5. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area):		
a. is considered a landmark in the local community or contains any structures or sites that are important in defining the character of the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. has a special association with a community, person or historical event?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. contains or is part of a cultural heritage landscape?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If Yes to one or more of the above questions (Part B and C), there is potential for cultural heritage resources on the property or within the project area.

You need to hire a qualified person(s) to undertake:

- a Cultural Heritage Evaluation Report (CHER)

If the property is determined to be of cultural heritage value and alterations or development is proposed, you need to hire a qualified person(s) to undertake:

- a Heritage Impact Assessment (HIA) – the report will assess and avoid, eliminate or mitigate impacts

If No to all of the above questions, there is low potential for built heritage or cultural heritage landscape on the property.

The proponent, property owner and/or approval authority will:

- summarize the conclusion
- add this checklist with the appropriate documentation to the project file

The summary and appropriate documentation may be:

- submitted as part of a report requirement e.g. under the *Environmental Assessment Act*, *Planning Act* processes
- maintained by the property owner, proponent or approval authority

Instructions

Please have the following available, when requesting information related to the screening questions below:

- a clear map showing the location and boundary of the property or project area
 - large scale and small scale showing nearby township names for context purposes
- the municipal addresses of all properties within the project area
- the lot(s), concession(s), and parcel number(s) of all properties within a project area

For more information, see the Ministry of Tourism, Culture and Sport's [Ontario Heritage Toolkit](#) or [Standards and Guidelines for Conservation of Provincial Heritage Properties](#).

In this context, the following definitions apply:

- **qualified person(s)** means individuals – professional engineers, architects, archaeologists, etc. – having relevant, recent experience in the conservation of cultural heritage resources.
- **proponent** means a person, agency, group or organization that carries out or proposes to carry out an undertaking or is the owner or person having charge, management or control of an undertaking.

1. Is there a pre-approved screening checklist, methodology or process in place?

An existing checklist, methodology or process may already be in place for identifying potential cultural heritage resources, including:

- one endorsed by a municipality
- an environmental assessment process e.g. screening checklist for municipal bridges
- one that is approved by the Ministry of Tourism, Culture and Sport (MTCS) under the Ontario government's [Standards & Guidelines for Conservation of Provincial Heritage Properties \[s.B.2.\]](#)

Part A: Screening for known (or recognized) Cultural Heritage Value

2. Has the property (or project area) been evaluated before and found not to be of cultural heritage value?

Respond 'yes' to this question, if all of the following are true:

A property can be considered not to be of cultural heritage value if:

- a Cultural Heritage Evaluation Report (CHER) - or equivalent - has been prepared for the property with the advice of a qualified person and it has been determined not to be of cultural heritage value and/or
- the municipal heritage committee has evaluated the property for its cultural heritage value or interest and determined that the property is not of cultural heritage value or interest

A property may need to be re-evaluated, if:

- there is evidence that its heritage attributes may have changed
- new information is available
- the existing Statement of Cultural Heritage Value does not provide the information necessary to manage the property
- the evaluation took place after 2005 and did not use the criteria in Regulations 9/06 and 10/06

Note: Ontario government ministries and public bodies [prescribed under Regulation 157/10] may continue to use their existing evaluation processes, until the evaluation process required under section B.2 of the Standards & Guidelines for Conservation of Provincial Heritage Properties has been developed and approved by MTCS.

To determine if your property or project area has been evaluated, contact:

- the approval authority
- the proponent
- the Ministry of Tourism, Culture and Sport

3a. Is the property (or project area) identified, designated or otherwise protected under the *Ontario Heritage Act* as being of cultural heritage value e.g.:

- i. designated under the *Ontario Heritage Act*
 - individual designation (Part IV)
 - part of a heritage conservation district (Part V)

Individual Designation – Part IV

A property that is designated:

- by a municipal by-law as being of cultural heritage value or interest [s.29 of the *Ontario Heritage Act*]
- by order of the Minister of Tourism, Culture and Sport as being of cultural heritage value or interest of provincial significance [s.34.5]. **Note:** To date, no properties have been designated by the Minister.

Heritage Conservation District – Part V

A property or project area that is located within an area designated by a municipal by-law as a heritage conservation district [s. 41 of the *Ontario Heritage Act*].

For more information on Parts IV and V, contact:

- municipal clerk
 - [Ontario Heritage Trust](#)
 - local land registry office (for a title search)
-

ii. subject of an agreement, covenant or easement entered into under Parts II or IV of the *Ontario Heritage Act*

An agreement, covenant or easement is usually between the owner of a property and a conservation body or level of government. It is usually registered on title.

The primary purpose of the agreement is to:

- preserve, conserve, and maintain a cultural heritage resource
- prevent its destruction, demolition or loss

For more information, contact:

- [Ontario Heritage Trust](#) - for an agreement, covenant or easement [clause 10 (1) (c) of the *Ontario Heritage Act*]
 - municipal clerk – for a property that is the subject of an easement or a covenant [s.37 of the *Ontario Heritage Act*]
 - local land registry office (for a title search)
-

iii. listed on a register of heritage properties maintained by the municipality

Municipal registers are the official lists - or record - of cultural heritage properties identified as being important to the community.

Registers include:

- all properties that are designated under the *Ontario Heritage Act* (Part IV or V)
- properties that have not been formally designated, but have been identified as having cultural heritage value or interest to the community

For more information, contact:

- municipal clerk
 - municipal heritage planning staff
 - municipal heritage committee
-

iv. subject to a notice of:

- intention to designate (under Part IV of the *Ontario Heritage Act*)
- a Heritage Conservation District study area bylaw (under Part V of the *Ontario Heritage Act*)

A property that is subject to a **notice of intention to designate** as a property of cultural heritage value or interest and the notice is in accordance with:

- section 29 of the *Ontario Heritage Act*
- section 34.6 of the *Ontario Heritage Act*. **Note:** To date, the only applicable property is Meldrum Bay Inn, Manitoulin Island. [s.34.6]

An area designated by a municipal by-law made under section 40.1 of the *Ontario Heritage Act* as a **heritage conservation district study area**.

For more information, contact:

- municipal clerk – for a property that is the subject of notice of intention [s. 29 and s. 40.1]
 - [Ontario Heritage Trust](#)
-

v. included in the Ministry of Tourism, Culture and Sport's list of provincial heritage properties

Provincial heritage properties are properties the Government of Ontario owns or controls that have cultural heritage value or interest.

The Ministry of Tourism, Culture and Sport (MTCS) maintains a list of all provincial heritage properties based on information provided by ministries and prescribed public bodies. As they are identified, MTCS adds properties to the list of provincial heritage properties.

For more information, contact the MTCS Registrar at registrar@ontario.ca.

3b. Is the property (or project area) a National Historic Site (or part of)?

National Historic Sites are properties or districts of national historic significance that are designated by the Federal Minister of the Environment, under the *Canada National Parks Act*, based on the advice of the Historic Sites and Monuments Board of Canada.

For more information, see the [National Historic Sites website](#).

3c. Is the property (or project area) designated under the *Heritage Railway Stations Protection Act*?

The *Heritage Railway Stations Protection Act* protects heritage railway stations that are owned by a railway company under federal jurisdiction. Designated railway stations that pass from federal ownership may continue to have cultural heritage value.

For more information, see the [Directory of Designated Heritage Railway Stations](#).

3d. Is the property (or project area) designated under the *Heritage Lighthouse Protection Act*?

The *Heritage Lighthouse Protection Act* helps preserve historically significant Canadian lighthouses. The Act sets up a public nomination process and includes heritage building conservation standards for lighthouses which are officially designated.

For more information, see the [Heritage Lighthouses of Canada website](#).

3e. Is the property (or project area) identified as a Federal Heritage Building by the Federal Heritage Buildings Review Office?

The role of the Federal Heritage Buildings Review Office (FHBRO) is to help the federal government protect the heritage buildings it owns. The policy applies to all federal government departments that administer real property, but not to federal Crown Corporations.

For more information, contact the [Federal Heritage Buildings Review Office](#).

See a [directory of all federal heritage designations](#).

3f. Is the property (or project area) located within a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Site?

A UNESCO World Heritage Site is a place listed by UNESCO as having outstanding universal value to humanity under the Convention Concerning the Protection of the World Cultural and Natural Heritage. In order to retain the status of a World Heritage Site, each site must maintain its character defining features.

Currently, the Rideau Canal is the only World Heritage Site in Ontario.

For more information, see Parks Canada – [World Heritage Site website](#).

Part B: Screening for potential Cultural Heritage Value

4a. Does the property (or project area) contain a parcel of land that has a municipal, provincial or federal commemorative or interpretive plaque?

Heritage resources are often recognized with formal plaques or markers.

Plaques are prepared by:

- municipalities
- provincial ministries or agencies
- federal ministries or agencies
- local non-government or non-profit organizations

For more information, contact:

- [municipal heritage committees](#) or local heritage organizations – for information on the location of plaques in their community
- Ontario Historical Society's [Heritage directory](#) – for a list of historical societies and heritage organizations
- Ontario Heritage Trust – for a [list of plaques](#) commemorating Ontario's history
- Historic Sites and Monuments Board of Canada – for a [list of plaques](#) commemorating Canada's history

4b. Does the property (or project area) contain a parcel of land that has or is adjacent to a known burial site and/or cemetery?

For more information on known cemeteries and/or burial sites, see:

- Cemeteries Regulations, Ontario Ministry of Consumer Services – for a [database of registered cemeteries](#)
- Ontario Genealogical Society (OGS) – to [locate records of Ontario cemeteries](#), both currently and no longer in existence; cairns, family plots and burial registers
- Canadian County Atlas Digital Project – to [locate early cemeteries](#)

In this context, adjacent means contiguous or as otherwise defined in a municipal official plan.

4c. Does the property (or project area) contain a parcel of land that is in a Canadian Heritage River watershed?

The Canadian Heritage River System is a national river conservation program that promotes, protects and enhances the best examples of Canada's river heritage.

Canadian Heritage Rivers must have, and maintain, outstanding natural, cultural and/or recreational values, and a high level of public support.

For more information, contact the [Canadian Heritage River System](#).

If you have questions regarding the boundaries of a watershed, please contact:

- your conservation authority
- municipal staff

4d. Does the property (or project area) contain a parcel of land that contains buildings or structures that are 40 or more years old?

A 40 year 'rule of thumb' is typically used to indicate the potential of a site to be of cultural heritage value. The approximate age of buildings and/or structures may be estimated based on:

- history of the development of the area
- fire insurance maps
- architectural style
- building methods

Property owners may have information on the age of any buildings or structures on their property. The municipality, local land registry office or library may also have background information on the property.

Note: 40+ year old buildings or structure do not necessarily hold cultural heritage value or interest; their age simply indicates a higher potential.

A building or structure can include:

- residential structure
- farm building or outbuilding
- industrial, commercial, or institutional building
- remnant or ruin
- engineering work such as a bridge, canal, dams, etc.

For more information on researching the age of buildings or properties, see the Ontario Heritage Tool Kit Guide [Heritage Property Evaluation](#).

Part C: Other Considerations

5a. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) is considered a landmark in the local community or contains any structures or sites that are important to defining the character of the area?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has potential landmarks or defining structures and sites, for instance:

- buildings or landscape features accessible to the public or readily noticeable and widely known
- complexes of buildings
- monuments
- ruins

5b. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) has a special association with a community, person or historical event?

Local or Aboriginal knowledge may reveal that the project location is situated on a parcel of land that has a special association with a community, person or event of historic interest, for instance:

- Aboriginal sacred site
- traditional-use area
- battlefield
- birthplace of an individual of importance to the community

5c. Is there local or Aboriginal knowledge or accessible documentation suggesting that the property (or project area) contains or is part of a cultural heritage landscape?

Landscapes (which may include a combination of archaeological resources, built heritage resources and landscape elements) may be of cultural heritage value or interest to a community.

For example, an Aboriginal trail, historic road or rail corridor may have been established as a key transportation or trade route and may have been important to the early settlement of an area. Parks, designed gardens or unique landforms such as waterfalls, rock faces, caverns, or mounds are areas that may have connections to a particular event, group or belief.

For more information on Questions 5.a., 5.b. and 5.c., contact:

- Elders in Aboriginal Communities or community researchers who may have information on potential cultural heritage resources. Please note that Aboriginal traditional knowledge may be considered sensitive.
- [municipal heritage committees](#) or local heritage organizations
- Ontario Historical Society's "[Heritage Directory](#)" - for a list of historical societies and heritage organizations in the province

An internet search may find helpful resources, including:

- historical maps
- historical walking tours
- municipal heritage management plans
- cultural heritage landscape studies
- municipal cultural plans

Information specific to trails may be obtained through [Ontario Trails](#).

Appendix G

**Town of Collingwood
Raymond A. Barker Water Treatment Plant
ALTERNATIVES SELECTION**

Technical Memorandum

Rev. 7

AECOM Canada Ltd.

April 8, 2020

Town of Collingwood
Raymond A. Barker Water Treatment Plant

Alternatives Selection Technical Memorandum Rev. 7

Prepared by:

AECOM

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Date:

April 8, 2020

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Project No.: 60609900

Date:

April 8, 2020

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- represents AECOM's professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
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April 8, 2020

Mr. Ken Kaden
Project Coordinator Environmental Services
Town of Collingwood
43 Stewart Road
Collingwood, ON, L9Y4M7

Dear Mr. Kaden:

Project No: 60609900

RE: Raymond A. Barker WTP – Alternatives Selection Technical Memorandum Rev. 7

We are pleased to submit the *Alternatives Selection Technical Memorandum Rev. 7 for the Raymond A. Barker WTP*.

Should you have any comments, please do not hesitate to contact the undersigned.

Sincerely,
AECOM Canada Ltd.

Draft

Brian Sahely, M.A.Sc., P.Eng.
Senior Process Engineer/Project Manager
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Revision Log

Draft #	Revised By	Date	Issue / Revision Description
1	BS	November 11, 2019	Issued for Review
2 (Rev. 1)	BS	November 25, 2019	Issued for Review for Updated Alternatives Description
3 (Rev. 2)	BS	January 19, 2020	Issued for Review for Technical and Cost Scoring
3 (Rev. 2)	BS	February 2, 2020	Issued to Ainley only for preparation of EA boards
4	BS	February 25, 2020	Issued with tender estimate (conceptual drawing still missing)
5	BS	March 11, 2020	Issued with updated costs
6	BS	March 24, 2020	Issued with existing vs. optional concept renderings
7	BS	March 24, 2020	Issues with updated high lift pumping strategies given receipt of Municipal and Regional System Analysis (Appendix B)

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Appendices

- Appendix A: Detailed Technical Evaluation Scoring and Results
Appendix B: Distribution System Analysis

1. Introduction

1.1 Background

The Town of Collingwood Master Servicing Plan (MSP) has identified the need to expand the existing 31.14 ML/d Raymond A. Barker Water Treatment Plant which currently has insufficient capacity to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities.

A Class Environmental Assessment (EA) previously filed in September 2004 has now expired. It is no longer valid due to significant updates in planning, technology and consultation requirements. Therefore, instead of an Amendment/Addendum to the 2004 Environmental Study Report (ESR), an Updated Phase 3 & 4 ESR will be prepared, referencing the MSP (including March 2019 PIC) to satisfy Phases 1 & 2.

The MSP determined the need to increase the ultimate plant capacity identified in the 2004 Class EA (75 MLD) to 101 MLD for current full build-out projections and commitments to other municipalities. When doing so, the MSP showed various capacity requirements at different phases. For example, the plant capacity required for the year 2038 is 51,871 m³/d – note that this year was selected as the maximum plant net rated capacity to maintain the required intake raw water instantaneous flowrate below that allowed in the current Permit-to-Take-Water.

Prior to reviewing alternatives for meeting the ultimate and phase 1 capacity, the following four (4) Technical Memorandum were completed by AECOM in November 2019:

- **Natural Environment Assessment** – The assessment indicated that there are no designated natural heritage features or areas (e.g., significant wetlands, etc.) or ecological communities within the study area. Potential impacts to noted species at risk or their habitat are considered low provided implementation of avoidance and mitigation measures are followed.
- **Stage 1 Archaeological Assessment** – The assessment indicated that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with previous construction on the site.
- **Condition Assessment** – An architectural and structural condition assessment was conducted for the Raymond A. Barker Water Treatment Plant. The condition survey methodology was limited to visual inspection of exposed components from ground level. Therefore, this assessment is a preliminary condition survey, not a detailed condition survey. Interior and exterior areas of the plant buildings assessed included the surge chamber, raw water building, generator building, industrial building, and main plant building. Recommendations are presented along with an opinion of costs for immediate and future recommended upgrades.
- **Plant Performance/Capacity Assessment** – The conclusion of the performance assessment is that there are no new treatment processes that need to be added to the Raymond A. Barker WTP to improve the treated water quality to meet the proposed performance targets in Table 3. The report recommended that the expansion of the plant focus on capacity limitations. The capacity assessment presented a detailed catalogue of the existing capacity of each unit treatment of the WTP with a summary provided in Table 1.

Table 1 Equivalent Net Plant Capacity Assessment of Existing Unit Processes

Process	Equivalent Net Plant Capacity (m ³ /d)	Comments
Intake	100,917	Note that a higher Nottawasaga Lake level than 175.6m and a higher intake C factor than 110 will result in a higher intake net capacity.
Membrane System	27,656	Sum of 23,113 m ³ /d (ZW500 system) and 4,543 m ³ /d (ZW1000 system) at 2°C and 30 days CIP frequency and design fluxes as shown in this report. This is based on current flux standards and can be increased if needed. This capacity assumes no substantial fibre breakages that will require membrane modules to be isolated, resulting in a reduction of plant capacity.
Chlorine Contact Chambers	21,423	Based on providing 0.5-log inactivation of <i>Giardia</i> cysts at 0.5°C, pH of 8.1 and 1.66 mg/L average free chlorine residual. The free chlorine residual can be increased as needed to achieve sufficient disinfection.
Clearwell	45,600	Based on providing 15 minutes high lift equalization volume.
Municipal HLPs	28,850	Firm capacity of pumps shown. Note that the Municipal HLPs cannot be reviewed on their own given that the plant feeds both the Municipal HLPs and the Regional HLPs.
Regional HLPs	22,890	Firm capacity of pumps shown. Note that the Regional HLPs cannot be reviewed on their own given that the plant feeds both the Municipal HLPs and the Regional HLPs.
Chlorinator	103,013	Limited by CT chamber chlorinator.
V-notch & Rotameter	43,758	For chlorination in the CT chamber.
Chlorine Gas Storage	30,941	Based on 2 chlorine gas containers providing 30 days average day design flow and dosage.

The next step of this project is to review various alternatives for meeting the plant capacity for Phase 1 and ultimate flows as presented in Table 4.

1.2 Objectives of this Memorandum

The objective of this report is to present alternatives for achieving the plant capacity for Phase 1 and ultimate flows; and, recommend preferred alternatives based on a cost-benefit evaluation. A conceptual design and opinion of costs of the preferred upgrades for Phase 1 and ultimate flows are also provided.

1.3 Memorandum Outline

The outline of this memorandum is shown in Table 2.

Table 2 Memorandum Outline

Section No.	Description
1	Presents the project background, objectives and provides an outline of this report.
2	Presents the evaluation approach.
3	Presents the project objectives.
4	Presents the preliminary screening criteria.
5	Identifies and screens various alternatives to meet phase 1 and ultimate flows.
6	Presents the alternatives for further evaluation.
7	Completes the technical evaluation of short-listed alternatives.
8	Completes the cost evaluation of short-listed alternatives.
9	Presents the Cost-Benefit analysis results.
10	Presents a sensitivity analysis on the Cost-Benefit analysis.
11	Presents the preferred alternatives given the Cost-Benefit analysis and sensitivity analysis.
12	Presents a conceptual design of the phase 1 and ultimate upgrades.
13	Presents an opinion of cost of the phase 1 and ultimate upgrades based on 2020 dollars.

2. Evaluation Approach

2.1 Overview of the Evaluation Approach

The evaluation methodology is essential to guiding the decision-making process. A well-structured and comprehensive evaluation methodology provides the basis for decision making that is sound, defensible, traceable and in this case, consistent with the project objectives for the plant expansion.

An overview of the steps that will be undertaken to identify the preferred alternative is outlined in Figure 1 below and described in subsequent sections of this memorandum.

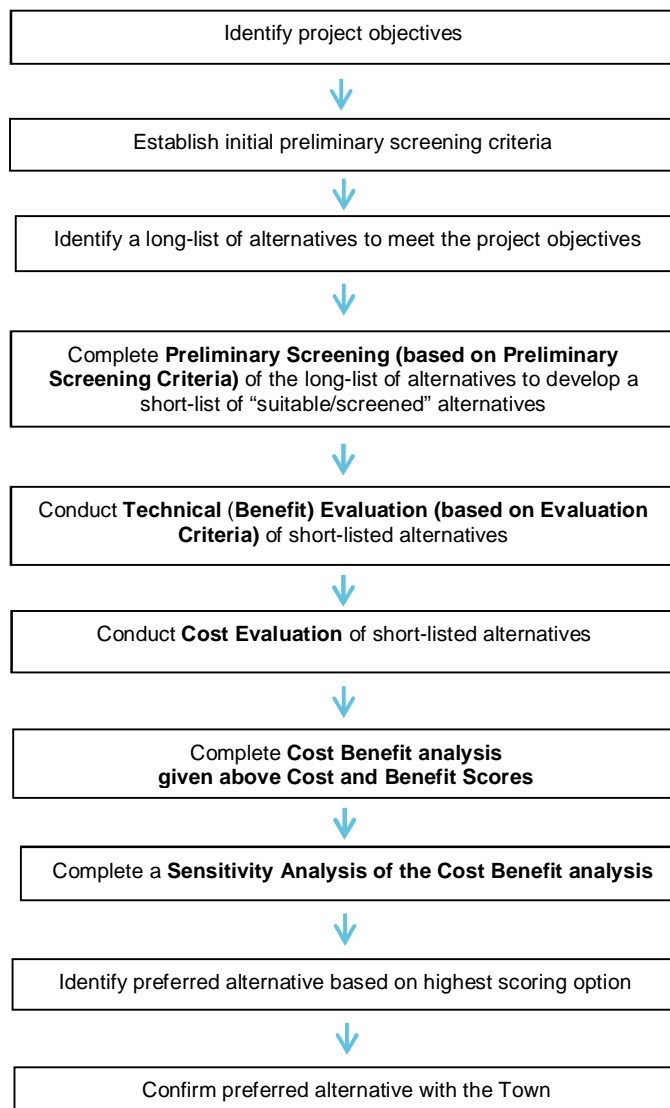


Figure 1 Overview of Evaluation Approach

2.2 Evaluation Process

Experience in other projects of similar nature has shown that development of a systematic, step-wise method for making decisions at the start of the project helps to focus and clarify decision-making. The purpose of the preliminary screening is to identify a short-list of alternatives, from the initial long-list of options that are considered feasible for this project and eliminate those that are not feasible given the operational requirements of this project. This first step in the evaluation process helps to avoid the need to carry unrealistic alternatives when completing the detailed evaluation of the short-listed alternatives.

The short-listed alternatives will then be subjected to a detailed evaluation using a weighting and ranking system that enables a systematic, rational, and reproducible comparison and identification of the preferred alternative.

As the selection of the preferred alternative will need to strike a balance between cost and non-cost factors, the proposed methodology for the detailed evaluation step is four-fold:

- Construct a decision model that includes consideration of all factors or criteria not directly related to cost. Each of these factors/criteria will receive a weighting that is directly related to its importance within the project; the higher the weighting, the more important the factor/criteria. Each short-listed alternative will receive a score ranging from 0 – 10 (with increments in 0.5) points for each factor/criterion that will be based on the level of technical benefit it provides. The scoring will also be determined based on the relative technical benefit the short-listed alternative offers in comparison to the others.
- In parallel, generate conceptual level capital and operations and maintenance (O&M) costs for each short-listed alternative, which in turn will be used to develop Life Cycle Costs.
- Perform a Cost-Benefit Analysis using the abovementioned technical benefit scoring and costs. In order for the Town to select the preferred alternative of value rather than strictly by cost, the overall analysis scoring will be based on 70% technical and 30% cost. It is recommended that the short-listed alternative that scores the highest Cost-Benefit Analysis be the preferred alternative.
- Perform sensitivity analyses on both the decision model and the cost estimates to check that the results will not vary if changes in scoring or costs are made. This verifies that any decisions made using this process are robust and defensible. The revised Cost-Benefit Analysis that will be performed as part of the sensitivity analyses will be based on a 50% technical and 50% cost weighting, which equals to a Benefit/Cost Evaluation Philosophy.

3. Project Objectives

3.1 Project Objectives

Project objectives have been established in order to represent the driving factors behind this project as well as those elements that are expected to have an important influence in the decision-making process. The success of the evaluation methodology can be measured by the extent to which the outcome of the evaluation process is able to achieve these goals/objectives at the end of the process. Consequently, with this philosophy, the following project objectives have been developed:

- The preferred design concept proposed for the expansion of the Raymond A. Barker WTP will be able to provide a safe and secure water supply that meets or exceeds the proposed water quality (Table 3) for the plant in a fiscally and technically responsible manner.
- The preferred design concept for the expansions will be, to the greatest extent possible, compatible with the existing treatment systems and will therefore result in limited modifications to the existing processes. In addition, if modifications or upgrades to the existing processes are required, the benefit of these modifications/upgrades should offset the costs associated with their implementation.
- The preferred design concept will be capable of providing the required water demands listed in Table 4.
- Construction and implementation of the preferred design concept will allow the Town to continue to meet water production and projected water demands and interfering to a minimum with the current operation of the plant and the uninterrupted supply of water.
- The preferred design concept will allow the Town to operate the facility in a manner that is consistent with the availability of staff resources and in a way that is simple and fiscally responsible by balancing capital and operating costs.
- The preferred design concept will address in a responsible and practical manner all issues and concerns identified by the different stakeholder groups identified throughout the process.

3.2 Water Quality Treatment Criteria and Water Demand Projections

The water quality treatment criteria are found in Table 3.

Table 3 Water Quality Treatment Criteria for the Raymond A. Barker WTP

Parameter	Ontario Requirement	Proposed Performance Target
Ontario Drinking Water Quality Standards (ODWQS)		
<i>Cryptosporidium</i>	2-log reduction	4-log reduction
<i>Giardia</i>	3-log reduction (incl. 0.5-log inactivation from disinfection)	4-log reduction (incl. 0.5-log inactivation from disinfection)
Viruses	4-log reduction (incl. 2-log inactivation from disinfection)	4-log reduction (incl. 2-log inactivation from disinfection)
HAA5 (µg/L)	80 based on a running annual average of quarterly samples measured at a point that is likely to have an elevated potential for formation of THMs and HAAs	60 LRAA
Total THMs (µg/L)	100 based on a running annual average of quarterly samples measured at a point reflecting the maximum residence time in the distribution system (LRAA)	80 LRAA
Turbidity (NTU)	< 0.1 NTU, 99% of time	< 0.1 NTU, 99% of time < 0.3 NTU, 100% of time
Distribution Free Chlorine Residual (mg/L)	0.05 to 4.0 mg/L free chlorine residual	0.05 to 3.0 mg/L free chlorine residual (target of 1.50 mg/L average leaving the plant)
Ontario Drinking Water Quality Objectives and Guidelines (ODWQOG)		
Corrosive/water stability	-	Non-corrosive and stable water
Taste & Odour	Inoffensive	Inoffensive

Water demand projections are found in Table 4. For the purpose of this report, the flowrates in this table will be used in all calculations. The instantaneous factors for the CT chambers instantaneous flows and the raw water instantaneous flows are shown to be different to that from the *Plant Performance/Capacity Assessment TM* given that the preferred membrane system will most likely not be a constant bleed system. During detailed design, depending on the preferred membrane system(s) selection and design, the instantaneous factors need to be verified. With the CT chambers instantaneous flows significantly impacting the size of the UV units and CT chambers, it was deemed critical to assume the higher instantaneous flows for this report given that 30% of the Cost-Benefit Score for any alternative comparison is allocated to a 20-year life cycle cost of the alternatives.

The average day demands for the total net treated water is approximately 40,179 m³/d for Phase 1 (2038 flows) and 81,244 m³/d for ultimate flows. This equates to an MDD/ADD ratio of 1.291 for Phase 1 and 1.244 for the ultimate flow.

Table 4 Water Demand Projections for the Raymond A. Barker WTP

Phase #	Intake	Industrial Well	WTP			
	Intake Raw Water Inst. ⁶ Flows (m ³ /d)	Industrial Flows ⁵ (m ³ /d)	CT Chambers Inst. Flows ⁴ (m ³ /d)	Total Net Treated Water Flows ³ (m ³ /d)	Municipal Pipeline Flows ² (m ³ /d)	Regional Pipeline Flows ¹ (m ³ /d)
1 (approx. Year 2038)	67,876	2,000	65,876	51,871	32,757	19,114
Ultimate	130,358	2,000	128,358	101,069	51,483	49,586

Notes:

1. Includes approximately 18,250 m³/d (Phase 1) and 33,500 m³/d (Ultimate) for the Town of New Tecumseth; and, 0 m³/d (Phase 1) and 4,854 m³/d (Ultimate) for the Township of Clearview (Nottawa). 864 m³/d (Phase 1) and 11,232 m³/d (Ultimate) of Collingwood water goes through the Regional pipeline to the Davey reservoir/pumphouse to service Zone 2.
2. Includes approximately 27,621 m³/d minus 864 m³/d (Phase 1) and 46,315 m³/d minus 11,232 m³/d (Ultimate) for the Town of Collingwood; and, approximately 6,000 m³/d (Phase 1) and 16,400 m³/d (Ultimate) for the Town of Blue Mountains.
3. Sum of Municipal and Regional pipeline flows.
4. Given approximate membrane instantaneous permeate factor of 1.27 to account for membrane downtime and backwash wastewater volume.
5. Even though the original required industrial demand was 16,418 m³/d, industrial flows since 2017 never exceeded 2,000 m³/d, so this number was used as agreed by the Town. If a higher capacity is needed, then this may come from the treated water supply given the restrictions of the PTTW.
6. Assumes no additional instantaneous factors to that already accounted for in the membrane permeate factor.

4. Preliminary Screening Criteria

A preliminary screening of alternatives will initially be completed in order to eliminate those alternatives not viable for implementation at the Raymond A. Barker WTP. Preliminary screening will be accomplished by considering the preliminary screening criteria shown in Table 5.

Table 5 Preliminary Screening Criteria

Preliminary Screening Criteria	Description
Compliance	<ul style="list-style-type: none"> • Ability to continuously meet or exceed the proposed treatment objectives in Table 3
Technical Feasibility	<ul style="list-style-type: none"> • Adequate space exists for the given location. • Compatibility with existing infrastructure (potential impact on overall construction requirements). • Compatibility with existing processes (operating risk, system reliability, maintenance and monitoring requirements). • Is a common technology used in water treatment facilities in North America.
Capacity	<ul style="list-style-type: none"> • Ability to meet the required water demands listed in Table 4.
Financial	<ul style="list-style-type: none"> • Is known not to have a high financial and/or operating cost.

Alternatives that are considered suitable based on the preliminary screening will be carried forward to the evaluation process.

5. Identification and Screening of Various Alternatives to Meet Phase 1 and Ultimate Flows

5.1 Introduction

The existing treatment train at the Raymond A. Barker WTP is shown in Figure 2. This section reviews the existing treatment processes and the alternatives, if any, to achieve the Phase 1 and ultimate flows presented in Table 4.

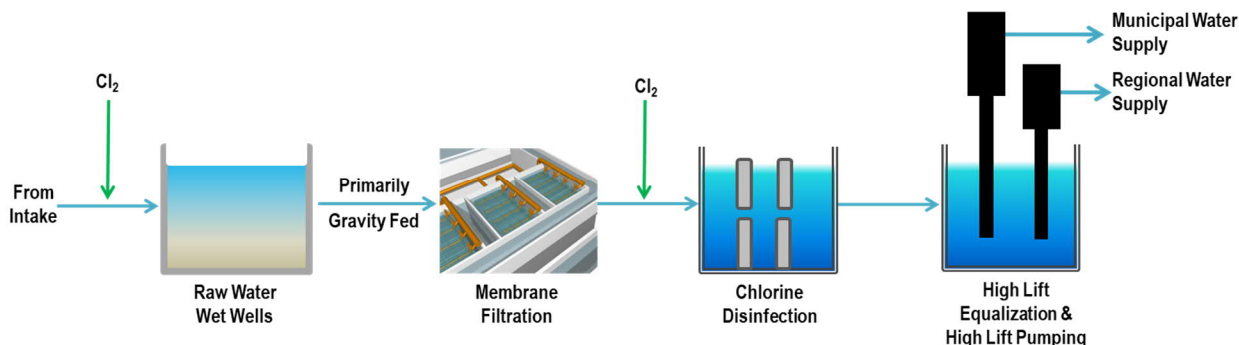


Figure 2 Existing Treatment Train

5.2 Intake

5.2.1 Current Capacity

Table 1 shows the instantaneous capacity of the intake to be 125,000 m³/d, which is slightly less than the ultimate instantaneous capacity of 130,358 m³/d (assuming a permeate membrane instantaneous factor of 1.27 per Table 4).

5.2.2 Upgrade Requirements

The current Permit-to-Take-Water (PTTW) No. 3451-8CZMJC, dated January 28, 2011, authorizes the withdrawal of water up to 68,250 m³/d ML/d (47,400 L/min). The previous PTTW No. 91-P-3037, dated January 15, 2001, allowed two Taking Rates, including a Taking Rate 2 as listed below, which does not become effective until the OWRA Section 52 approval for the water works at the higher rate has been issued as stated in that PTTW:

- **100,100 m³/d (maximum amount taken per day):** This flowrate is slightly less than the ultimate net flowrate of 101,069 m³/d, which can be applied for when needed.
- **100,094 m³/d (maximum amount taken per minute):** This flowrate is considerably less than the required ultimate instantaneous flowrate of 130,358 m³/d and will need to be applied for when needed.

Given above, Table 6 shows the intake upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 6 Intake Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Process Area	Instantaneous Flowrate Requirements	Recommended Upgrades	Firm Capacity
Intake	Phase 1 67,876 m ³ /d	Do nothing	-
	Ultimate 130,358 m ³ /d	<p>Whenever additional intake capacity is needed, the following should be reviewed further at that time:</p> <ul style="list-style-type: none"> The required intake capacity should be re-calculated given the actual membrane system designed and installed as this will impact the instantaneous factors used to calculate the required raw water instantaneous flowrate, i.e., intake capacity. The Nottawasaga Bay low water level should be reviewed again since this impacts the intake capacity. Testing should be conducted to confirm the intake C factor as this will impact the intake capacity. An application should be made for an increase in capacity in the PTTW, both for the maximum amount taken per day and the maximum taken per minute. <p>In the past frazil ice used to occur at the intake crib, with this event either decreasing the plant capacity or requiring the plant to shut down. With rising Bay water levels, this issue has not occurred since before 2009. During a Workshop with the Town on October 18, 2019, it was discussed that Bay water levels should continue to be monitored and that any frazil ice concerns would be addressed in the future, if needed.</p>	-

5.3 Low Lift Pumping Station and Micro-screening

5.3.1 Current Capacity

There is currently no low lift pumping; however, there is a 15 kW (20 hp) mixer in the inlet channel 1 in the raw water wet well 1 used to increase the hydraulic grade line of the water in the raw water wet well 2. To date, this practice has been sufficient to achieve the plant target capacity.

5.3.2 Upgrade Requirements

There is currently no screening (whether traveling screens or micro-screens) to protect the membranes from fibre breakages from fine debris, including sharp objects within the raw water. Significant fibre breakages can reduce the plant capacity. The plant operations staff prefer to avoid the use of traveling or bar screens within the raw water wet wells to protect the low lift pumps (recommended per below) and membranes, with a preference to install micro-screens above grade. The installation of micro-screens and the need for additional membrane treatment capacity (all at a higher hydraulic grade line) will require low lift pumps to achieve the following instantaneous flowrates:

- Phase 1 flowrate = 65,876 m³/d, i.e., 67,876 (intake raw water instantaneous flow) – 2,000 (industrial flow)
- Ultimate flowrate = 128,358 m³/d, i.e., 130,358 (intake raw water instantaneous flow) – 2,000 (industrial flow)

Table 7 shows the low lift pumping station and micro-screening upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 7 Low Lift Pumping Station and Micro-screening Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Process Area	Instantaneous Flowrate Requirements	Recommended Upgrades	Instantaneous Firm Capacity
Low Lift Pumping Station	Phase 1 65,876 m³/d	<ul style="list-style-type: none"> Construct two (2) low lift wet wells (LLWWs), between the existing raw water wet well 2 and industrial pumping station wet well to house the suction pipes of the new low lift pumps and industrial feed pumps Demolish the existing raw water building and corridor to the existing industrial pumping station; removal of all existing equipment within these infrastructures. Construct a new low lift pumping station (LLPS) with location shown in Figure 3 to house new low lift pumps, automatic strainers (micro-screens), pipes, valves, instruments, controls panels, etc. Install three (3) low lift pumps (LLPs) (2 duty, 1 standby), each pump rated at 42,786 m³/d, with space for installation of a fourth LLP rated at 42,786 m³/d Install lift header(s) and flowmeter(s) to feed the new automatic strainers prior to feeding the membrane system(s) 	85,572 m ³ /d
	Ultimate 128,358 m³/d	<ul style="list-style-type: none"> Install fourth LLP rated at 42,786 m³/d. 	128,358 m ³ /d
Micro-screening	Phase 1 65,876 m³/d	<ul style="list-style-type: none"> Install two (2) automatic strainers (1 duty, 1 standby), with the new LLPS, with each strainer rated at 65,876 m³/d, with space for installation of a third strainer rated at 65,876 m³/d 	65,876 m ³ /d
	Ultimate 128,358 m³/d	<ul style="list-style-type: none"> Install third strainer rated at 65,876 m³/d 	131,752 m ³ /d

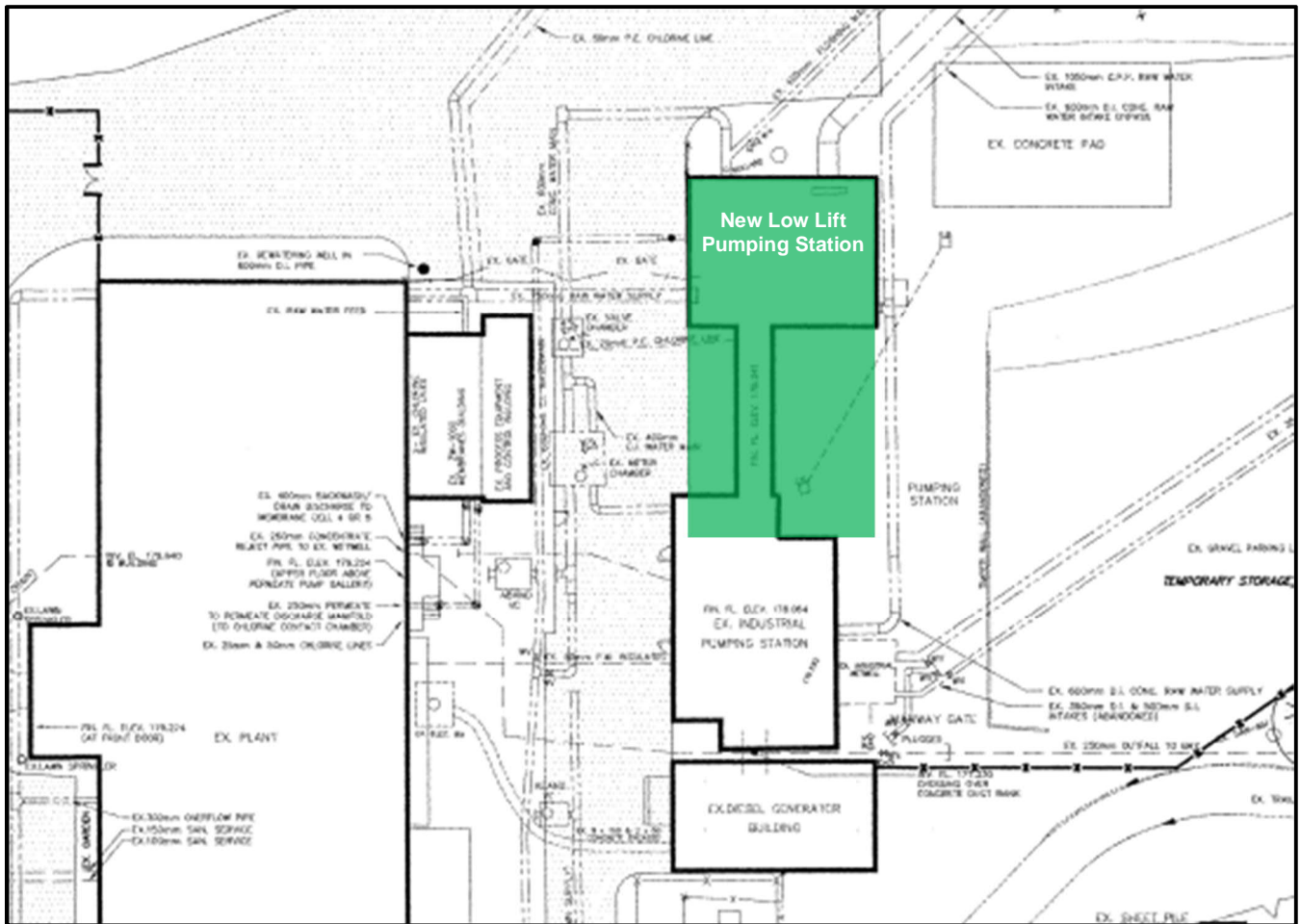


Figure 3 Proposed Location of New Low Lift Pumping Station

5.4 Industrial Pumping Station

5.4.1 Current Capacity

Table 1 shows the required industrial pumping station flowrate to be 2,000 m³/d for Phase 1 and ultimate flows. This is a considerable decrease from the original required industrial demand of 16,418 m³/d.

5.4.2 Upgrade Requirements

Table 8 shows the industrial pumping station upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 8 Industrial Pumping Station Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Process Area	Instantaneous Flowrate Requirements	Recommended Upgrades	Instantaneous Firm Capacity
Industrial Pumping Station	Phase 1 2,000 m ³ /d	<ul style="list-style-type: none"> Demolish the existing industrial pumping station (with a new generator building to be constructed at this location per Section 5.14). Install two (2) industrial feed pumps (1 duty, 1 standby) within the new low lift pumping station discussed in Section 5.3, each pump rated at 2,000 m³/d, with space for installation of a third industrial feed pump in case flows greater than 2,000 m³/d are eventually required. Install industrial header(s) and flowmeter(s) to feed the new automatic strainers prior to feeding the industrial pipeline. 	2,000 m ³ /d
	Ultimate 2,000 m ³ /d	<ul style="list-style-type: none"> Install additional industrial feed pump as required at any time. 	2,000 m ³ /d
Strainers	Phase 1 2,000 m ³ /d	<ul style="list-style-type: none"> Install two (2) automatic strainers (1 duty, 1 standby), with the new industrial feed pumps, with each strainer rated at 2,000 m³/d, with space for installation of a third strainer rated at the same capacity as the third pump if installed in the future. Note that the mesh size of this strainer will be much larger than that of the strainers on the low lift discharge header(s). 	2,000 m ³ /d
	Ultimate 2,000 m ³ /d	<ul style="list-style-type: none"> Install third strainer rated at the same capacity as the third pump if installed in the future. 	2,000 m ³ /d

5.5 Membranes

5.5.1 Current Capacity

Table 1 shows the current capacity of the ZW500 and ZW1000 membrane systems at preferred operating fluxes to be 23,113 and 4,543 m³/d, respectively, for a total of 27,656 m³/d. This is less than the plant current rated capacity of 31,140 m³/d understanding that this capacity can be achieved by increasing the operating flux of the membrane systems by 13%.

The following concerns with the existing membrane systems may impact the total capacity of the membrane systems and/or the cost and/or selection of the preferred membrane alternative.

- The ZW1000 system is a temporary installation in a timber structure outside the WTP. During membrane fibre repair, the operators have to remove the timber roof in order to lift the membrane cassettes out of the steel membrane tank to conduct a fibre repair. If the temporary ZW1000 system is needed to provide additional water production, a permanent structure should be constructed to allow easy removal and maintenance of the membrane cassettes.
- The wastewater from the ZW1000 system is discharged to train E in the ZW500 system. This increases the bacteriological counts and the solids in these trains thus increasing the fouling rate of the membranes and also, the potential for an increase count of these parameters in the membrane permeate water. To alleviate concerns with this practice, the ZW500 train E currently rejects at a higher capacity. However, this discharge should be eliminated.
- For the ZW500 membrane system, there is no capability to automate the membrane integrity test (MIT) which is currently conducted manually annually. However, there are on-line turbidity meters on each membrane permeate header. To meet current standards, equipment should be installed to automate the MIT with this test occurring daily for approximately 30 minutes per test. This will decrease the production of the ZW500 membrane system thus decreasing its net capacity.
- The existing backwash and clean-in-place (CIP) tanks are filled with water from the high lift header, which results in a loud noise during the filling process. Consideration should be given to feed these tanks from the

membrane permeate pumps understanding that no chlorine residual will be within the membrane backwash supply water during the colder months when zebra mussel control is not practiced.

- During a clean-in-place process, water is heated within the CIP tank and then transferred to the membrane train undergoing the CIP process. This volume of water does not fill the entire membrane tank such that cold feed water has to be used to top up the membrane tank water level. This results in a decline in water temperature that makes the CIP process less effective than if the water within the membrane tanks was at the targeted temperature.
- There is no standby backwash or CIP tank; however, the CIP tank can act as a backup to the backwash tank with a CIP process being delayed until the backwash tank is back in service.
- After a CIP process, the chemical waste is discharged to the sanitary sewer with no neutralization of the high pH CIP chlorine waste (with sodium bisulphite) or the low pH CIP citric acid waste (with sodium hydroxide). This is typically practiced given sanitary sewer by-laws restrictions.
- There is no bisulphite system to dechlorinate any residual chlorine in the membrane reject wastewater.
- It is typical to install at least one redundant membrane train (N-1R configuration), so that when any component of a membrane train is being serviced or a lengthy clean-in-place (CIP) cycle is being conducted, the plant can always achieve its net rated capacity. The Town has requested that this redundant train for all membrane alternatives be considered within this report and reviewed again during the detailed design stage.
- It is ideal to install standby train(s) to reduce the combined permeate flowrate fluctuations under the following events:
 - When a train is undergoing daily membrane integrity tests (MIT) or a chemically enhanced backwash (CEB), a standby train will operate
 - When a train is undergoing frequent backwash cycles approximately every 30 to 60 minutes, a standby train will operate

Installing two standby trains will result in the designation (N-2S), which when combined with one redundant train will result in the designation (N-1R-2S).

The existing ZW500 membrane trains do not have daily MITs or CEBs conducted. The Town is currently accustomed to having the membrane permeate flows fluctuate during a backwash cycle. Moreover, programming can be conducted to reduce the permeate flowrate fluctuations when not operating near plant capacity such that the flowrate of the remaining membrane trains will ramp up whenever a membrane train is undergoing a backwash cycle (and MIT/CEB is practiced in the future). As a result, no standby trains will be designed on this project.

5.5.2 Upgrade Requirements

5.5.2.1 Filtration (Particulate Removal) Technologies

Overview

Source water may contain turbidity, particles, and organic material. The primary processes used to treat the water are particulate and turbidity removal, which is accomplished by using clarification and filtration techniques. Clarification is the removal of solids from the water by either sedimentation or flotation methods. Filtration is the removal of particulate matter via water flowing through a porous medium. Clarification and filtration are the most practical treatment processes for removal of suspended particles and turbidity from a drinking water supply. Particulate removal processes reviewed as part of this EA comprise:

- Conventional treatment (coagulation/flocculation/clarification followed by granular media filtration)
- Direct filtration (coagulation/flocculation followed by granular media filtration)
- Membrane filtration

A brief description of each of these processes is provided as follows:

Conventional Treatment

Conventional treatment involves the sequential combination of a number of processes which include coagulation, flocculation, clarification and granular media filtration processes (Figure 4).

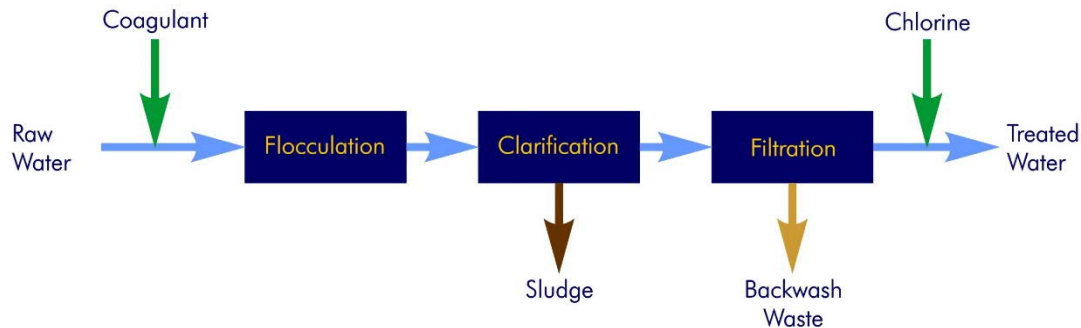


Figure 4 Typical Process Flow Diagram for Conventional Treatment

Coagulation

Coagulation refers to the chemical addition of a coagulant such as alum, ferric chloride or polyaluminium chloride to the raw water. This is a high energy mixing step that allows the quick dispersion of the coagulant into the bulk of the water, which is essential to achieve complete coagulant dispersion before the chemical reactions are complete. Coagulation involves the destabilization of colloidal material through neutralization of their inherent, natural charge, which otherwise keeps the particles in suspension due to mutual electrostatic repulsion. As such, coagulation per se is not specifically a solids removal process; however, it is an instrumental step in facilitating the solids removal in downstream processes.

Flocculation

Following particulate charge neutralization due to coagulation, particles are brought together during a slow mix step called flocculation. Gentle mixing of the coagulated water encourages the collision of small neutralized particles and promote their agglomeration into large particle masses, called “flocs”, which are more amenable for separation downstream. Similar to coagulation, flocculation is not considered a solids removal process, but one important precursor to most clarification and/or filtration processes in most water treatment plants.

Clarification

For waters higher in particulate loading, the flocculation process is then typically followed by clarification, where the heavier and larger particles either settle to the bottom of the basins or float to the surface of the water (depending on the clarification process) and are removed from the water. Clarification processes are normally able to remove the bulk of the particulate matter present in a source water and are usually placed as one of the first processes in the plant, with the aim of reducing particulate loading to downstream processes. There are a number of clarification processes available in the water treatment industry, each with specific characteristics and suited to source waters of different nature. These include:

- High rate clarification with plate (or tube) settlers (Figure 5), and
- Ballasted flocculation/clarification (Figure 6).

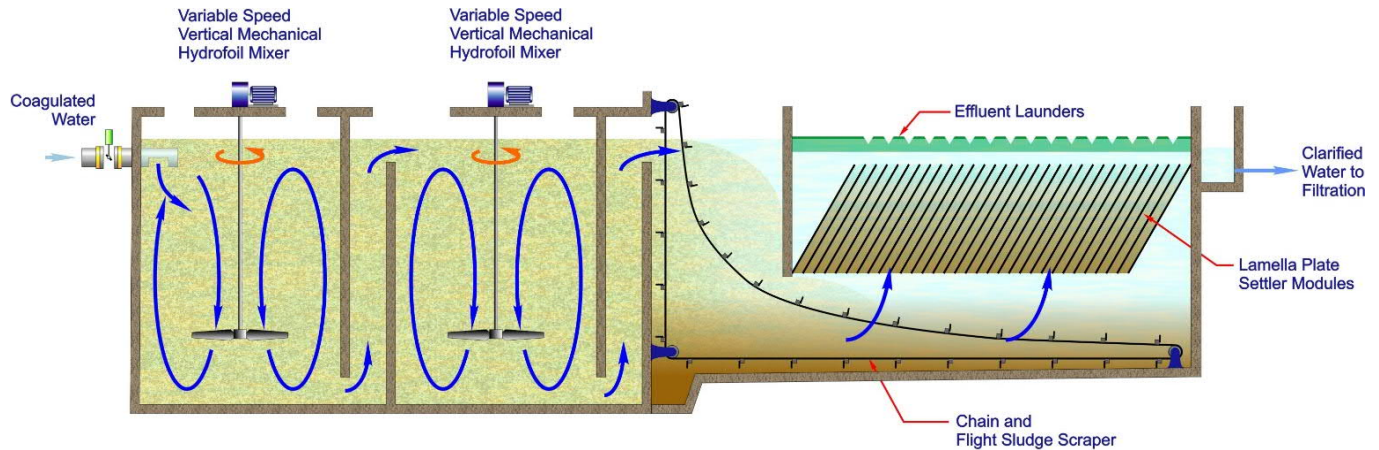


Figure 5 Schematic Diagram of High Rate Clarification (with Coagulation and Flocculation)

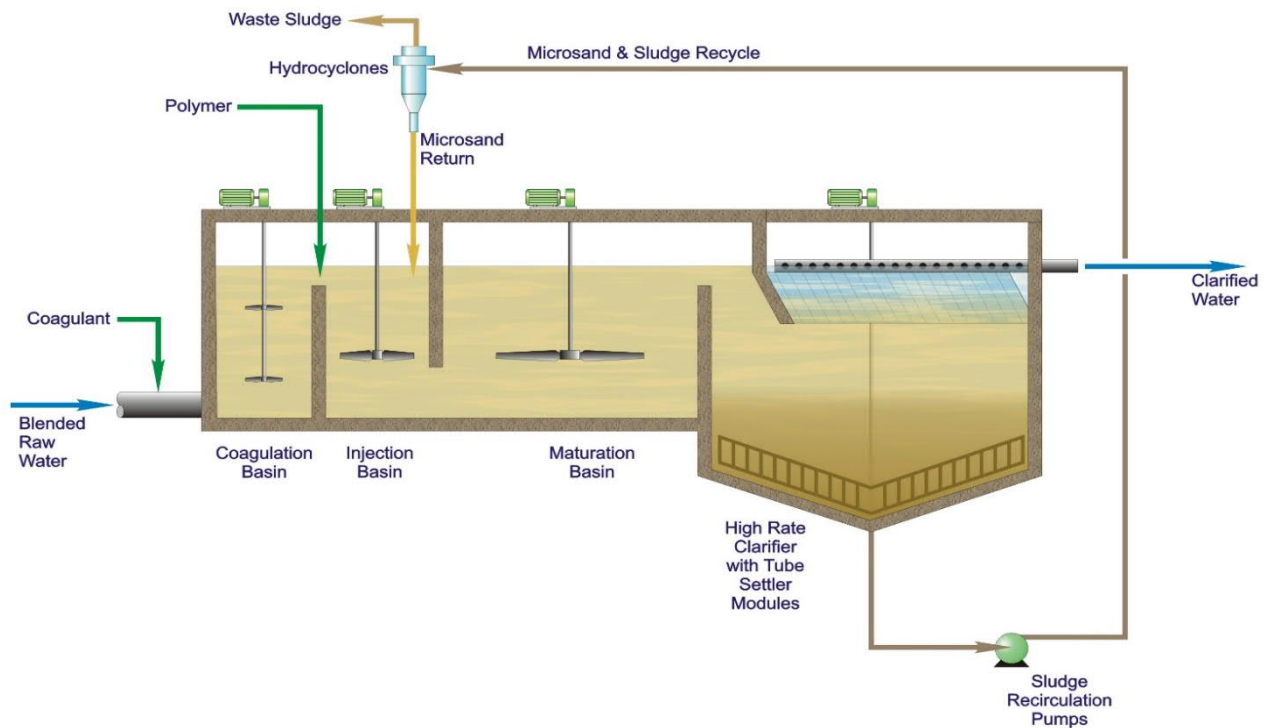


Figure 6 Schematic Diagram of Ballasted Flocculation/Clarification Process (Actiflo®)

Granular Media Filtration (Figure 7)

Granular media filtration represents by far the most common type of filtration used in water treatment and involves the placement of one or more layers of inert granular media within a concrete or fabricated metal structure. Water then flows downward through the media, either by gravity or under pressure, and the media filters the water during its passage through the bed.

The media is sized to balance the need for effective particulate removal with the gradual accumulation of head loss which occurs as particles are trapped in the bed. To facilitate this process, it is typical to place more than one layer of media of different sizes, with larger media at the top, to optimize this balance. Over time, as particles accumulate in the filter, it will need to be backwashed, typically every 24 to 96 hours depending upon the quality of water fed to the filter. The backwash procedure flushes solids out of the bed, restoring it to its clean condition.

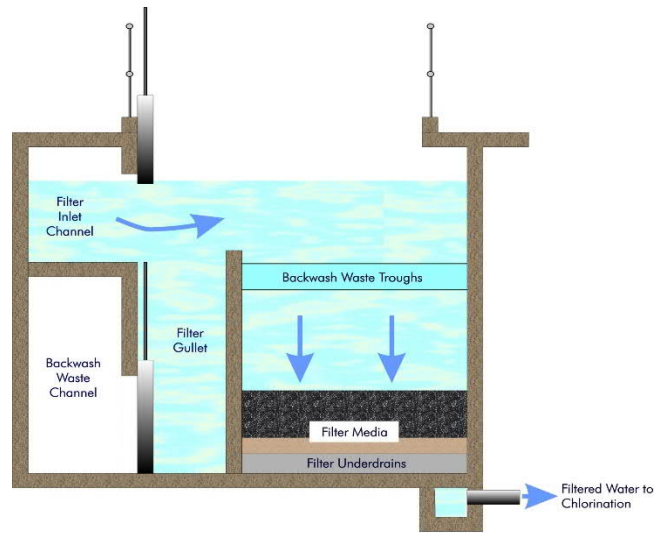


Figure 7 Schematic Diagram of Granular Media Filtration Process

Direct Filtration (coagulation/flocculation followed by granular media filtration)

Direct filtration process consists of chemical coagulation, flocculation, and granular media filtration for the effective removal of particulate and turbidity from the water. Direct filtration eliminates the use of the clarification process from the train; therefore, allowing the filter material itself to do the work of straining contaminants from the water (Figure 8). The treatment processes used in direct filtration are fundamentally the same as those previously described, with the only exception that the clarification step is removed. Filter design is also usually different, typically with deeper, coarser beds being used to increase the solids holding capacity of the bed.

Direct filtration is a relatively simple filtration process, and it is economically attractive. Since the clarification step is omitted from the train, coagulation chemicals require expert handling to achieve the desired results, so trained personnel are necessary to manage filtration systems. The system results in significant improvement of source water quality, but it is best employed on relatively high-quality source waters that contain low levels of particulate material, with constant flows and low turbidity.

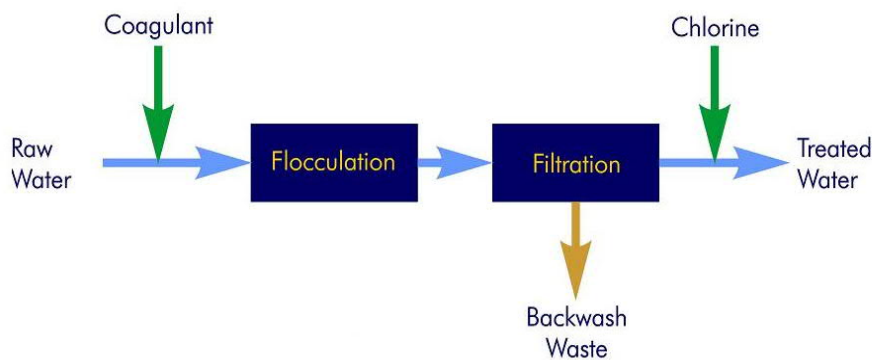


Figure 8 Typical Process Flow Diagram for Direct Filtration

Low Pressure Membrane Filtration

Low Pressure membrane filtration (henceforth termed simply membrane filtration) is a pressure or vacuum-driven physical separation process in which particulate matter is rejected by an engineered permeable membrane. The plastic filter membranes have a very small pore size capable of straining out particles without the need of chemical coagulation, flocculation or clarification processes.

Low pressure membrane filtration (LPMF) processes used for particulate removal in the drinking water industry almost exclusively are based upon the use of hollow fiber membranes, with pore sizes in the 0.01 – 0.1 micron range. Two specific types of membranes are used, microfiltration (MF) and ultrafiltration (UF), characterized by the pore size of the membranes. MF units can achieve removal of particles as small as 0.2 μm , while UF can achieve removal of particles as small as 0.01 μm . The small size of the pores provides excellent removal of particulate matter under all conditions and given that *Giardia* cysts and *Cryptosporidium* oocysts are greater than 2 μm , these types of membranes can provide essentially complete removal of these microorganisms through physical size exclusion.

In some cases, membranes are used in conjunction with a coagulant, or a sorbent (such as powdered activated carbon) to target specific contaminants, as although membranes are the best available technology for particulate removal, they are ineffective against dissolved substances. Coagulation and/or sorption can trap or capture contaminants into a particulate form, able to be removed by the membrane. In addition, membrane systems can also be constructed with clarification processes upstream, based upon the same principle as clarification upstream of granular media filtration, i.e., to reduce the loading of potential foulants to the membrane. However, for source waters like the Nottawasaga Bay, typically with low turbidity concentrations, the use of clarification processes upstream of membranes is usually not necessary for sustainable performance on these types of waters (Figure 9).

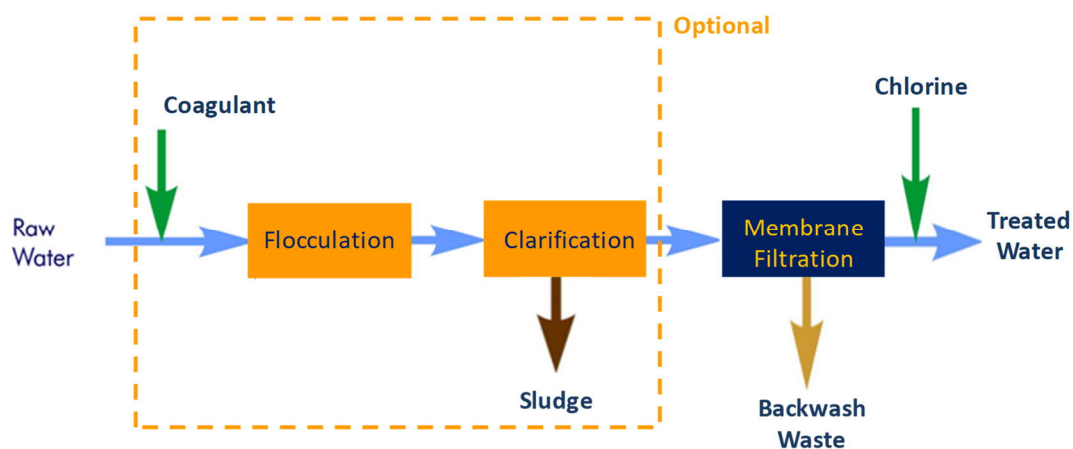


Figure 9 Typical Process Flow Diagram for Membrane Filtration

Membrane systems are proprietary designs that differ from supplier to supplier. There are two main types of membrane filtration systems:

- **Submerged type**, with membranes installed in tanks (Figure 10) are by definition outside-in membranes, as they involve the placement of bundles of membrane fibres into an open tank of water to be treated. The inside of the fibres is placed under vacuum, sucking water through the membrane fibre wall and into the inside of the fibre.
- **Pressure type**, with membranes installed on a pad (Figure 11); where membranes are housed within fabricated pressure vessels, and water is pumped through the membranes under a positive pressure. In pressure fed membranes, water can be fed to the outside of the fibres and forced through to the inside under pressure (outside-in) or fed to the inside of the fibre and forced to the outside under pressure (inside-out) depending upon the particular manufacturer.

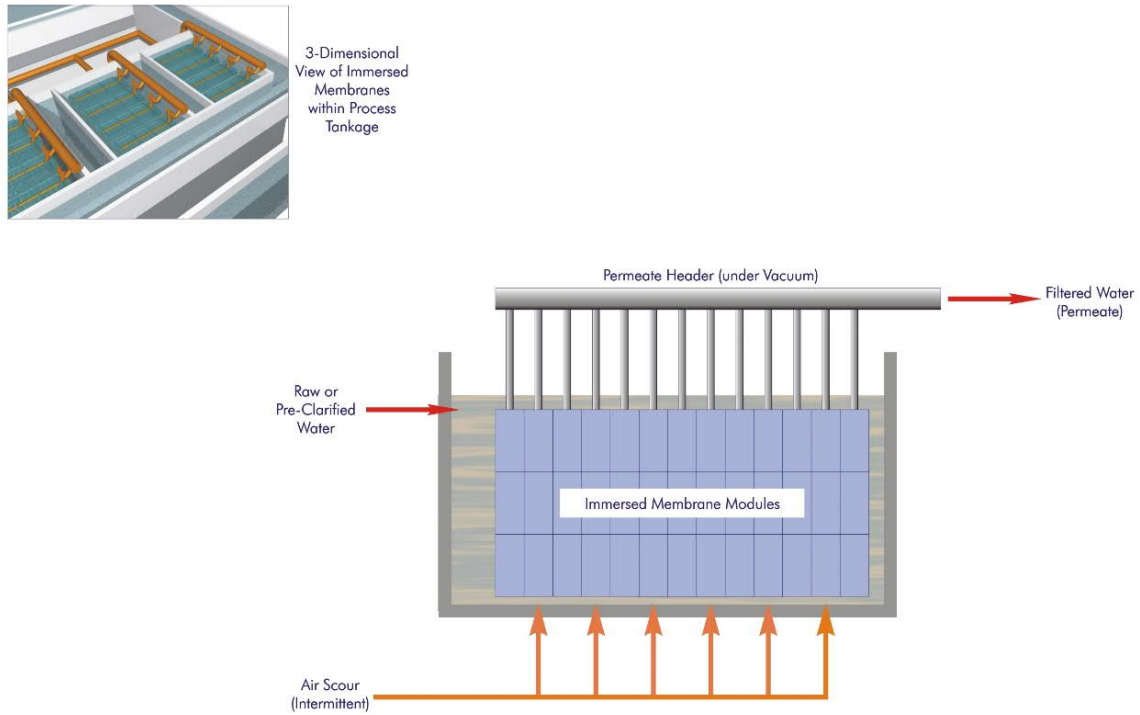


Figure 10 Schematic Diagram of Submerged Membrane Filtration

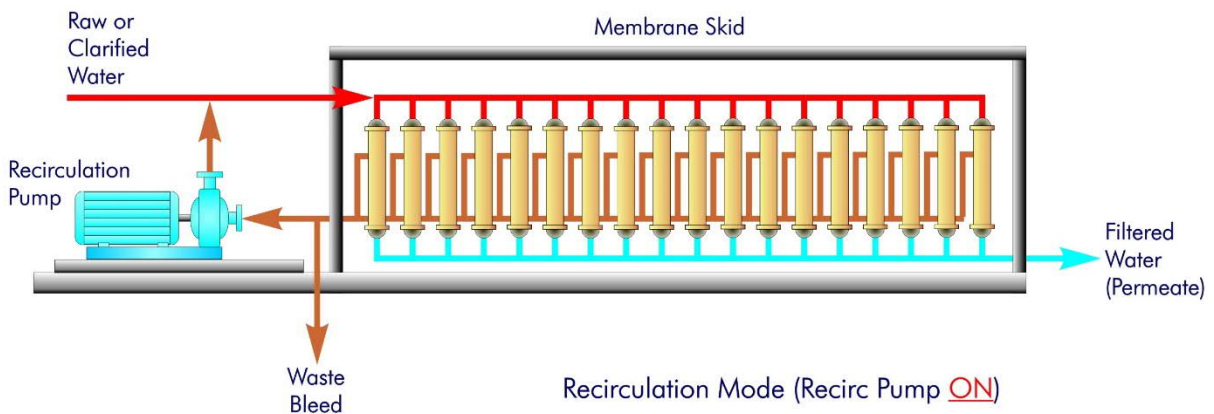


Figure 11 Schematic Diagram of Pressure Fed Membrane Filtration

Summary

Conventional and direct filtration will not be further considered for the following reasons:

- Low pressure membrane filtration will provide a higher filtration capacity on the existing site than conventional and direct filtration.
- Lower pressure membrane filtration will provide a much higher pathogen removal credit than conventional and direct filtration.
- The plant operations staff are accustomed to operating a low-pressure membrane filtration system.

Both submerged and pressure membranes will be considered for the plant expansion.

5.5.2.2 Maximum Capacity Capable from within the Existing ZW500 Membrane Building

Using ZW500d Short Modules

Prior to reviewing the membrane alternatives, it is beneficial to first understand how much capacity can the existing ZW500 membrane system achieve given preferred operating fluxes and each train filled with ZW500d short modules, similar to trains B and E. Table 9 shows this total net capacity of the ZW500d (short module) membrane system to be 29,450 m³/d, which when added to the capacity of the ZW1000 membrane system, results in a total net capacity of 33,993 m³/d with no redundant trains and a total net capacity of 28,103 m³/d with one redundant train. This capacity remains considerably less than the Phase 1 and ultimate net capacity requirement of 51,871 and 101,069 m³/d, respectively.

Table 9 ZW500 Membrane System Design Data with ZW500d Short Modules

Trains	Membrane Type	# of Cassettes/ Train	# of Modules/ Cassette	Membrane Area per Module (m ²)	Total Area/ Train (m ²)	Inst. Flux (Lmh) ³	Net Flux (Lmh) ³	Net Capacity/ Train (m ³ /d)	Total Net Capacity for All 5 Trains (m ³ /d)
A to E	ZW500d (short module)	15	20	32.52	9,755	27.6	25.16	5,890	29,450

Using ZW500d Tall Modules

There is a ZW500d tall module that has a membrane area per module of 40.88 m², which if installed results in a net capacity of 25.7% more than that of the ZW500d short module. Filling the existing ZW500 membrane tanks with ZW500d tall modules can result in a total net capacity of the ZW500 membrane system of 37,019 m³/d, and a total net capacity of 41,562 m³ when combined with the ZW1000 membrane system with no redundant trains. The total net capacity with one redundant train would be 34,158 m³/d. The following should be noted with this alternative:

- The taller module/cassette would require the height of the membrane tank walls to be increased to accommodate the taller modules.
- The capacity of the ZW500d tall module can be increased even further if partial or full tank drain is installed (versus the current constant bleed) since this new operation will allow the operating design flux to increase.
- Increasing the membrane tank walls and providing a partial/full tank drain mode of operation with the ZW500d tall modules are similar to the ZW1000 retrofit option that will be discussed later on. In comparison, the latter option could provide a much higher net capacity at lower membrane capital and operating costs.
- Increasing the instantaneous flux of a ZW500d tall module and the existing ZW1000 membrane systems by 25% may result in a total plant net capacity of 51,953 m³/d with no redundant trains and 42,698 m³/d with one redundant train, which will be less than the Phase 1 net capacity requirement of 51,871 m³/d. However, this higher flux will most likely increase the CIP frequency and decrease the membrane life span. Moreover, the Phase 1 capacity cannot be achieved with this membrane generation and the requirement for one redundant train. *As a result, this option is not further considered.*

Using Pressurized Membranes

Pressurized membranes can also be installed within the ZW500 membrane building; however, this option is estimated to produce a net capacity either similar or less than that for the ZW500d tall module discussed above (given one redundant train). Since the Phase 1 capacity cannot be achieved within the existing ZW500 membrane building, this option is not further considered for a *minor retrofit* within the existing ZW500 membrane building.

However, the installation of pressurized membranes within the existing ZW500 membrane building will be considered if a *major retrofit* of this building with membranes along with a new ancillary equipment building (Options 2.1 or 2.2 in Table 10) is the preferred option for increasing the plant capacity.

The use of pressurized membranes will also be considered for the option(s) with a new membrane building.

Using Other Submerged Membranes

The installation of other submerged membranes (e.g., ZW1000 membranes and other suppliers) within the existing ZW500 membrane building will also be considered if a *major retrofit* of this building with membranes along with a new ancillary equipment building (Options 2.1 or 2.2 in Table 10) is the preferred option for increasing the plant capacity.

The use of submerged membranes will also be considered for the option(s) with a new membrane building.

Summary

Given above, the following will be considered when reviewing membrane alternatives to achieve Phase 1 and ultimate flows:

- Installation of ZW500d short modules within the ZW500 membrane building to maximize the capacity of the existing tanks with a minor retrofit, understanding that the balance of the total plant capacity is to be achieved with a new two-story membrane building.
- Installation of other submerged or pressurized membranes within the ZW500 membrane building with a major retrofit. This option is divided in two based on the number of existing ZW500d trains remaining.
- Installation of membranes (pressurized or submerged) within a new two-story membrane building and abandoning the existing ZW500 membrane building.

For all membrane alternatives, the following design criteria will be considered:

- **90% Membrane Recovery** – This is to reduce the total suspended solids (TSS) concentration within the membrane backwash wastewater to allow for direct discharge to the Nottawasaga Bay without installation of clarification tankage/equipment.
- **Clean-in-place (CIP) Frequency of 30 Days** – This is to reduce the frequency of the CIP process that can last up to 12 hours.

5.5.2.3 Alternatives to Achieving Phase 1 and Ultimate Flows

Table 10 shows membrane alternatives to achieving the Phase 1 and ultimate net capacity requirements of 51,871 and 101,069 m³/d, respectively. The alternatives in this table are illustrated in Figure 12 to Figure 15. Each alternative considers the following options:

- Retrofit within the existing ZW500 membrane building. This includes the following:
 - Replacement of membranes.
 - Replacement of all process equipment and associated instrumentation and electrical equipment given their age.
 - Installation of process equipment to meet current standards and state of the art installations, e.g., on-line membrane integrity testing, CIP/neutralization tanks, etc.
 - Construction of a new membrane ancillary building with CIP/neutralization tanks, boiler skids, new electrical room to house the starters and PLC, etc.
- Removal of the “temporary” ZW1000 membrane building given the concerns discussed in Section 5.5.1 and as requested by the Town during a Workshop on November 19, 2019.
- Construction of a new two-story membrane building:
 - During Phase 1, the new membrane building can be constructed for the ultimate phase with membranes installed now for Phase 1 only.
 - Either pressurized or submerged membranes can be considered within this new membrane building with the preferred membrane technology (and supplier) to be determined during detailed design after membrane pre-selection has been conducted.
 - The new membrane building can be installed either north of the existing ZW500 membrane building or east of the existing raw water building. Given the prime waterfront property, the Town prefers that the

new membrane building if selected as the preferred option be located east of the existing raw water building.

- Given that the capacity of each membrane train within this new membrane building will most likely be larger than that of a retrofitted ZW500 membrane train, the required redundant membrane train will need to be accounted for within this new membrane building.
- The need for rental of membrane trailer(s) during construction.

The following options were considered in addition to those in Table 10:

Option 4 – Hybrid of Option 1

In this option, a new membrane building is to be constructed for Phase 1 flows (and potentially higher flows). In the future, the existing ZW500 membrane building is to be retrofitted to provide the balance of flows required. This option was not further considered for the following reasons:

- Once membrane ancillary equipment is installed within the new membrane building, this equipment will be shared between all future membrane trains such that only new membrane trains need to be constructed/installed. Installing membranes within the existing ZW500 membrane building will most likely require membrane ancillary equipment to be installed within that building (or a new building) thus:
 - Adding more capital and operating costs.
 - Adding more complexity to operations given that two sets of membranes and membrane ancillary equipment will need to be operated and maintained.
- Once a new membrane building is constructed for Phase 1 flows (and potentially higher flows) and the existing ZW500 membrane building is abandoned, there is a high probability that the existing ZW500 membrane building will be repurposed for new rooms and/or storage, with no appetite later on (14+ years) to install membranes within this building.

Option 5 – Hybrid of Option 3

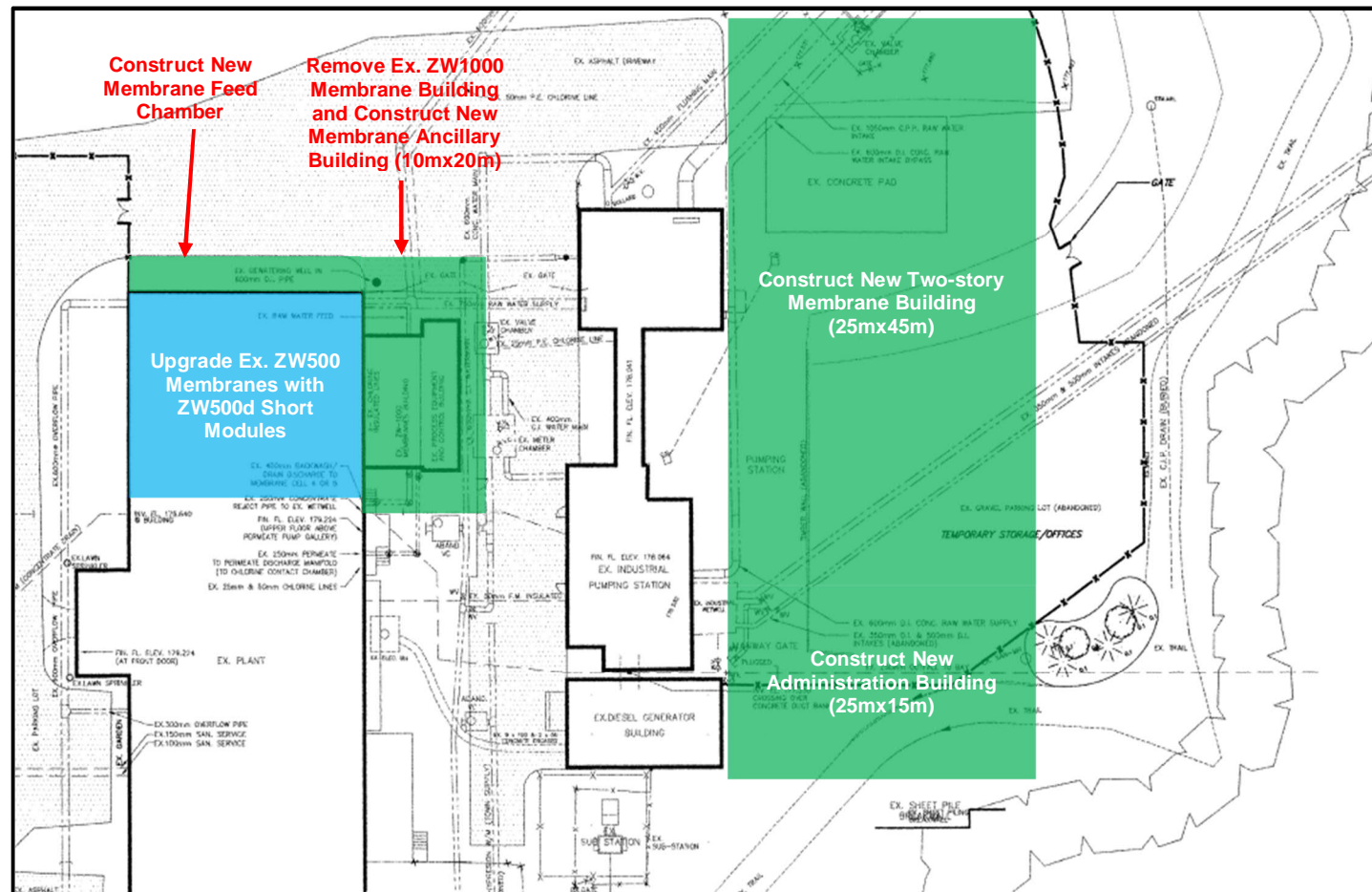
In this option, a new membrane building is to be constructed with the required number of membrane cassettes/modules installed within the new membrane building, with the existing ZW500 membrane system continuing to operate until all the membranes and process/instrumentation/electrical equipment reach their end of life. In this option, no new membrane ancillary building will be constructed, thus not making it an equal comparison to Options 1 to 3 in Table 10. As a result, this option was not further considered.

However, if Option 3 is determined to be the preferred alternative from the Cost-Benefit analysis within this report, the Town can still execute this option to reap the benefits of the remaining life of the membranes and process/instrumentation/electrical equipment.

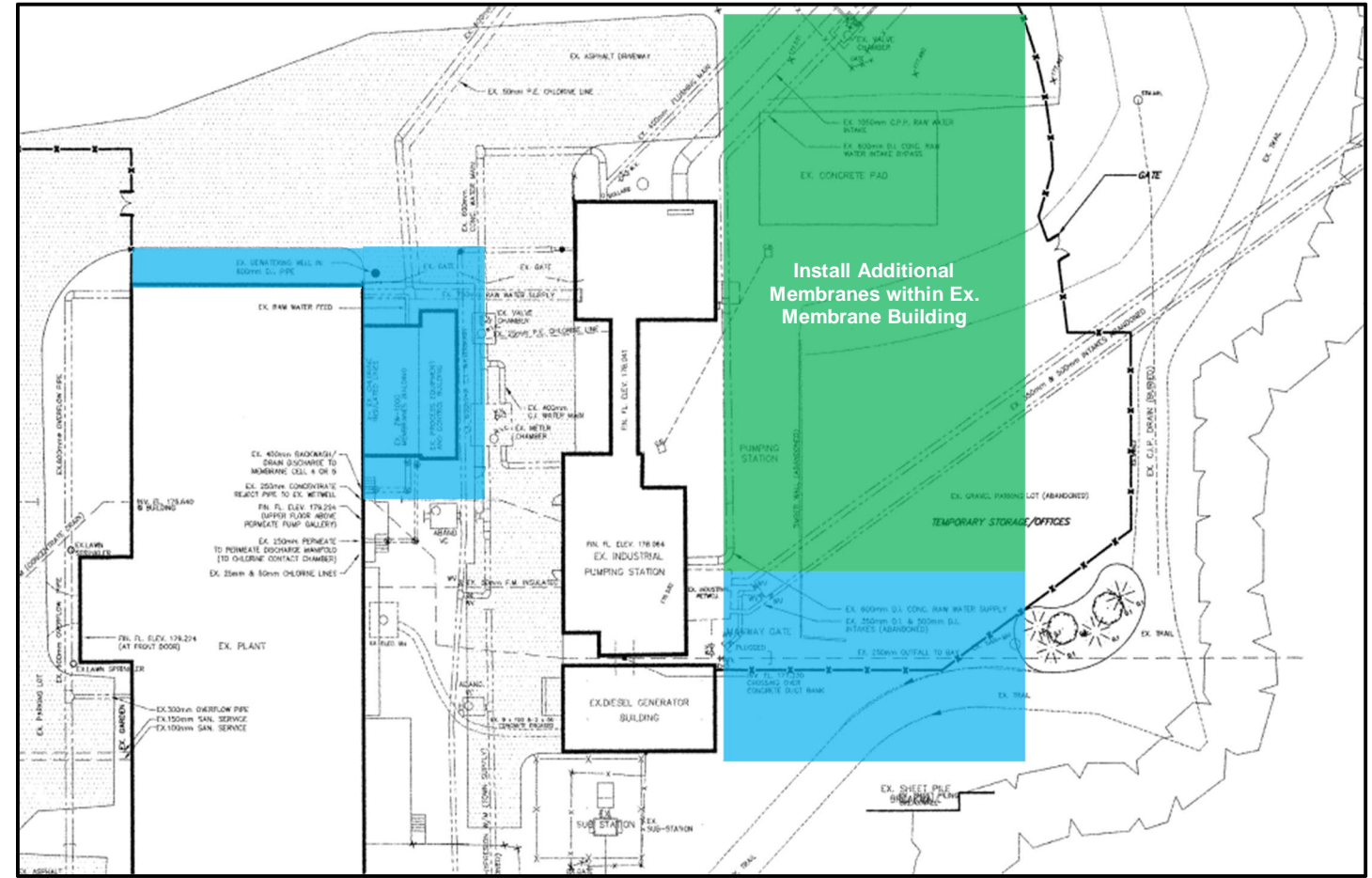
Table 10 Membrane Alternatives to Achieving the Phase 1 and Ultimate Net Capacity Requirements

Title	Option	Retrofit of Existing ZW500 Membrane Building with New Membrane Ancillary Building Specific to this Building	Removal of Ex. ZW1000 Membrane Building?	Construction of New Membrane Building and/or Administration Building	Rental of Membrane Trailer(s) During Construction?	Alternative to be Shortlisted for Further Evaluation? <i>If no, provide reasoning.</i>
Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building (Figure 12)	1A (Phase 1)	<ul style="list-style-type: none"> Upgrade membrane trains with ZW500d short modules with minor modifications to the permeate connections. Replace the membrane tank coatings. Replace all the membrane permeate pumps, blowers, instruments, etc. given their current life span. Install permanent membrane integrity testing. Construct new membrane ancillary building with CIP/neutralization tanks; boiler skids, new electrical room to house the starters and PLC, etc. Resolve the noise effect when feeding the backwash/CIP tanks if any of these tanks were to be reused. Construct new membrane feed chamber north of existing feed chamber to provide some membrane feed equalization and install overflow back to new LLWW. 	Yes	<ul style="list-style-type: none"> Construct new two-story membrane building sized for ultimate flows with membranes installed to achieve Phase 1 net capacity only. Install chemical systems for entire plant within this new building. These include sodium hypochlorite, citric acid, sodium bisulphite and sodium hydroxide. Construct a new administration building. 	No	Yes
	1B (Ultimate)	Net capacity provided = 29,450 m ³ /d (assuming the new membrane building will house the redundant membrane train).	-	Net capacity provided = 22,421 m ³ /d		
		Additional net capacity provided = + 0 m ³ /d	-	Additional net capacity provided = +49,198 m ³ /d	No	
Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains (Figure 13)	2.1 A (Phase 1)	<ul style="list-style-type: none"> Complete major retrofit of existing ZW500 membrane building with new membranes maintaining two of the existing ZW500d membrane trains. Install permanent membrane integrity testing. Construct new membrane ancillary building with CIP/neutralization tanks; boiler skids; new electrical room to house the starters and PLC; wastewater equalization tanks to accept the new membrane drains/dumps as required; and, chemical feed systems including sodium hypochlorite, citric acid, sodium bisulphite and sodium hydroxide. Resolve the noise effect when feeding the backwash/CIP tanks if any of these tanks were to be reused. If submerged membranes are the preferred option, construct new membrane feed chamber north of existing feed chamber to provide some membrane feed equalization and install overflow back to new LLWW. The height of the existing feed chamber may also need to be increased. 	Yes	Construct a new administration building.	Yes	Yes
	2.1 B (Ultimate)	Net capacity provided = 51,871 m ³ /d	-	-		
		Install additional membranes to achieve ultimate capacity. Additional net capacity provided = + 49,198 m ³ /d	-	-	No	
Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains (Figure 14)	2.2 A (Phase 1)	<ul style="list-style-type: none"> Complete major retrofit of existing ZW500 membrane building with new membranes maintaining none of the existing ZW500d membrane trains. Install permanent membrane integrity testing. Construct new membrane ancillary building with CIP/neutralization tanks; boiler skids; new electrical room to house the starters and PLC; wastewater equalization tanks to accept the new membrane drains/dumps as required; and, chemical feed systems including sodium hypochlorite, citric acid, sodium bisulphite and sodium hydroxide. Resolve the noise effect when feeding the backwash/CIP tanks if any of these tanks were to be reused. If submerged membranes are the preferred option, construct new membrane feed chamber north of existing feed chamber to provide some membrane feed equalization and install overflow back to new LLWW. The height of the existing feed chamber may also need to be increased. 	Yes	Construct a new administration building.	Yes	Yes
		Net capacity provided = 51,871 m ³ /d	-	-		

	2.2 B (Ultimate)	Install additional membranes to achieve ultimate capacity. Additional net capacity provided = + 49,198 m ³ /d	-	-	No		
Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building (Figure 15)	3A (Phase 1)	<ul style="list-style-type: none"> Abandon existing ZW500 trains. Repurpose the ZW500 membrane building possibly as the new administration building. 	Yes	<ul style="list-style-type: none"> Construct new two-story membrane building sized for ultimate flows with membranes installed to achieve Phase 1 net capacity only. Cost regarding tank coatings will be avoided since existing tanks will be no longer be used. Install chemical systems for entire plant within this new building. These include sodium hypochlorite, citric acid, sodium bisulphite, hydrochloric acid, and sodium hydroxide. 	No	Yes	
		Net capacity provided = 0 m ³ /d	-	Net capacity provided = 51,871 m ³ /d			
	3B (Ultimate)	-	-	-	Install new membranes within membrane building constructed as part of Phase 1.	No	
		Additional net capacity provided = + 0 m ³ /d	-	-	Additional net capacity provided = +49,198 m ³ /d		

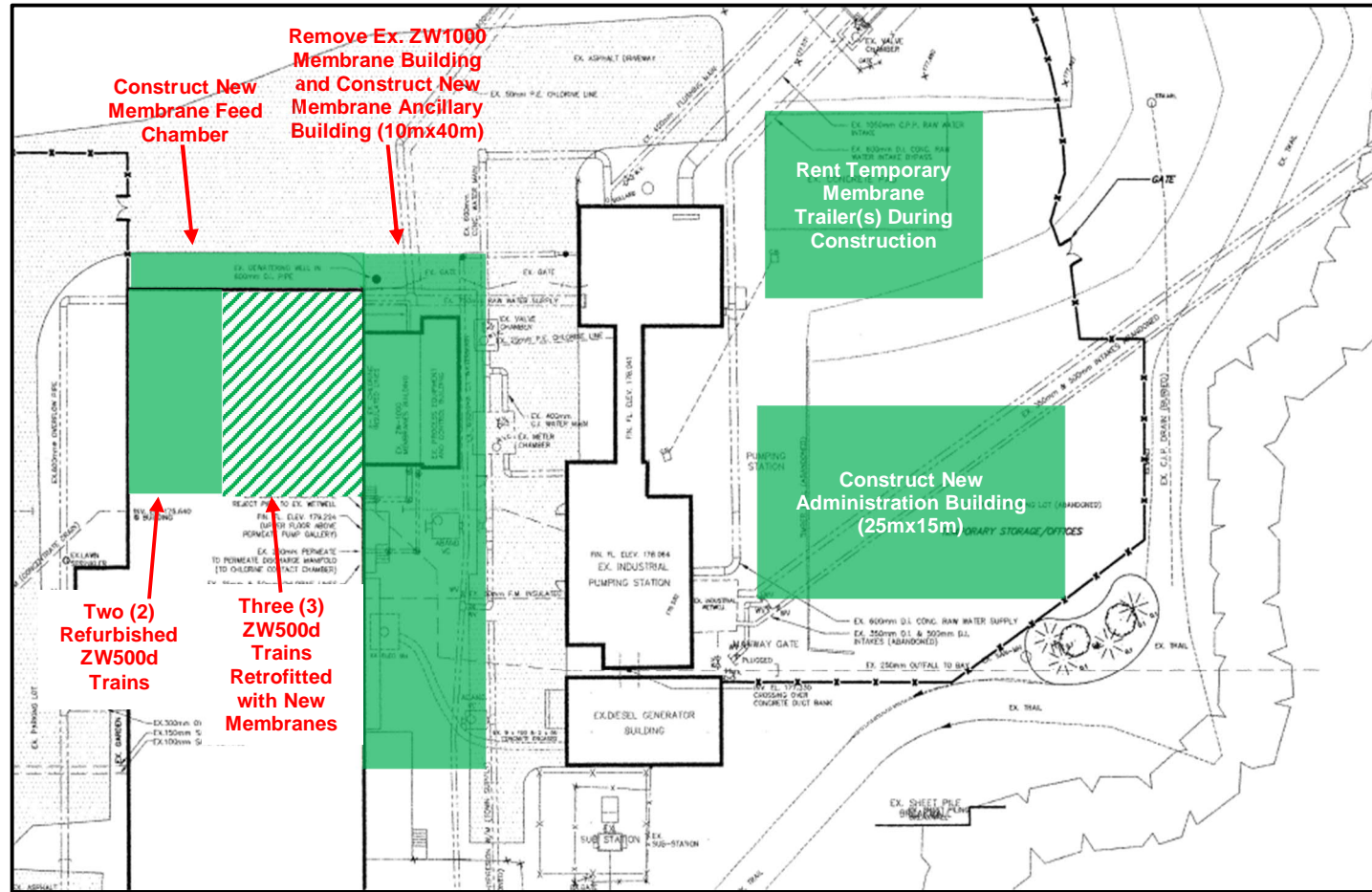


Option 1A – Phase 1 Concept

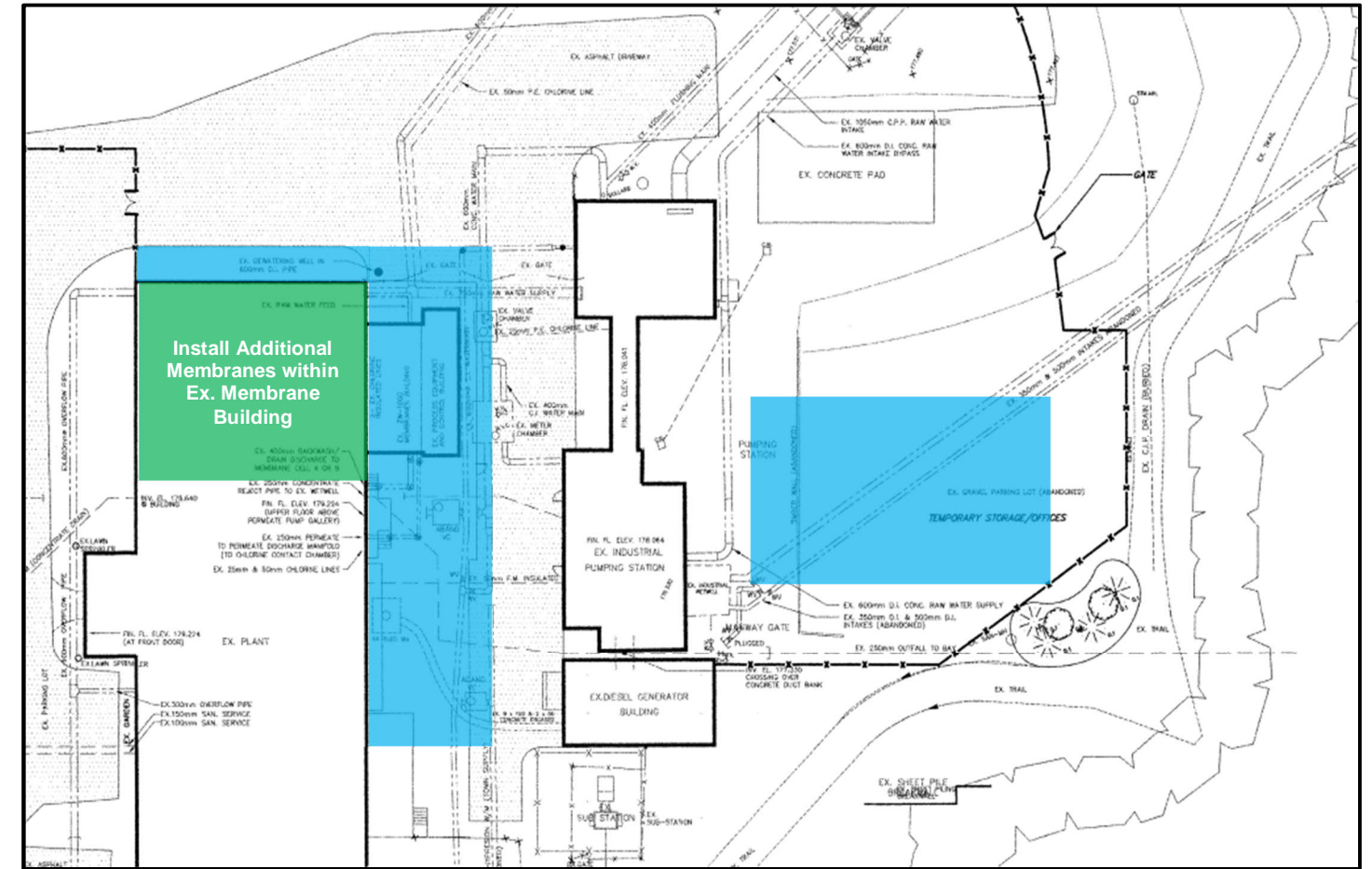


Option 1B – Ultimate Phase Concept

Figure 12 Option 1 Concept: Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit and Construct New Membrane Building (New Infrastructure Shown as Green)

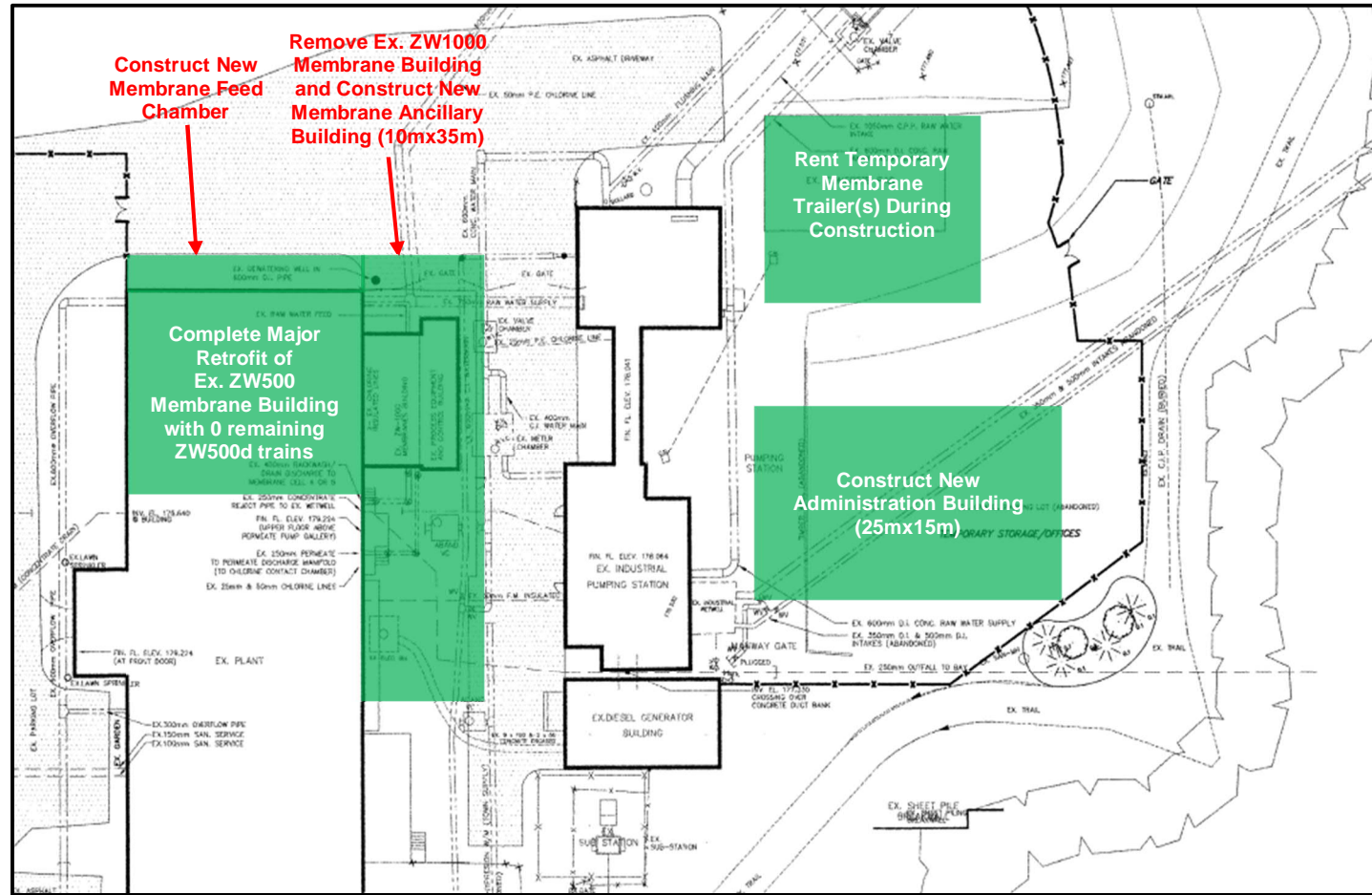


Option 2.1 A – Phase 1 Concept

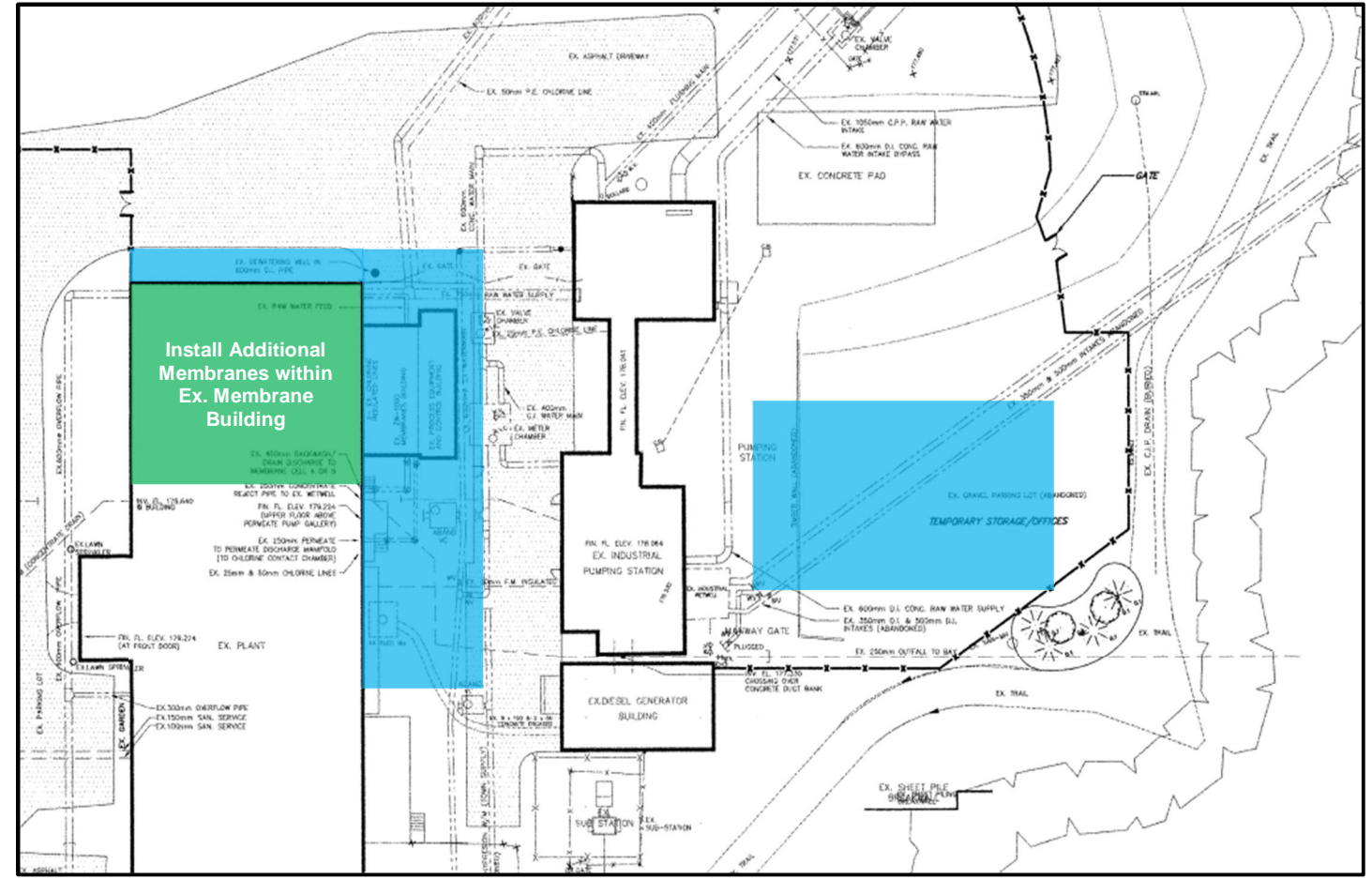


Option 2.1 B – Ultimate Phase Concept

Figure 13 Option 2.1 Concept: Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains (New Infrastructure Shown as Green)

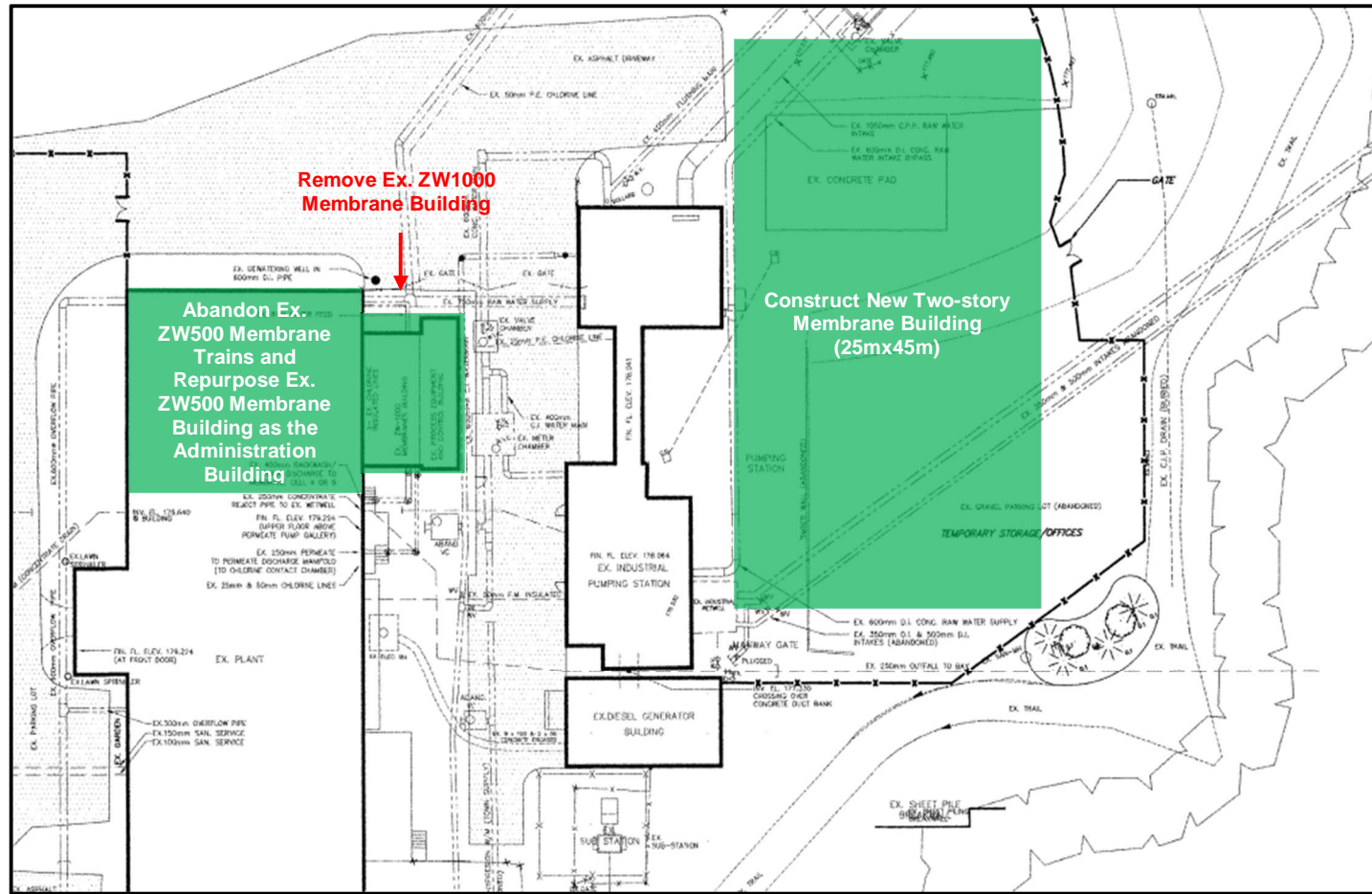


Option 2.2 A – Phase 1 Concept

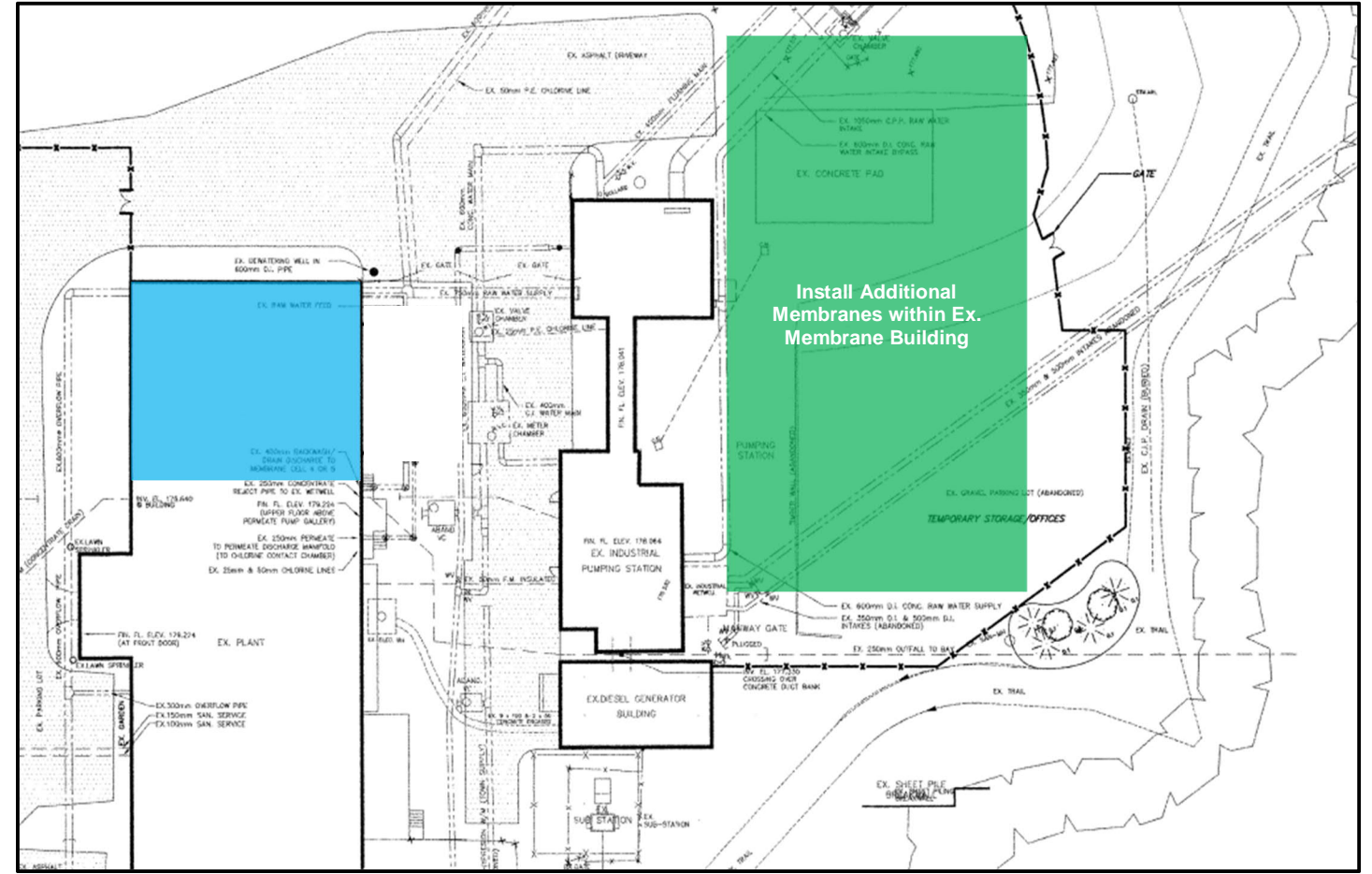


Option 2.2 B – Ultimate Phase Concept

Figure 14 Option 2.2 Concept: Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains (New Infrastructure Shown as Green)



Option 3A – Phase 1 Concept



Option 3B – Ultimate Phase Concept

Figure 15 Option 3 Concept: Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building (New Infrastructure Shown as Green)

5.5.2.4 Shortlisted Alternatives

Table 10 shows all four (4) membrane alternatives to be shortlisted for further evaluation as there is no reasoning to eliminate any of these alternatives at this stage.

5.6 Disinfection

5.6.1 Current Capacity

Table 1 shows the current net capacity of the CT chambers as 21,423 m³/d to achieve 0.5-log *Giardia* inactivation at 0.5°C, a pH of 8.1, and an average free chlorine residual of 1.66 mg/L. This is less than the plant current rated capacity of 31,140 m³/d understanding that this disinfection capacity can be achieved by increasing the free chlorine residual (if required) given the water temperature and pH at the time of the calculations being conducted.

5.6.2 Upgrade Requirements

5.6.2.1 Disinfection Technologies

Overview

The following disinfection technologies were considered as part of this EA:

- Chlorination
- Ultraviolet (UV) Irradiation
- Ozonation
- Chlorine Dioxide Disinfection

A brief description of each of these processes is provided as follows:

Chlorination

Chlorine has been used as an effective disinfectant in drinking water for many years and is currently being used at the Raymond A. Barker WTP. It is by far the most common disinfectant, by virtue of its low cost, ease of use, and relative effectiveness.

Chlorine is a powerful oxidant that works quickly on bacteria and viruses, although it is not particularly effective against *Giardia* and it is almost completely ineffective against *Cryptosporidium*. Chlorine is fed to the water in some form, usually either as gaseous chlorine (Figure 16) like at the Raymond A. Barker WTP or in the liquid hypochlorite form.

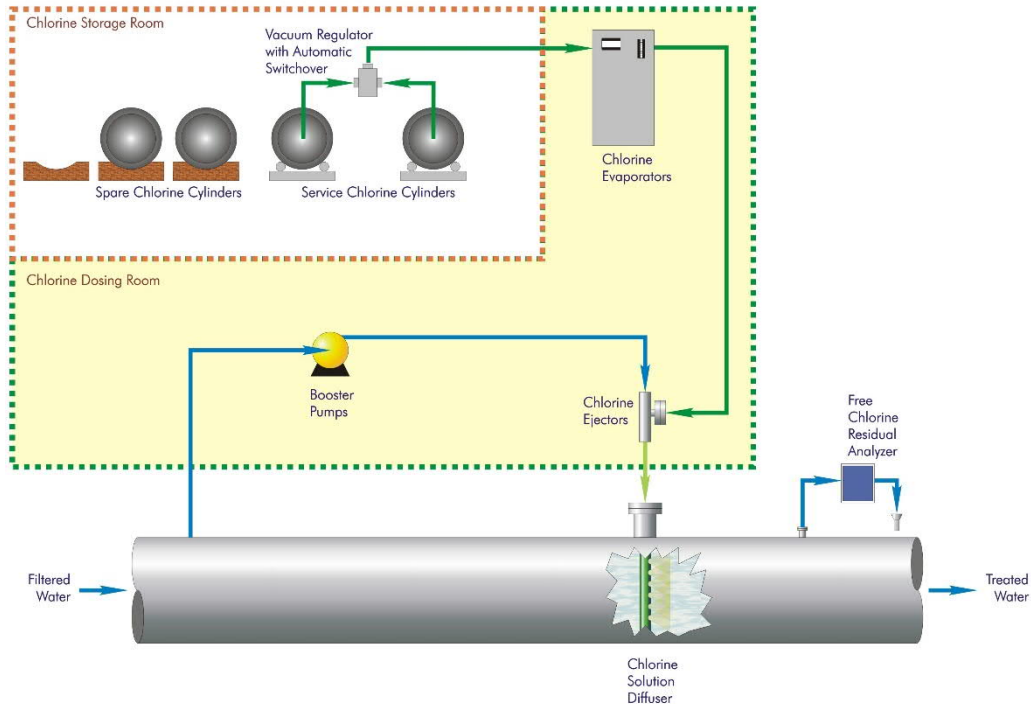


Figure 16 Schematic Diagram of Gas Chlorination

Ultraviolet (UV) Irradiation

UV is the most common type of non-chemical inactivation. UV is a physical process that uses ultraviolet irradiation to prevent the cellular replication of organisms so that they cannot reproduce, thus becoming inactivated. UV light is emitted through a series of lamps located in enclosed contactors (Figure 17).

UV irradiation has rapidly gained an important position in the industry due to its effectiveness against *Giardia* and *Cryptosporidium* within a very compact footprint; however, it is not effective for all viruses requiring a short chlorine contact time for 4-log virus inactivation on this project. UV disinfection is only effective while the water is actually being irradiated, and it is therefore only useful as a primary disinfection strategy, as it provides no residual. A secondary disinfectant such as chlorine or chloramines must be applied downstream of UV disinfection for protection of the distribution system.

UV technology also have the capability to provide UV advanced oxidation processes (UVAOP) when dosing an oxidant (e.g., hydrogen peroxide or chlorine) upstream of the UV reactors.

The UV transmittance (UVT) is the measure of the ability of UV light to penetrate the water and accounts for absorbance of UV light or reflection (some solids). UVT data in March 2019 showed a range of 94 to 97% with an average UVT of 94%. For this project, it is recommended that the UV system be designed for an UVT of 90% with an UVT of 96% used as part of the life cycle analysis when comparing UV disinfection and chlorination technologies.

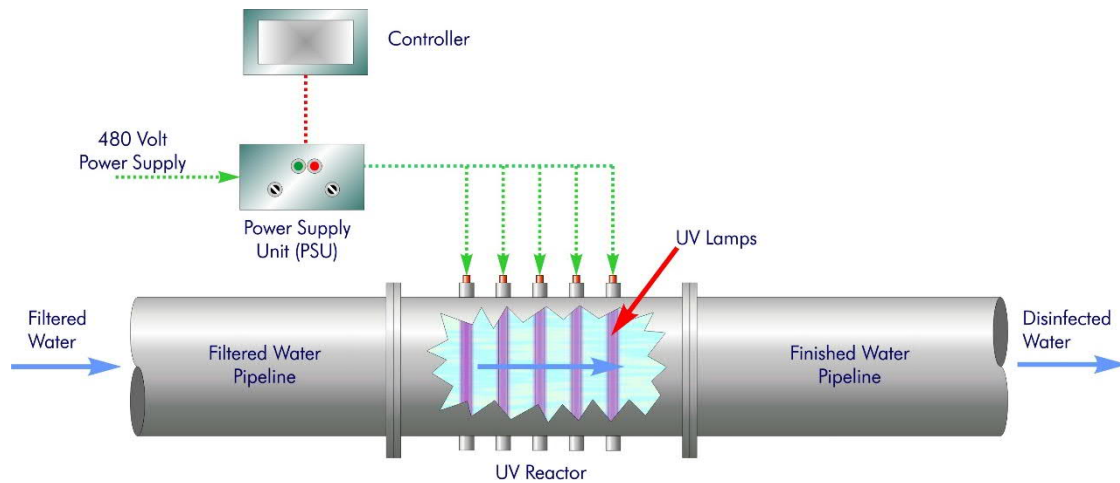


Figure 17 Schematic Diagram of Ultraviolet Disinfection

Ozonation

Ozonation involves the application of ozone to the water (Figure 18). Ozone is an unstable derivative of oxygen, which is formed on-site and immediately applied to the water. It is a very strong oxidant and disinfectant, but one which decays more rapidly than chlorine, and is therefore only suitable as a primary disinfectant. A secondary disinfectant such as chlorine or chloramines must be applied downstream of ozonation for protection of the distribution system. Ozone is also effective in removing taste and odor compound including geosmin and 2-Methylisoborneol (MIB), in many cases at the same ozone level as the one used for disinfection.

Ozone also offers benefits in the water treatment process itself, depending upon where it is placed within the process train. Some plants utilize pre-ozonation, which results in micro-flocculation, and can help solids removal in the process. Ozone is often a necessary precursor to biological filtration processes, as it reacts with natural organic matter (NOM) in the water to produce the Assimilable Organic Carbons (AOCs) necessary for biological growth on the filters.

Since ozone reacts with NOM in the water to produce AOC, which in turn promote bacterial regrowth in the distribution system, it might be necessary to allocate the provisional use of Biological Activated Carbon (BAC) contactors downstream of the ozone contactor to remove AOC to prevent bacterial regrowth and/or increase chlorine demand in the distribution system. However, given the low dissolved organic carbon (DOC) and low trihalomethane formation potential (THMFP) in the source water, it is anticipated that not much AOC will be produced from ozonation and hence, BAC contactors will not be needed. However, ozone reacts with bromide ions in water to produce bromate, which poses long-term health risks associated to reduced kidney function in some people.

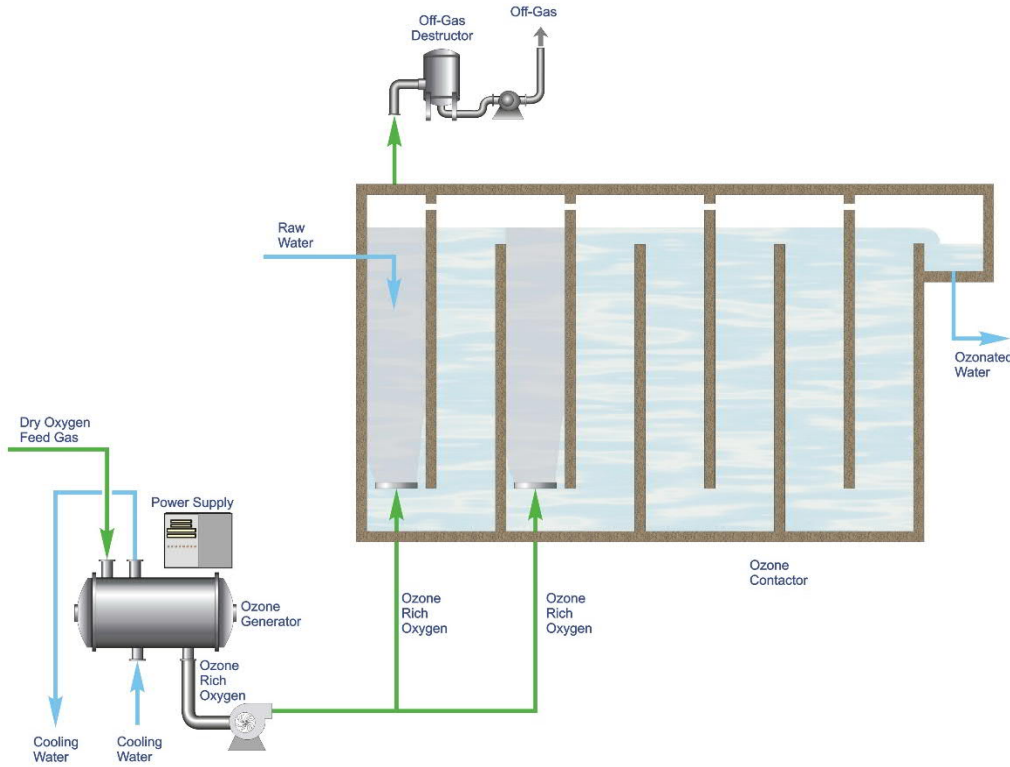


Figure 18 Schematic Diagram of Ozonation

Chlorine Dioxide Disinfection

Chlorine dioxide (ClO_2) has been used to disinfect water given it has strong disinfectant properties and it does not react with ammonia or related nitrogenous compounds, or organic compounds (to produce trihalomethanes). However, the high cost of generating it on-site limits its use, as well as the production of chlorite (ClO_2^-) and chlorate (ClO_3^-), which are disinfection by-products that have been linked to potential adverse health effects involving red blood cells and blood chemistry. A schematic of can be seen in Figure 19.

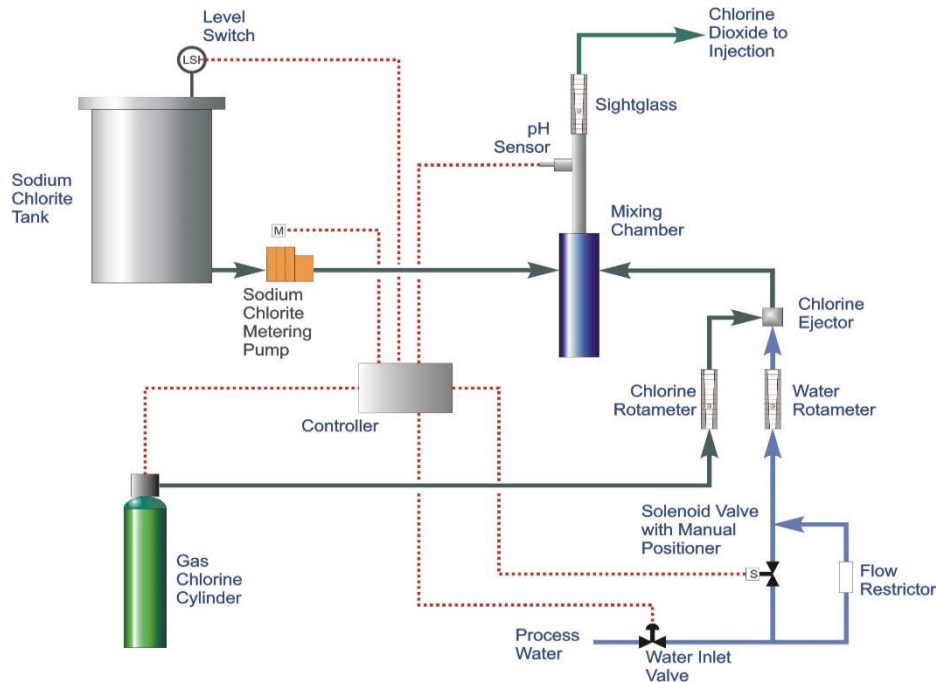


Figure 19 Schematic Diagram of Chlorine Dioxide Disinfection

Summary

Ozonation will not be further considered on this project since taste and odour control and emerging contaminants are currently not an issue at the plant and ozonation is considerably more expensive than the technologies mentioned above. Moreover, it produces the disinfection by-product bromate that needs to be monitored during its use.

Chlorine dioxide is rarely used in Ontario and trihalomethane (THM) formation is not an issue at the plant to warrant its consideration. Moreover, it produces the disinfection by-products chlorite and chlorate that need to be monitored during its use.

Given above, chlorination and UV with chlorination will be considered for the plant expansion.

5.6.2.2 Minimum Free Chlorine Residual Required for Primary Disinfection

Before chlorine disinfection alternatives can be reviewed, it is important to determine the appropriate **minimum** free chlorine residual to be used in all calculations where chlorination is being considered for primary disinfection. Table 11 shows the treated water free chlorine residual data statistics between 2017 and 2018. As shown, the average free chlorine residual of 1.66 mg/L was not achieved 49% of the time. The minimum residual was 0.90, with 0.82% of the residual data being below 1.40 mg/L and 8.24% of the residual data being below 1.50 mg/L.

Table 11 Treated Water Free Chlorine Residual (mg/L) Data (2017 to 2018)

Source	SC	Min.	Avg.	Max.	% Samples < 1.16 mg/L	% Samples < 1.50 mg/L	% Samples < 1.66 mg/L
Town	728	0.90	1.66	1.99	0.41%	8.24%	48.90%

The Town will like to reduce the target treated water free chlorine residual from 1.66 to 1.50 mg/L. To prevent the plant from shutting down under the worst-case scenario (maximum flowrate, maximum pH of 8.1 and minimum temperature of 0.5°C), it is recommended that a free chlorine residual of 1.0 mg/L be used in the disinfection calculations given the following recommended alarm response conditions:

- Low-low alarm to shut down plant – 1.00 mg/L
- Low alarm to warn operators and not shut-down plant – 1.25 mg/L (low-low alarm + 0.25 mg/L)
- Target average – 1.50 mg/L (low alarm + 0.25 mg/L)

Given above, a minimum free chlorine residual of 1.0 mg/L will be used for all disinfection calculations.

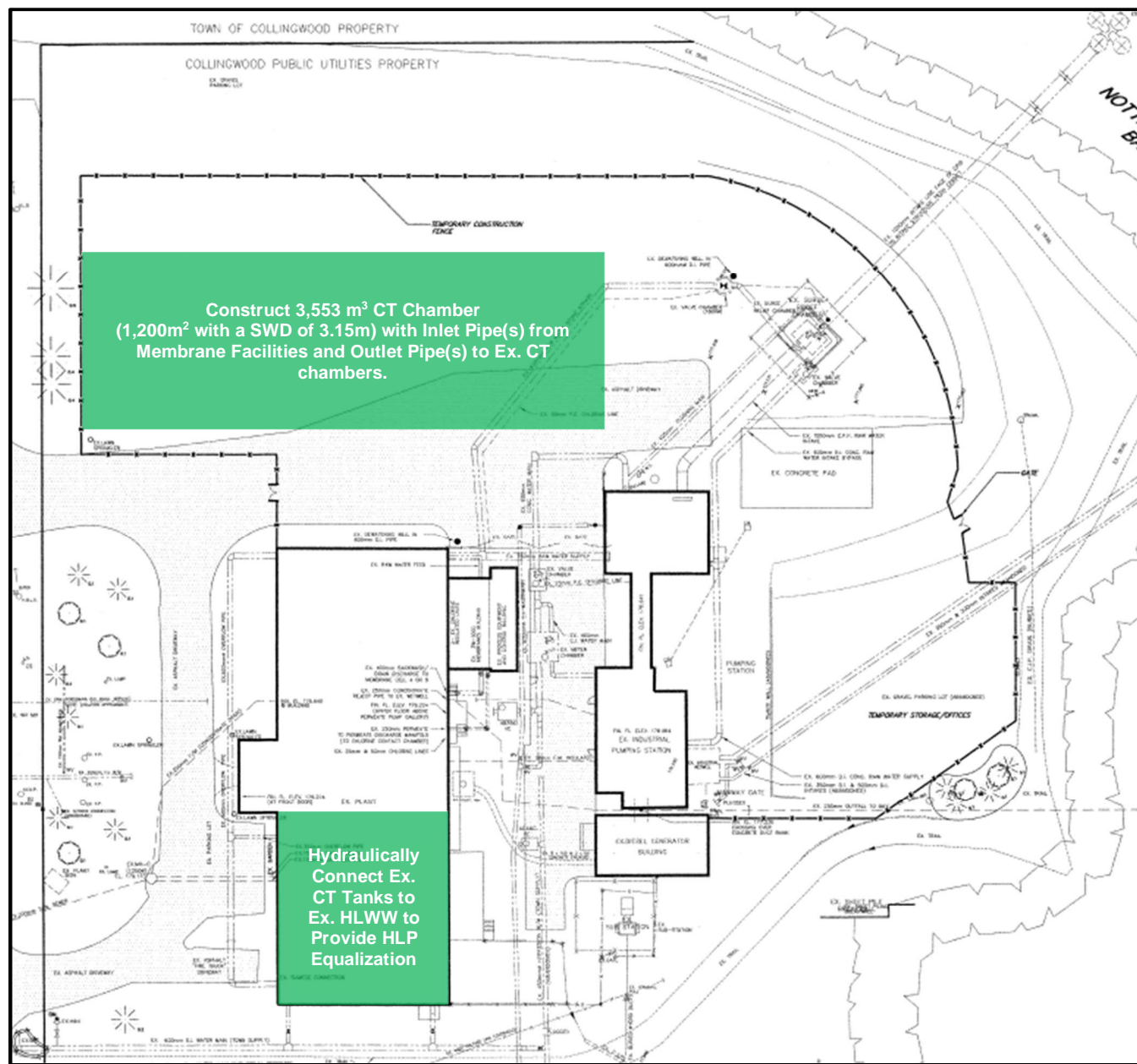
5.6.2.3 Alternatives to Achieving Phase 1 and Ultimate Flows

Table 12 shows disinfection alternatives to achieving the Phase 1 and ultimate net capacity requirements for this project.

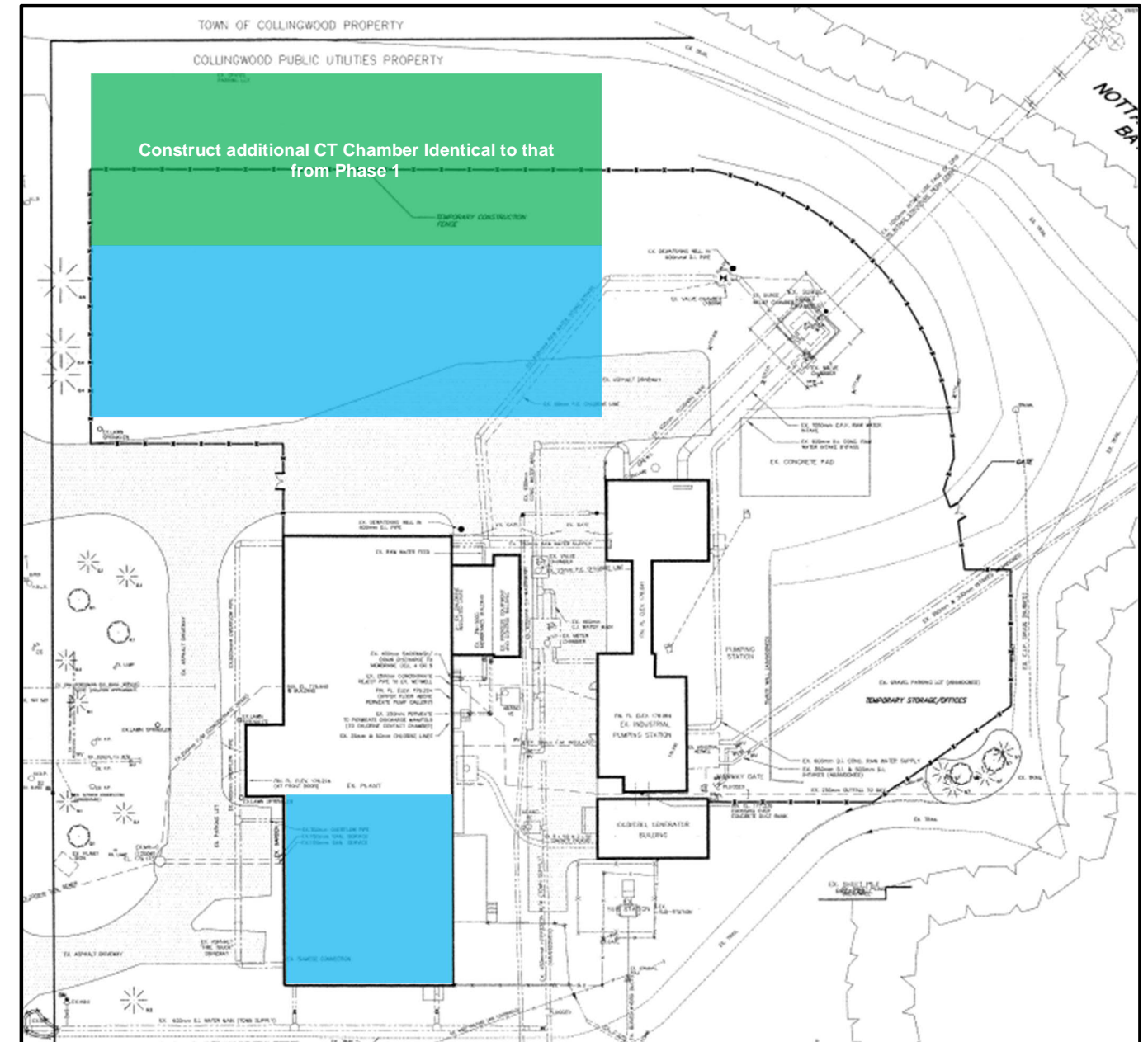
Table 12 Disinfection Alternatives to Achieving the Phase 1 and Ultimate Net Capacity Requirements

Title	Option #	Description	Alternative to be Shortlisted for Further Evaluation? <i>If no, provide reasoning.</i>
Chlorinate Year Round in Intake and CT Chambers	1A (Phase 1)	<ul style="list-style-type: none"> Dose chlorine year-round within the intake and within the CT chambers achieving a minimum free chlorine residual of 2.5 mg/L at all times. 	<p style="text-align: center;"><i>No</i></p> <ul style="list-style-type: none"> Raw water in the intake has solids that can shield pathogens from the chlorine, thus not guaranteeing inactivation of the pathogens. Chlorination year round within the intake tends not to be preferred by the MECP given the potential for chlorine to enter the raw water source (even though this is practiced in the warmer months for zebra mussel control). A higher chlorine dosage than normally practiced is required increasing the potential for disinfection by-products and decreasing the pH of the water making the water more corrosive, exceeding the water quality objectives in Table 3. Additional dechlorination will be required for the membrane reject being discharged back to the Nottawasaga Bay. At ultimate flows, this option does not provide sufficient disinfection as required in Table 3
	1B (Ultimate)	<ul style="list-style-type: none"> Dosing chlorine year-round within the intake and within the CT chambers to achieve a minimum free chlorine residual of 4.0 mg/L at all times (adverse level of chlorine residual within the distribution system) would still not achieve more than 0.39-log inactivation of <i>Giardia</i>. 	
Superchlorinate and Dechlorinate in Existing CT Chambers	2A (Phase 1)	<ul style="list-style-type: none"> Superchlorinate and then dechlorinate in the existing CT chambers. This will require a minimum free chlorine residual to be maintained at 4.8 mg/L at the end of the CT chambers before dechlorinating back down to an average of 1.66 mg/L free chlorine residual. 	<p style="text-align: center;"><i>No</i></p> <ul style="list-style-type: none"> There is a concern with disinfection by-product formation exceeding the water quality objectives in Table 3. There is a concern with a decrease in the pH of the water (chlorine gas is acidic) making the water more corrosive, exceeding the water quality objectives in Table 3. If dechlorination is not properly controlled, there is a concern of an adverse exceedance of 4.0 mg/L free chlorine residual in the distribution system, exceeding the water quality objectives in Table 3 A substantial amount of additional chlorine containers will need to be transported to and then stored on-site. Additional dechlorination will be required for the membrane reject being discharged back to the Nottawasaga Bay.
	2B (Ultimate)	<ul style="list-style-type: none"> Superchlorinate to achieve a minimum free chlorine residual of 10.5 mg/L at the end of the CT chambers prior to dechlorinating. 	
Practice pH Adjustment in Existing CT Chambers	3A (Phase 1)	<ul style="list-style-type: none"> Lower the pH within the CT chambers to 5.2 and then increase back to a minimum of 7.0 to reduce the corrosiveness of the treated water. 	<p style="text-align: center;"><i>No</i></p> <ul style="list-style-type: none"> There is a concern with increasing the corrosive nature of the water which is against the water quality objectives in Table 3. New chemical systems (acid and base) will need to be installed on-site requiring additional transportation, storage and handling of chemicals on-site.
	3B (Ultimate)	<ul style="list-style-type: none"> Lower the pH within the CT chambers to 4.1 and then increase back to a minimum of 7.0 to reduce the corrosiveness of the treated water. 	
Chlorinate in New CT Chambers (Figure 20)	4A (Phase 1)	<ul style="list-style-type: none"> Install one new CT chamber for 0.5-log <i>Giardia</i> inactivation control sized for a minimum effective storage volume of 3,553 m³ with baffles to provide a minimum baffling factor (T_{10}/T) of 0.7. Given a side water depth (SWD) of 3.15m, this requires a footprint of 1,200m² (assuming 6% footprint to be occupied by baffles), with one possible dimension being 20m x 60m. The ideal location of this new CT chamber will be north of the existing ZW500 membrane building to minimize the length of outlet pipe to the existing CT chambers and HLWW mentioned below. An alternative location will be below the new membrane building if selected as the preferred membrane alternative. Use existing CT chambers for high lift pump equalization by hydraulically connecting these chambers to the existing HLWW by cutting openings in the walls between both tanks at the CT chambers finished floor elevation. This will result in the required 15 minutes high lift pump equalization volume given ultimate net flows of 101,069 m³/d at the current SWD of 4.45m of the HLWW (with 1.5m high lift pump suction pipe submergence excluded from the operating volume calculations). At Phase 1 flows of 51,871 m³/d, the high lift pump equalization will be 29 minutes. 	<p style="text-align: center;">Yes</p>
	4B (Ultimate)	<ul style="list-style-type: none"> Install another CT chamber identical to that in Phase 1. 	
Practice UV Disinfection and Chlorinate in New CT Chambers (Figure 21)	5A (Phase 1)	<ul style="list-style-type: none"> Install minimum two UV reactors (1 duty, 1 standby) for 0.5-log <i>Giardia</i> inactivation, each UV reactor sized for a minimum diameter of 600 mm. The UV reactors can be located within a UV building on top of the new CT chambers discussed below. Estimated footprint of UV building is 16m x 10m. Install one CT chamber for 4-log virus inactivation sized for a minimum effective storage volume of 808 m³ with baffles to provide a minimum baffling factor (T_{10}/T) of 0.7. Given a side water depth (SWD) of 3.15m, this requires a footprint of 273m² (assuming 6% footprint to be occupied by baffles), with one possible dimension being 13m x 21m. The ideal location of this new CT chamber will be to the north of the ZW500 membrane building to minimize the length of outlet pipe to the existing CT chambers and HLWW mentioned below. An alternative location will be below the new membrane building if selected as the preferred membrane alternative. Use existing CT chambers for high lift pump equalization by hydraulically connecting these chambers to the existing HLWW by cutting openings in the walls between both tanks at the CT chambers finished floor elevation. This will result in the required 15 minutes high lift pump equalization volume given ultimate net flows of 101,069 m³/d at the current SWD of 4.45m of the HLWW (with 1.5m high lift pump suction pipe submergence excluded from the operating volume calculations). At Phase 1 flows of 51,871 m³/d, the high lift pump equalization will be 29 minutes. 	<p style="text-align: center;">Yes</p>

	5B (Ultimate)	<ul style="list-style-type: none">• Install 3rd duty UV reactor (if needed, depending on UV reactor size installed in Phase 1) for 0.5-log <i>Giardia</i> inactivation.• Install another CT chamber identical to that in Phase 1.	
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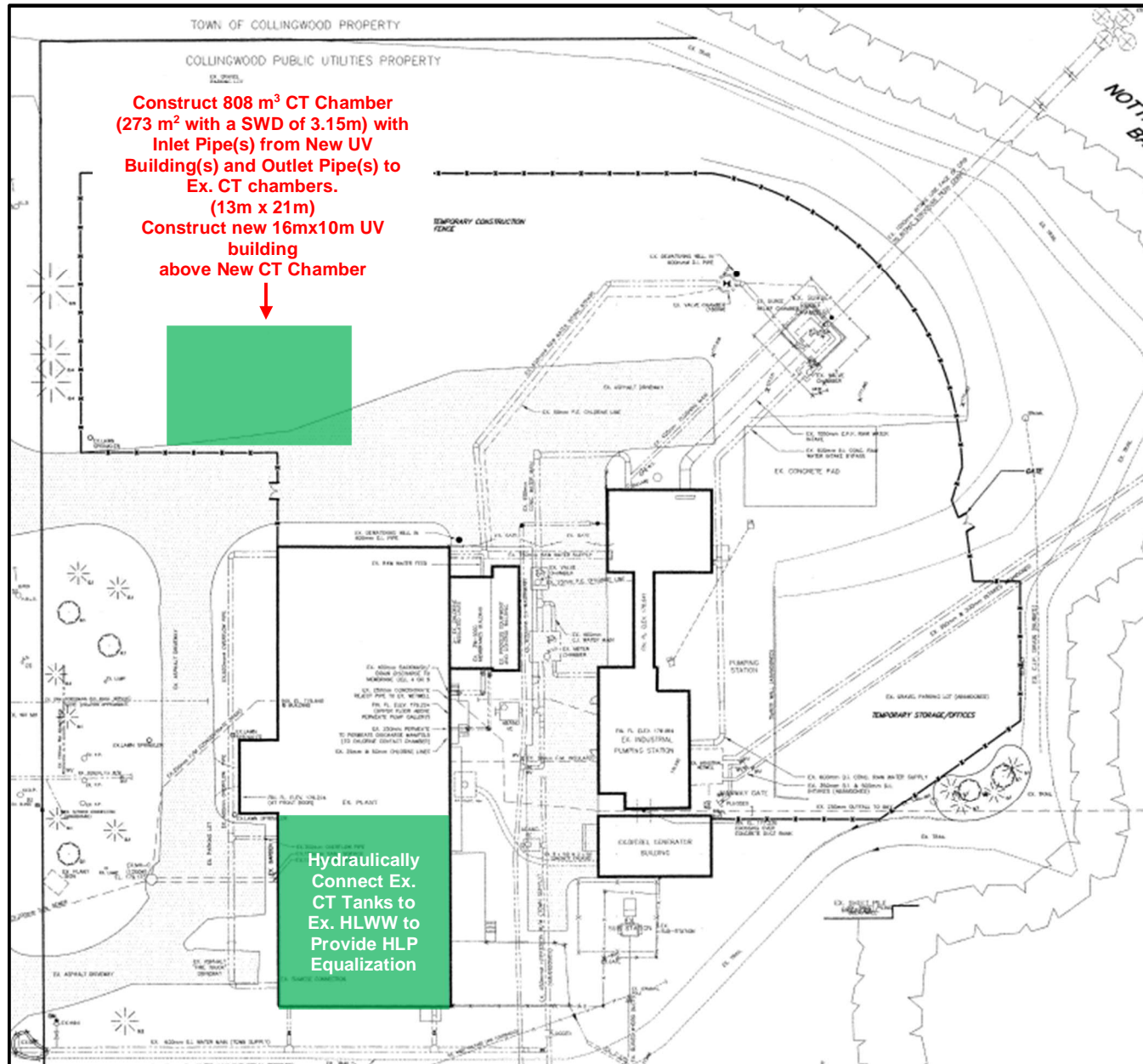


Option 4A - Phase 1 Concept

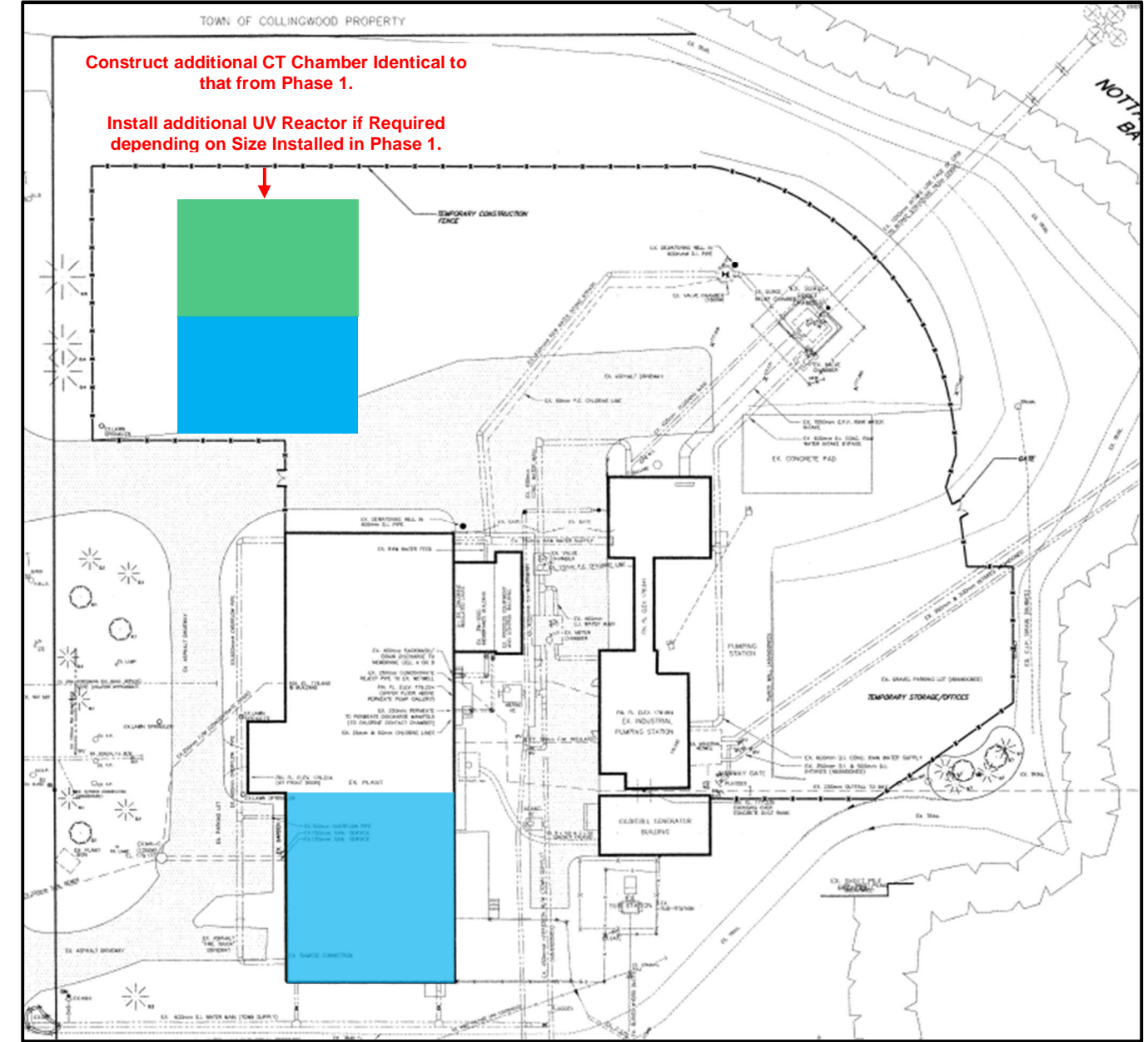


Option 4B - Ultimate Phase Concept

Figure 20 Option 4 Concept: Chlorinate in New CT Chambers (New Infrastructure Shown as Green)



Option 5A - Phase 1 Concept



Option 5B - Ultimate Phase Concept

Figure 21 Option 5 Concept: Practice UV Disinfection and Chlorinate in New CT Chambers (New Infrastructure Shown as Green)

5.6.2.4 Shortlisted Alternatives

Table 12 shows the following alternatives to be shortlisted for further evaluation as there is no reasoning to eliminate any of these alternatives at this stage:

- **Option 4:** Chlorinate in New CT Chambers
- **Option 5:** Practice UV Disinfection and Chlorinate in New CT Chambers

5.7 High Lift Pump Equalization

5.7.1 Current Capacity

Table 1 shows the current net capacity of the existing high lift wet well (HLWW) with an effective operating volume of 475 m³ to achieve 15 minutes high lift pump equalization is 45,600 m³/d.

5.7.2 Upgrade Requirements

Section 5.6.2.4 short listed two disinfection alternatives that require new CT chambers to be constructed. By allowing the existing CT chambers to be converted into high lift wet wells, the CT chambers can provide an additional effective equalization volume of 559 m³ given a typical operating side water depth (SWD) of the existing HLWW of 4.45m (based on February to October 2019 data) and a difference of 2.4m between the finished floor of the HLWW and CT chambers, i.e., SWD of the CT chambers of 2.05m. The combined volume of the HLWW and CT chambers is 1,034 m³, which provides 29 and 15 minutes of high lift pump equalization at the Phase 1 and ultimate high lift pumping flowrates of 51,871 and 101,069 m³, respectively.

The new CT chambers that will be constructed as part of the disinfection alternatives will need to feed the existing CT chambers with these existing CT chambers hydraulically to be connected to the existing HLWW by cutting openings in the walls between both the existing CT chambers and HLWW at the CT chambers finished floor elevation.

The top of the overflow flare in the HLWW is at an elevation of 178.30 m. However, the top of weir between the CT chambers and the HLWW is 178.40 m. Moreover, the high-water level (H.W.L.) in the common feed chamber to the CT chambers can be as high as 178.74 m. This means that the full volume of the HLWW is not being utilized for high lift pump equalization. However, this is done to allow for a greater contingency with regards to overflowing the HLWW. The overflow in the HLWW can be elevated to allow for additional high lift pump equalization in the existing HLWW. However, given the construction of a new CT chamber, the overflow within the HLWW can be decommissioned with an overflow installed between the new CT chamber and the new LLWW.

5.8 High Lift Pumping

5.8.1 Current Capacity

Table 1 shows the firm capacity of the Municipal high lift pumps (HLPs) to be 28,850 m³/d (334 L/s), which is slightly less than the Phase 1 flow requirement of 32,757 m³/d, but considerably less than the ultimate flow requirement of 51,483 m³/d, respectively (Table 4). Note that these capacities were based on simply adding the flowrates of each pump at the same TDH and will need to be revised during detailed design based on the distribution system analysis in **Appendix B**. Regardless, Table 13 shows the upgrades required.

Table 1 shows the firm capacity of the Regional high lift pumps (HLPs) to be 22,890 m³/d (265 L/s), which is more than the Phase 1 flow requirement of 19,114 m³/d, but less than the ultimate flow requirement of 49,586 m³/d (Table 4). Note that these capacities were based on simply adding the flowrates of each pump at the same TDH and will need to be revised during detailed design based on the distribution system analysis in **Appendix B**. Regardless, Table 13 shows the upgrades required.

5.8.2 Upgrade Requirements

Table 13 shows the high lifting pumping upgrades to achieve the Phase 1 and ultimate flow requirements, which are the firm capacities with the largest HLP out of service. These upgrades are based on the distribution system analysis provided in **Appendix B**. The following items should be considered during detailed design:

- **Transient Modeling:** Transient analysis should be conducted on the pipelines with the existing and proposed HLPs.
- **HLPs Staging/Sizes:** The preferred staging of the HLPs should be determined at the time that the capacity is needed to avoid oversizing HLPs for capacities that may not be needed at the time, understanding that by the time the capacities are needed, the HLP(s) may have reached its end of life anyway requiring replacement of the HLPs. For example, Table 13 shows that between Phase 1 and ultimate flows the Regional Pipeline flows will increase by 2.6X.

Table 13 High Lift Pumping Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Pipeline	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Municipal	Phase 1 32,757 m ³ /d	Replace all of the existing Municipal HLPs with new pumps to achieve the firm capacity.	32,757 m ³ /d (379 L/s)
	Ultimate 51,483 m ³ /d	Replace pumps/impellers as needed to achieve the higher capacity, understanding that pump/impeller replacement may not be needed for the higher flow given a lower system curve (but need to review pump run-out at the time).	51,483 m ³ /d (596 L/s)
Regional	Phase 1 19,114 m ³ /d	Add one new Regional HLP to achieve the firm capacity.	19,114 m ³ /d (221 L/s)
	Ultimate 49,586 m ³ /d	Replace all of the Regional HLPs with new pumps to achieve the firm capacity.	49,586 m ³ /d (574 L/s)

5.9 Chlorine Gas System

5.9.1 Current Capacity

Table 1 shows the following net capacities for the chlorine system:

- **Chlorinators:** Net capacity of 103,013 m³/d, which exceeds the ultimate net capacity of 101,069 m³/d.
- **Rotameters:** Net capacity of 43,785 m³/d, which is less than the Phase 1 and ultimate net capacities.
- **Chlorine Gas Container Storage:** Net capacity of 30,941 m³/d with two full chlorine gas containers (and three empty containers)

5.9.2 Upgrade Requirements

Table 14 shows the chlorine gas system upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 14 Chlorine Gas System Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Chlorinators	Phase 1 51,871 m ³ /d	No nothing.	103,013 m ³ /d
	Ultimate 101,069 m ³ /d	Do nothing.	103,013 m ³ /d
V-notch and Rotameters	Phase 1 51,871 m ³ /d	Move the existing 96 kg/d v-notch and rotameter from chlorinators 2 or 3 to chlorinator 1.	77,123 m ³ /d
		Replace the 96 kg/d v-notch and rotameters in chlorinators 2 and 3 with ones with a capacity of 114 kg/d.	51,963 m ³ /d
	Ultimate 101,069 m ³ /d	Replace the 96 kg/d v-notch and rotameter in chlorinator 1 with one with a capacity of 126 kg/d. Replace the 114 kg/d v-notch and rotameters in chlorinators 2 and 3 with ones with a capacity of 226 kg/d.	101,737 m ³ /d 103,013 m ³ /d
Chlorine Gas Containers	Phase 1 51,871 m ³ /d	Provide storage for an additional 5 chlorine gas containers so that 7 full containers (3 empty containers) can achieve the ultimate net rated capacity. This will require the existing chlorine building with monorail, and loading platform, to be extended eastwards as shown in Figure 22. Alternatively, if the existing ZW500 membrane building is repurposed as part of Option 3 of the membrane alternatives, then part, or all of the blower room can be used to store an additional 5+ chlorine containers. During a Workshop on November 19, 2019, the Town stated their preference to be the extension of the existing chlorine building eastwards.	108,292 m ³ /d (based on MDD/ADD of 1.291)
	Ultimate 101,069 m ³ /d	Do nothing.	104,351 m ³ /d (based on MDD/ADD of 1.244)
Other	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> Install a one ton chlorine gas scrubber to ensure health and safety at all times. This scrubber can be located outside at the south east corner of the building just south of the chlorine container loading dock as shown in Figure 22. Program pre-chlorination based on the combined flowmeter readings of the new low lift pumps and the industrial pumps, instead of manually as currently practiced. <p>Note: There is no touch-up chlorination practiced to increase the free chlorine residual in the treated water leaving the plant (if needed). However, the operators have stated that they have no issues maintaining free chlorine residuals greater than 0.2 mg/L in the distribution system. Moreover, alarms in the SCADA system exist to notify the operators if the free chlorine residual leaving the plant drops below the target level to maintain this free chlorine residual in the distribution system.</p>	Impacts plant capacity if there is a shutdown with a chlorine gas leak; or, if chlorine is overdosed to the intake crib.
	Ultimate 101,069 m ³ /d	Do nothing.	-

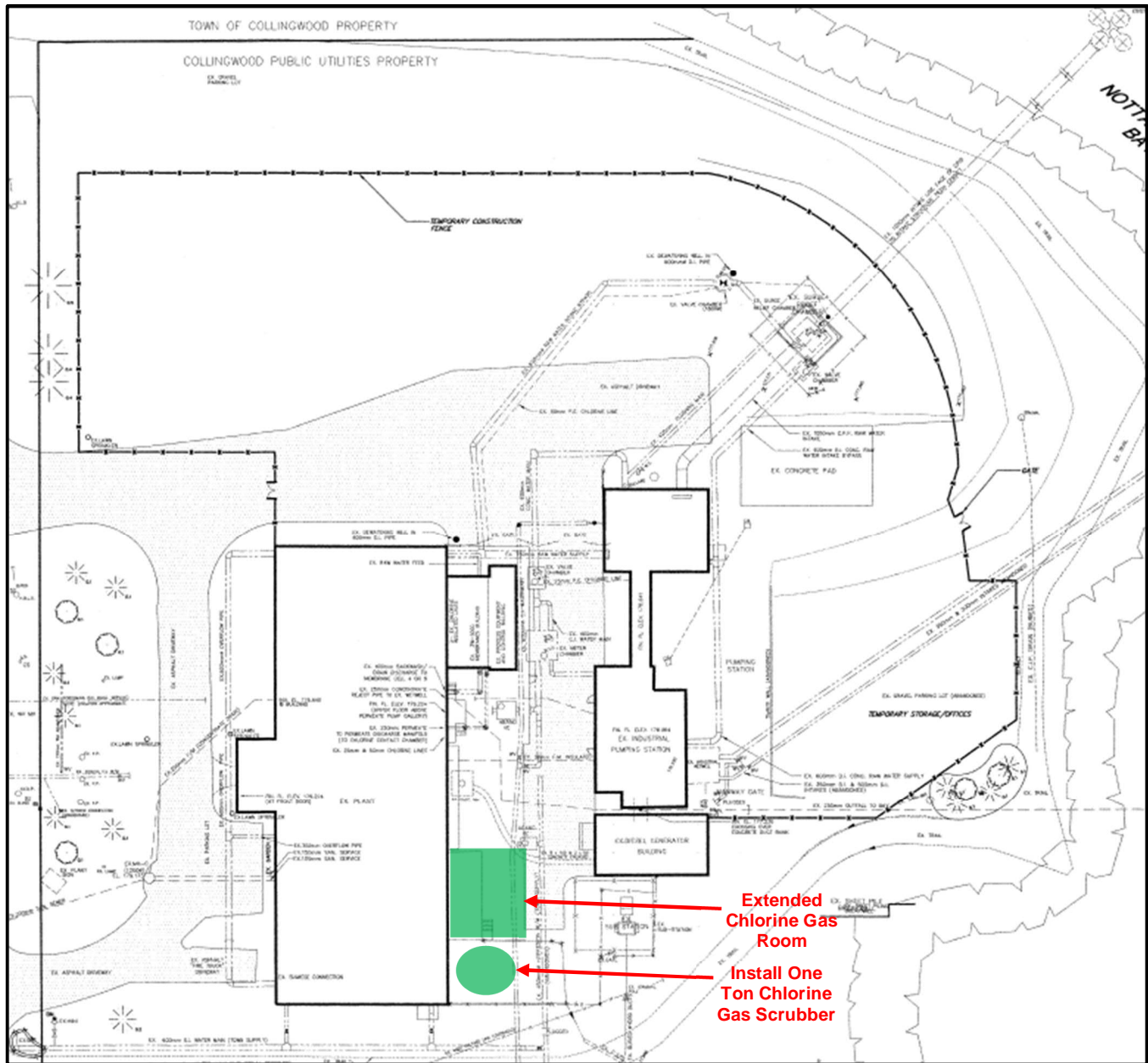


Figure 22 Proposed Extension of Chlorine Building and Addition of Chlorine Gas Scrubber

5.10 Chemical Systems

5.10.1 Current Capacity

The plant’s chemical systems only include the chlorine gas systems discussed above and chemical systems for membranes including the following:

- **12% sodium hypochlorite (for high pH CIP for ZW500/1000 Membranes and CEB for ZW1000 Membranes)** – Equipment distributed throughout the chlorine gas container room, chlorinator room and ZW1000 membrane building.
- **50% citric acid (for low pH CIP for ZW500/1000 Membranes)** – Equipment located within the blower room within the ZW500 membrane building blower room.

There has been no analysis of the chemical systems capacities as there has been no complaints. However, as discussed below, it is recommended that all chemicals be consolidated into a chemical building with proper health and safety features.

5.10.2 Upgrade Requirements

Table 15 shows the membrane chemical system upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 15 Membrane Chemical Systems Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Membrane Chemical Systems	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> Consolidate into a chemical building with proper health and safety features. This building can be located either east of the blower room or east of the raw water building (and integrated into a new membrane building if this is the preferred membrane alternative). This is shown in Figure 23. Chemical systems for the membranes include sodium hypochlorite, citric acid, sodium bisulphite, hydrochloric acid and sodium hydroxide. Size chemical storage tanks for ultimate flow requirements. Above equipment to be part of membrane supplier scope. 	-
	Ultimate 101,069 m ³ /d	Do nothing.	-
Sodium Bisulphite Systems for Membrane Reject to Outfall	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> Install a separate sodium bisulphite system (within the chemical building proposed above) dedicated to the membrane reject being discharged to the outfall. Currently, there is no sodium bisulphite system to dechlorinate the membrane reject being discharged through the existing 250 mm diameter outfall to the Nottawasaga Bay, in case some chlorine residual remains within the membrane reject. Size sodium bisulphite storage tank for ultimate flow requirements and bisulphite feed pumps for Phase 1 flows (or lower flows to allow for better turn down of the chemical metering pumps). 	-
	Ultimate 101,069 m ³ /d	Upsize the sodium bisulphite feed pumps if needed.	-

Given above, the new chemical building/room will store the following chemicals:

- Sodium hypochlorite
- Citric acid
- Sodium hydroxide
- Sodium bisulphite
- Hydrochloric acid

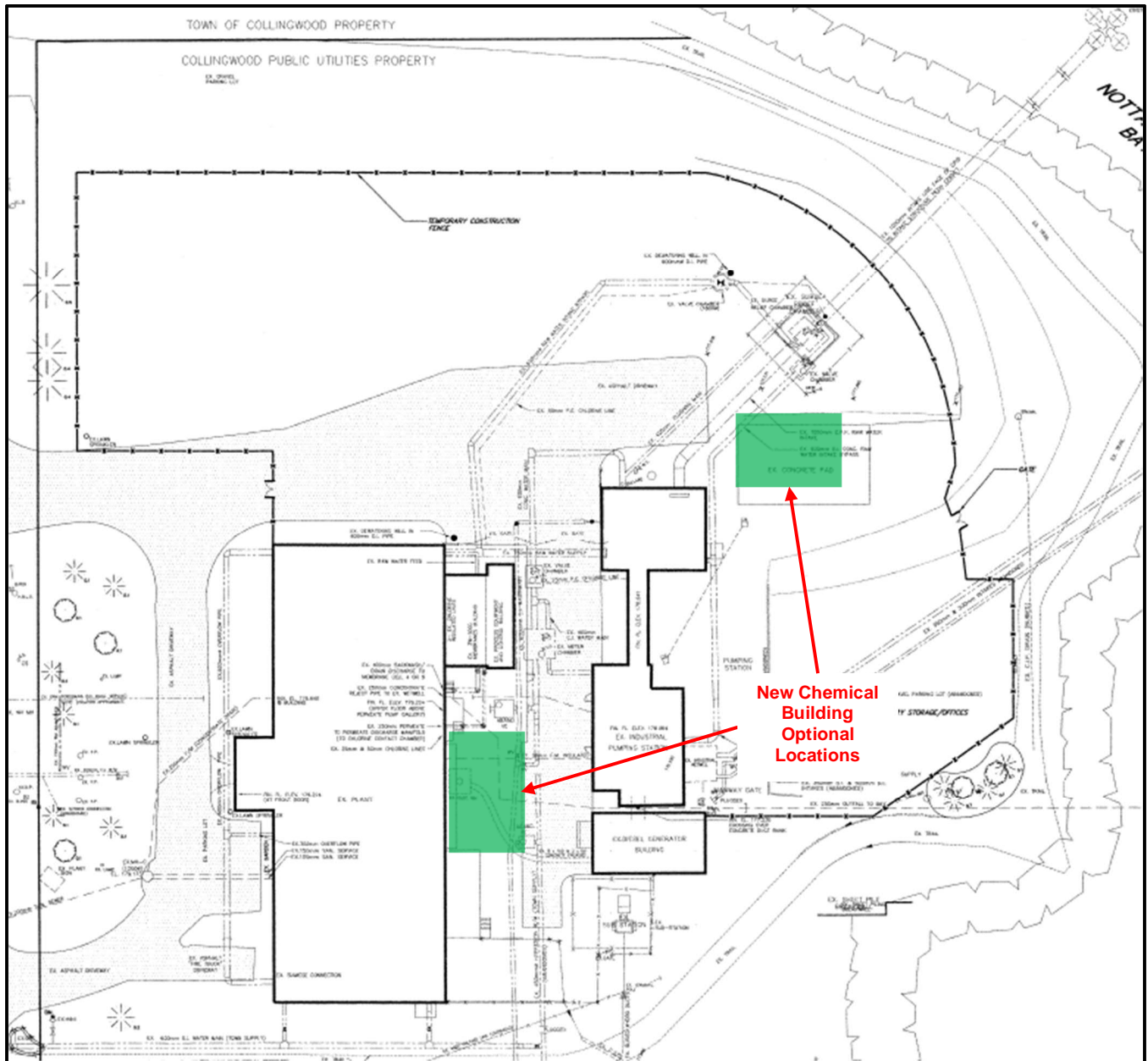


Figure 23 Proposed Optional Locations of New Chemical Building

5.11 Residue Management

5.11.1 Current Capacity

Not applicable.

5.11.2 Upgrade Requirements

Table 16 shows the residue management upgrades to achieve the Phase 1 and ultimate flow requirements. These tanks are different to those supplied with the membrane equipment, e.g., the CIP/neutralization tanks needed within the membrane ancillary building for the preferred membrane alternatives.

Table 16 Residue Management Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Residue Management	Phase 1 51,871 m ³ /d	<p>Install two (2) wastewater equalization tanks (1 duty, 1 standby) below grade to equalize block and bleed wastewater, backwash wastewater from the new membrane system(s), and reject wastewater from the ZW500 system if remaining (tanks to operate as duty at all times except when CIP wastewater from ZW500 tanks is drained to one of the tanks to be manually neutralized prior to discharge into the sanitary sewer). Each tank should be sized for the following:</p> <ul style="list-style-type: none"> • Two (2) backwashes of the new membrane system. • One (1) CIP volume of the existing ZW500 tanks (if remaining). <p>Provide separate wastewater discharge headers to the outfall (when TSS < 25 mg/L) and sanitary sewer.</p> <p>Tank to be located below grade to accept membrane backwash wastewater as required. Location of tank can be east of the ZW500 membrane building or the industrial pumping station as shown in Figure 24.</p>	-
	Ultimate 101,069 m ³ /d	Do nothing.	-

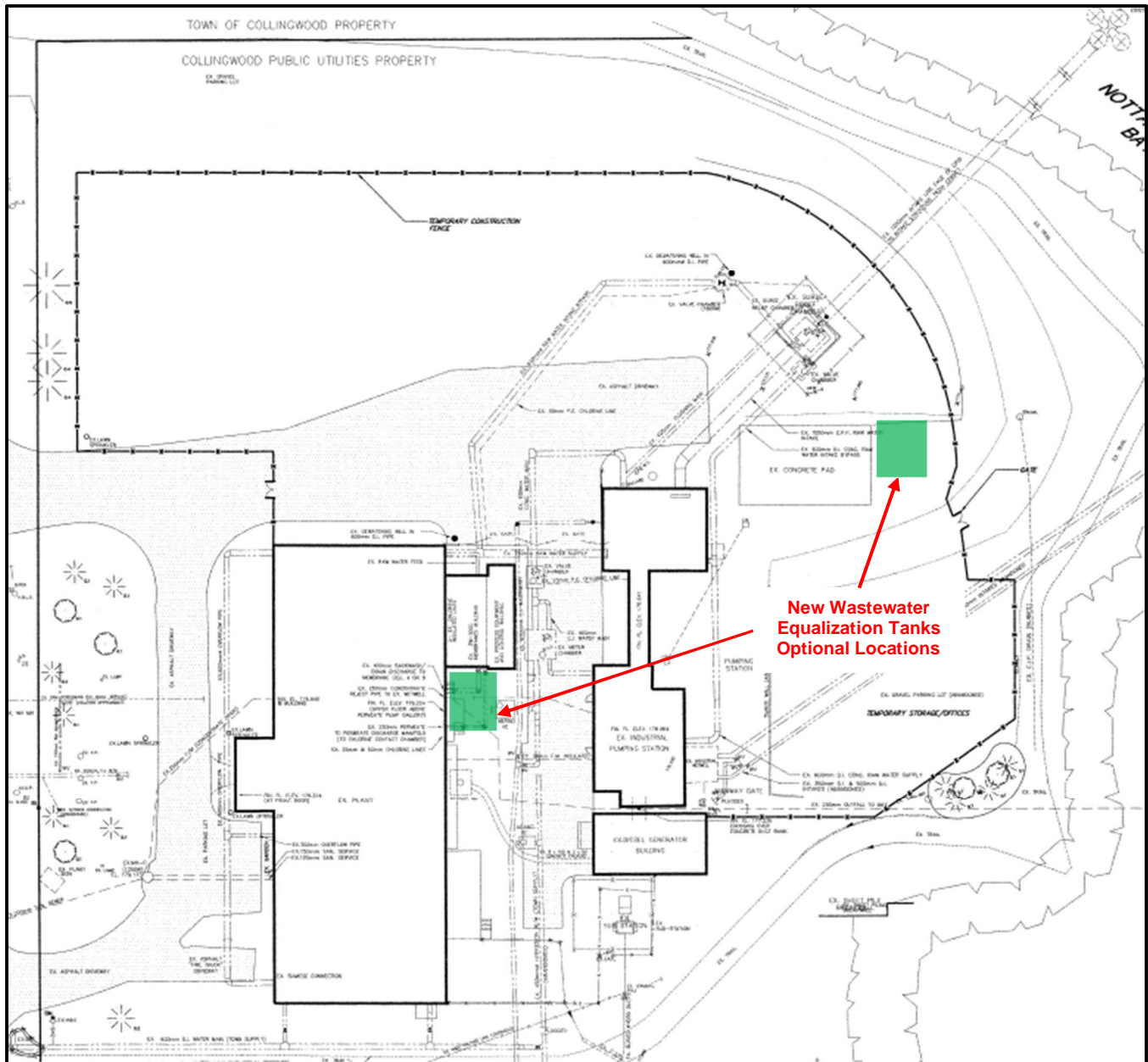


Figure 24 Proposed Optional Locations of Wastewater Equalization Tanks

5.12 Sanitary Sewage Transfer Systems

5.12.1 Current Capacity

Not applicable.

5.12.2 Upgrade Requirements

Table 17 shows the sanitary sewage transfer systems to achieve the Phase 1 and ultimate flow requirements.

Table 17 Sanitary Sewage Transfer Systems to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Sanitary Sewage Transfer Systems	Phase 1 51,871 m ³ /d	Install sanitary sewage transfer system(s) to collect floor drains and any other sanitary waste from the new building(s) and then discharge to the sanitary sewer.	-
	Ultimate 101,069 m ³ /d	Do nothing.	-

5.13 Site Electrical

5.13.1 Current Capacity

A 44 kV primary cable runs from the terminal hydro pole to a 2000kVA pad mounted transformer, which is wound to transform 44kV to 600/347V. A single cable carries 600V power from the substation to the switchgear and motor control centre (MCC) in the diesel generator building. Electric wires then stem from this MCC to the other MCCs, with some electrical manholes existing.

5.13.2 Upgrade Requirements

Table 18 shows the site electrical upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 18 Site Electrical Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Site Electrical Upgrades	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> Replace the existing 2000kVA transformer to a larger transformer to suit the site electrical requirements for Phase 1. Install new electrical manholes and ductbanks as required. Construct new electrical rooms where required for the various processes. 	-
	Ultimate 101,069 m ³ /d	<ul style="list-style-type: none"> Complete similar upgrades to that discussed above for Phase 1. 	-

5.14 Standby Power

5.14.1 Current Capacity

The prime rating and standby rating of the existing standby generator is 1,000 kW and 1,150 kW, respectively. There are four 2,270 diesel storage tanks within the diesel building which may not meet current codes and allowable volumes indoors

5.14.2 Upgrade Requirements

Table 19 shows the standby power upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 19 Standby Power Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Standby Power Upgrades	<p>Phase 1 51,871 m³/d</p>	<ul style="list-style-type: none"> • Demolish the existing industrial building after the new low lift pumping station has been constructed and new industrial pumps are installed and commissioned within the new low lift wet wells. • Construct a new generator building in the location of the industrial building, which is adjacent to the existing generator building. • Install a new generator sized for 100% of the loads at Phase 1 flows (including building loads) within the new generator building. • Install another new outdoor diesel storage tank (sized for 24 hours of storage) at the current location of the temporary ZW1000 membrane building (to be removed as part of this project). Install transfer pumps and day tanks inside the new generator building. Above concepts are shown in Figure 25. 	-
	<p>Ultimate 101,069 m³/d</p>	<ul style="list-style-type: none"> • Remove the existing generator and diesel storage tanks within the existing diesel generator building. • Install a new generator within the original generator building, such that when combined with the Phase 1 generator, 100% of the loads can be on standby power. • Install synchronization for both generators. • Install another new outdoor diesel storage tank next to that installed in Phase 1. Install transfer pumps and day tanks inside the original generator building. 	-

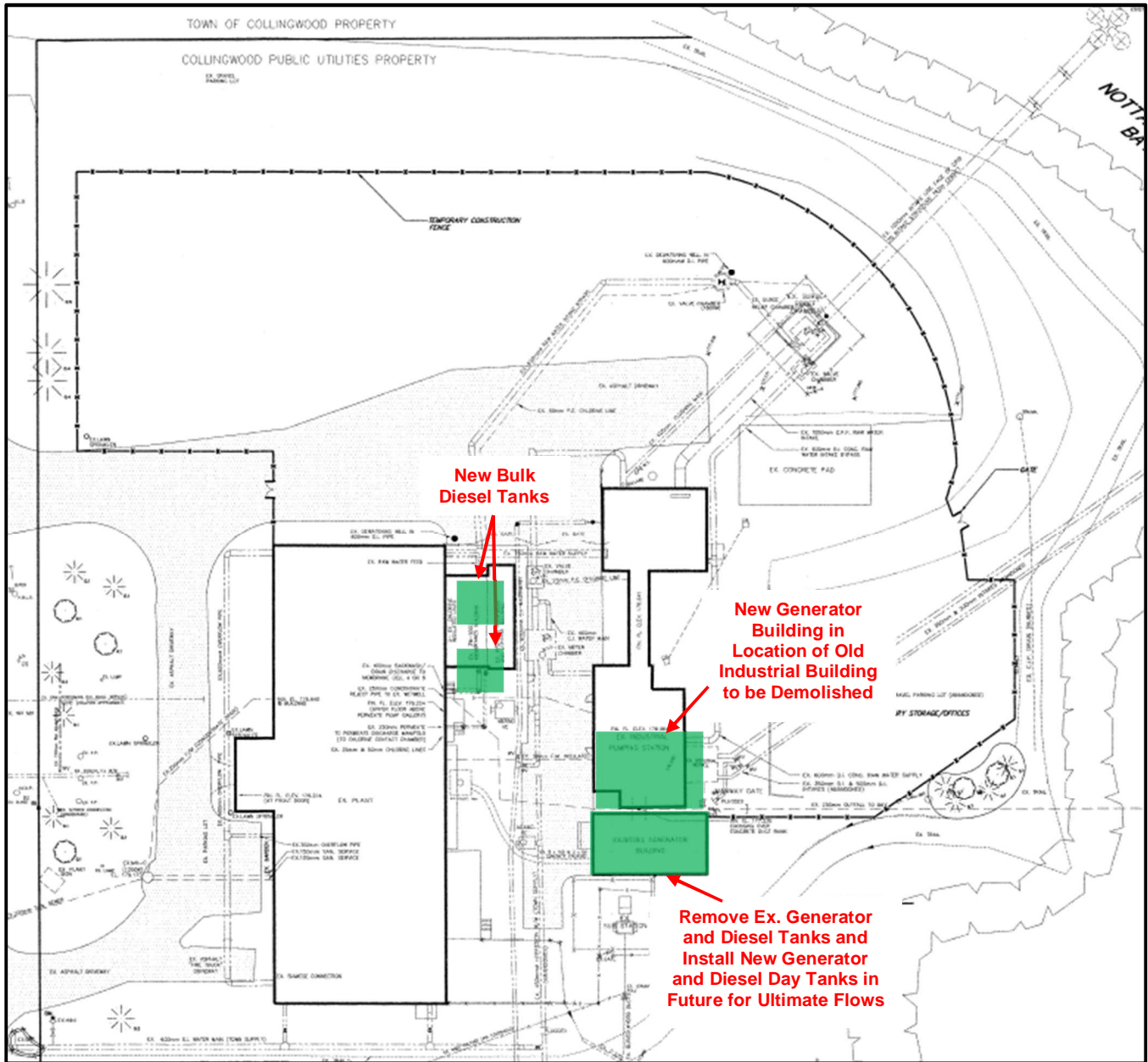


Figure 25 Proposed Standby Power Systems

5.15 SCADA

5.15.1 Current Capacity

There are six (6) Allen Bradley programmable logic controls (PLCs) located at the plant to control the following processes:

- Generator
- Industrial feed pumps
- ZW500 membrane system

- ZW1000 membrane system
- Plant processes
- Regional high lift pumps

5.15.2 Upgrade Requirements

Table 20 shows the SCADA upgrades to achieve the Phase 1 and ultimate flow requirements.

The Town is planning to upgrade the SCADA system (HMI software) and replace the control wiring to the permeate pump room prior to the plant expansion.

Table 20 SCADA Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
SCADA Upgrades	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> • Replace the PLCs and control wiring to all equipment. 	-
	Ultimate 101,069 m ³ /d	<ul style="list-style-type: none"> • Install new PLCs where required. 	-

5.16 Building Services

5.16.1 Current Capacity

Not applicable.

5.16.2 Upgrade Requirements

There are signs of corrosion within the existing ZW500 membrane building which can be attributed to poor ventilation amongst other causes. Moreover, the HVAC equipment is old and require replacement. Table 21 shows the building upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 21 Building Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Building Upgrades	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> • Install dehumidification within the existing ZW500 membrane building if this building is to continue to house membranes since the existing dehumidification equipment has been removed over the years. • Complete the recommended upgrades within the Condition Assessment Report completed by AECOM in November 2019. • Install the following rooms within an administration building (new or repurposed): <ol style="list-style-type: none"> a. Men’s and Women’s washroom/change room complete with showers and lockers – 6 male lockers and 2 female lockers b. Lunch room for up to 8 operators c. Updated lab facilities – existing one can be reused but there should be budget to upgrade it d. Meeting/Training room for 10 to12 people that is AODA compliant for access e. AODA compliant washroom associated with the meeting/training room 	-

		f. There should also be a control room in any membrane facility so if there are two buildings with membranes, there needs to be a control room in each.	
	Ultimate 101,069 m³/d	<ul style="list-style-type: none"> Complete building upgrades where required. 	-

5.17 Site Services

5.17.1 Current Capacity

Not applicable.

5.17.2 Upgrade Requirements

Table 22 shows the site servicing upgrades to achieve the Phase 1 and ultimate flow requirements.

Table 22 Site Servicing Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Building Upgrades	Phase 1 51,871 m³/d	<ul style="list-style-type: none"> Complete site grading, landscaping and yard piping. 	-
	Ultimate 101,069 m³/d	<ul style="list-style-type: none"> Complete site grading and landscaping. 	-

6. Alternatives for Further Evaluation

Table 23 shows the processes that have alternatives for further evaluation as discussed in Section 5. It is assumed that the upgrades recommended within this report for the other processes will proceed with an opinion of cost of these processes provided in Section 13.

Table 23 Alternatives for Further Evaluation

Option #	Alternative
Membrane Alternatives	
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building
Disinfection Alternatives	
4	Chlorinate in New CT Chambers
5	Practice UV Disinfection and Chlorinate in New CT Chambers

7. Technical Evaluation of Short-Listed Alternatives

7.1 Overview

This section describes the results of the detailed technical evaluation for the short-listed alternatives.

7.2 Evaluation Criteria and Weights

The short-listed alternatives were assessed relative to each other and evaluated against a set of pertinent criteria and factors. The proposed evaluation criteria are based on four primary criteria typically used in the water industry for the selection of alternatives as part of a Cost-Benefit analysis:

- Water Quality
- Technical Considerations
- Social Considerations
- Natural Environmental Considerations

Secondary criteria or sub-criteria were identified within each primary criterion. The secondary criteria aim to describe specific aspects of the criteria to be evaluated. Weighting factors that correspond to the degree of importance within the overall evaluation scheme were assigned to each of the primary and secondary evaluation criteria based on project team judgment and previous experience in similar projects.

The proposed evaluation criteria and weighting factors, grouped by primary categories, are shown in Table 24 for the membrane alternatives and Table 25 for the disinfection alternatives. The only difference between the tables is the elimination of the primary criteria *Water Quality* for the membrane alternatives since all of the membrane alternatives will provide similar performance credits in Ontario.

It is important to note that the decision model considers factors not directly related to costs. As such, economic considerations (capital and O&M costs) were not included as part of the technical evaluation criteria. Weightings for each criterion were developed and used during the Cost-Benefit analysis, with results presented in succeeding sections of this report.

Table 24 Evaluation Criteria and Weighting – Membrane Alternatives

Primary Criteria	Weight	Secondary Criteria	Relative Weight	Absolute Weight
Technical Considerations	80	Operation and maintenance requirements, including process complexity	50.0	40
		Ease of implementation (construction schedule)	30.0	24
		Process robustness	20.0	16
Maximum Sub-total Score – Technical Considerations				80
Social Considerations	20	Minimize footprint and site impacts /architectural aesthetics (plant appearance)	70.0	14
		Minimize truck traffic (during construction and operation)	30.0	6
Maximum Sub-total Score – Social Considerations				20
Total Overall Maximum Score				100

Table 25 Evaluation Criteria and Weighting – Disinfection Alternatives

Primary Criteria	Weight	Secondary Criteria	Relative Weight	Absolute Weight
Water Quality	35	Pathogen control	100.0	35
Maximum Sub-total Score – Water Quality				35
Technical Considerations	50	Operation and maintenance requirements, including process complexity	50.0	25
		Ease of implementation (construction schedule)	30.0	15
		Process robustness (multi-barrier treatment)	20.0	10
Maximum Sub-total Score – Technical Considerations				50
Social Considerations	15	Minimize footprint and site impacts /architectural aesthetics (plant appearance)	66.7	10
		Minimize truck traffic (during construction and operation)	33.3	5
Maximum Sub-total Score – Social Considerations				15
Total Overall Maximum Score				100

The **primary criteria** listed below were also considered for evaluation purposes, however they were not included for the following reasons:

- **Regulatory risk:** Each of the short-listed alternatives is expected to receive approval from the MECP.
- **Natural Environmental Considerations:** This primary criterium normally includes the following secondary criteria: *minimize air emissions* and *minimize residual impacts*. There is negligible differentiation between the short-listed alternatives for these criteria.

The **secondary criteria** listed below were also considered for evaluation purposes, however they were not included since there is negligible differentiation between the short-listed alternatives for these criteria and there was a preference for secondary criteria that have considerable differences between the various alternatives.

- **Water Quality (applicable to the disinfection alternatives only)**
 - *Minimize disinfection by-products* – The target free chlorine residual leaving the plant will be identical at 1.0 mg/L minimum (average of 1.5 mg/L) regardless of the preferred disinfection alternative.
 - *Flexibility for future objectives including taste and odour control and removal of emerging contaminants* – The Town has had no complaints for taste and odour control and there are currently no concerns of emerging contaminants. As a result, the Town prefers that the UV disinfection system (if chosen as the preferred alternative) be installed for disinfection only with no provision for future UV oxidation. If future UV oxidation is required, the Town will then review the replacement of the UV disinfection system with a UV oxidation system.
- **Technical Considerations (applicable to the membrane and disinfection alternatives)**
 - *Compatibility with existing systems and site* – Only alternatives that are compatible with the existing systems and site were short listed.
 - *Flexibility for expansion (future phases)* – All alternatives considered can meet ultimate flows.
 - *Proven track record* – All alternatives considered have a proven track record.
 - *Safety requirements* – All alternatives considered are safe.
- **Social Considerations (applicable to the membrane and disinfection alternatives)**

- *Minimize noise (during operation)* – There are no noise differences between the short-listed alternatives.
- *Minimize odour (during operation)* – There are no odour differences between the short-listed alternatives.

7.3 Technical Evaluation

The detailed technical evaluation process applied herein follows the evaluation methodology explained in Section 7.2.

The evaluation methodology compares the features of each short-listed alternative, relative to each other. Each short-listed alternative has been assigned a technical score out of 10 for each evaluation criteria. The assigned score represents how well the specific alternative meets the criterion under consideration - the higher the ability to perform or meet the criterion, the higher the score assigned. The short-listed alternative with the highest score suggests that it provides the most “benefits” to this project.

A summary of the technical scoring for the short-listed alternatives are provided at the following locations:

- **Membrane Alternatives:** Table 26 and graphically represented in Figure 26.
- **Disinfection Alternatives:** Table 27 and graphically represented in Figure 27

Details of the complete evaluation of the short-listed alternatives, as well as the rationale upon which the scores have been relatively assigned, are presented in **Appendix A**. The individual scores for each short-listed alternative were determined by the Town of Collingwood and the Ainley/AECOM project team.

Table 26 Summary of Technical Scores for *Membrane Alternatives*

Option	Alternative Description	Total Technical Score	Technical Ranking
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	52.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	56.0	3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	67.6	2
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	79.8	1

Table 27 Summary of Technical Scores for *Disinfection Alternatives*

Option	Alternative Description	Total Technical Score	Technical Ranking
4	Chlorinate in New CT Chambers	49.0	2
5	Practice UV Disinfection and Chlorinate in New CT Chambers	74.0	1

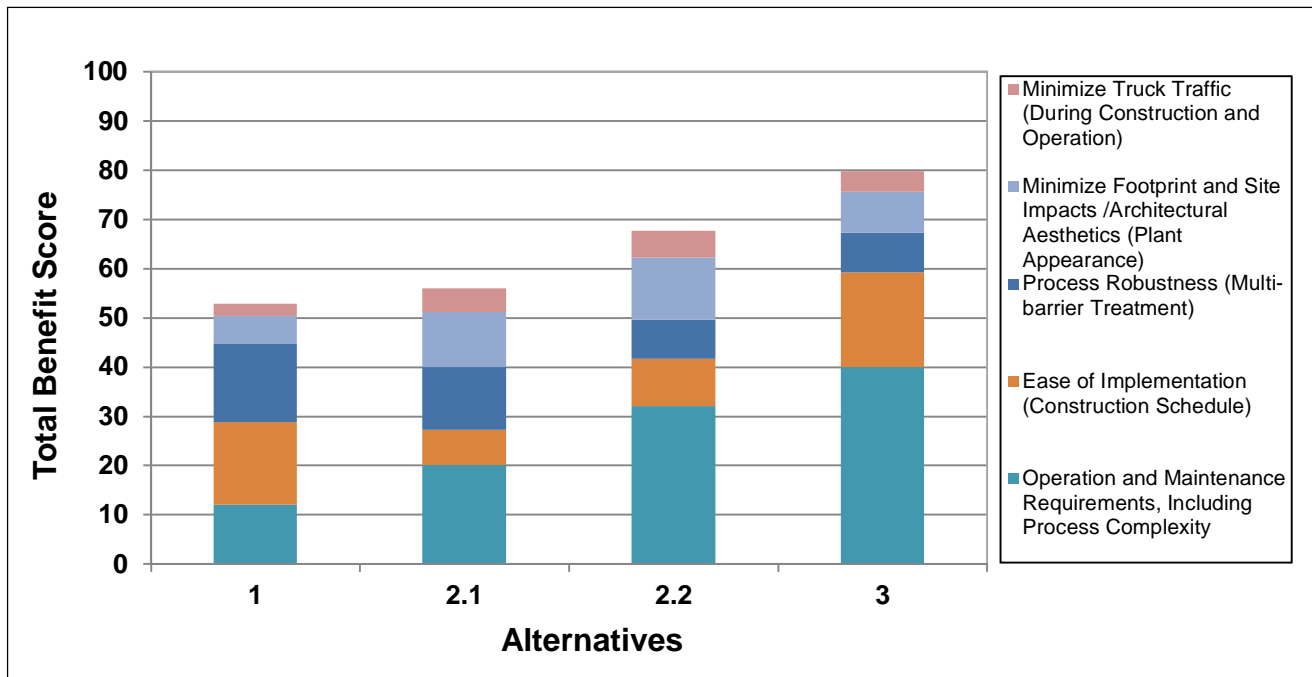


Figure 26 Technical Scoring Results for *Membrane* Alternatives

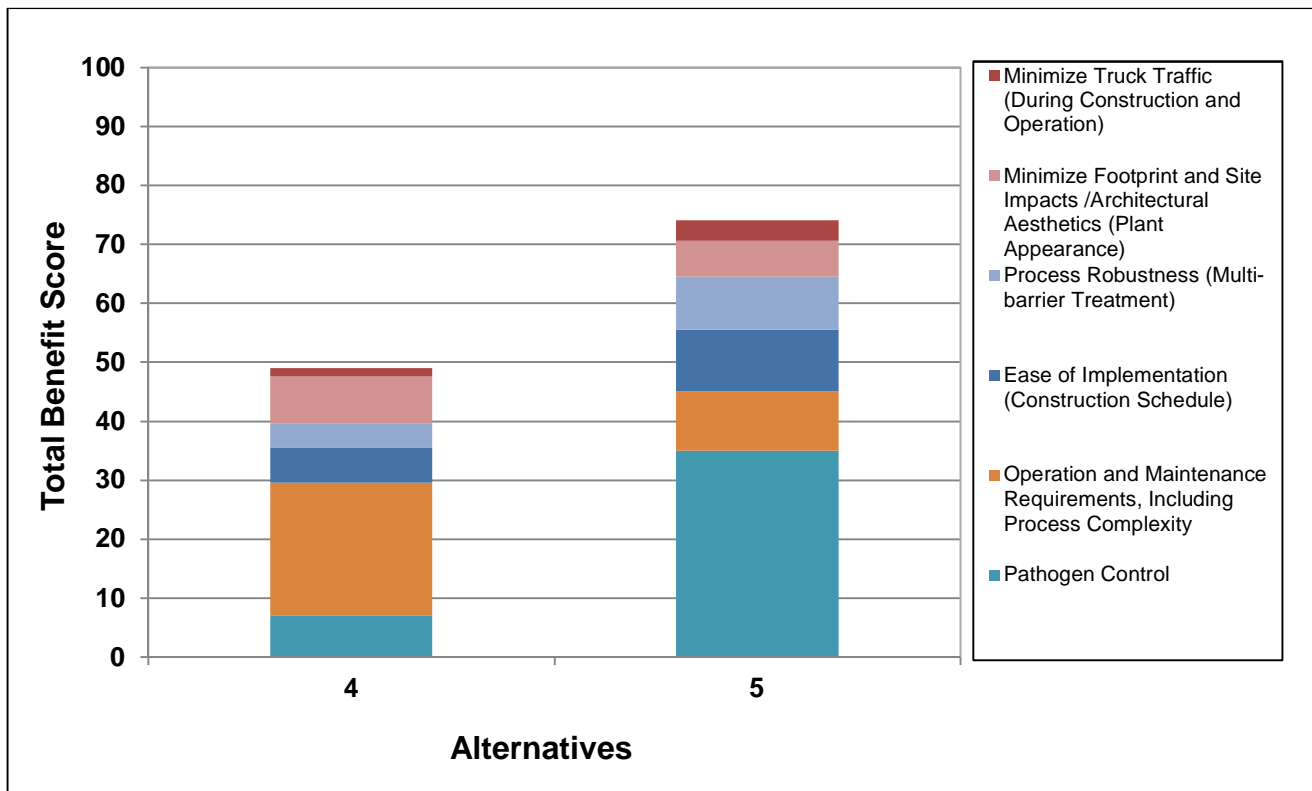


Figure 27 Technical Evaluation Scoring Results for *Disinfection* Alternatives

8. Cost Evaluation of Short-Listed Alternatives

8.1 Cost Assumptions

The following general assumptions were made for the short-listed alternatives:

- A US\$ conversion rate of US\$1 = CDN\$1.30 was assumed. This can change by the time the contract is tendered.
- Estimates of probable capital costs have been developed based on prices obtained from suppliers and from data in AECOM's possession from projects of similar nature and scope. However, the cost estimates presented in this report may be significantly affected by a number of factors that cannot be readily forecasted. This includes volume of work in hand or in prospect for contractors or suppliers at the time of the tender calls, future labour contract settlements, inflation and market escalation, amongst others. For this reason, the actual costs may be different from those presented in this report.
- For the purpose of a relative economic evaluation amongst all short-listed alternatives under consideration, it should be highlighted that costs for all alternatives were calculated under the same assumptions and rationale. Should prices change over time, the changes would apply proportionally for all short-listed alternatives and the results of the comparative cost evaluation would remain unaltered.
- Operation and maintenance costs for comparing short-listed alternatives in this evaluation assume the following:
 - Chlorine gas costs = \$3.03/kg
 - 12% Sodium hypochlorite costs = \$0.47/L
 - 50% Citric acid costs = \$1.10/L
 - 50% Sodium hydroxide costs = \$0.94/L
 - 38% Sodium bisulphite costs = \$0.31/L
 - 12% Hydrochloric Acid = \$0.45/L
 - Power costs = \$0.151/kW.h
 - Full time employee (FTE) (operator or millwright) = \$100/hr
 - Annual equipment maintenance = 3% of equipment costs
- All taxes (including the 13% HST) have been excluded.
- Life cycle costs have been estimated based on the following:
 - Phase 1 works will be completed by 2024.
 - Ultimate works will be completed by 2044 (understanding that the Town would most likely stage the works between Phase 1 flows and ultimate flows). 2044 was used instead of 2038 for the following reasons:
 - The intake PTTW is the limiting factor. The final membrane system design may allow for the instantaneous raw water flowrate to allow for flows up to 2044 projections.
 - 2044 allows for two membrane replacement cycles.
 - An annual inflation rate of 3.0% and an annual interest rate of 5.5% will be assumed to give a market/discount rate of 2.5%.
 - A net present value analysis will be conducted based on above and a 30-year operation and maintenance period at average day flows between 2024 and 2054 allowing for at least two membrane replacement from the 2024 expansion and then one membrane replacement for the 2044 expansion.
- For the disinfection alternatives, the capital, operating and net present value for the chlorine dosing equipment (not the CT chambers) will be ignored since they would have identical costs for both chlorine only (option 4) and UV/chlorine (option 5) since the CT chambers would have been designed given an identical free chlorine residual. So only the capital costs associated with the CT chambers will be considered regarding the chlorine portion of the evaluation.

8.2 Alternative Estimates

Table 28 and Table 29 summarize the capital and operating cost estimates and net present value for the short-listed *membrane* and *disinfection* alternatives, respectively.

Table 28 Capital and Operating Cost Estimates and NPV for Short-Listed *Membrane* Alternatives

Option	Alternative Description	Capital Costs (\$M)	Operating Costs (\$M)	Net Present Value (\$M)
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	\$55.1	\$22.6	\$77.6
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	\$46.6	\$14.7	\$61.3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	\$40.7	\$10.8	\$51.6
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	\$39.1	\$9.6	\$48.6

Table 29 Capital and Operating Cost Estimates and NPV for Short-Listed *Disinfection* Alternatives

Option	Alternative Description	Capital Costs (\$M)	Operating Costs (\$M)	Net Present Value (\$M)
4	Chlorinate in New CT Chambers	\$9.2	\$0.06	\$9.3
5	Practice UV Disinfection and Chlorinate in New CT Chambers	\$6.1	\$0.86	\$7.0

9. Cost-Benefit Analysis Results

9.1 Overview

The Cost-Benefit analysis is a value analysis tool that provides an alternative means to include costs in the evaluation process. The Cost-Benefit analysis is carried out as follows:

- Total technical score obtained for each short-listed alternative, as presented in Section 7.3, are carried forward.
- The calculated net present value (NPV) for each short-listed alternative has been presented in Section 8.2 with a cost score calculated based on the weightings of a technical versus cost rating of 70% to 30%, which provides a greater emphasis on technical features, rather than costs.
- The cost score is added to the technical score to result in a *Total Score* with the highest score being the preferred alternative.

9.2 Cost-Benefit Analysis

The results of the Cost-Benefit analysis for the *membrane* alternatives are shown in Table 30 and plotted in Figure 28. Similarly, the results for the *disinfection* alternatives are shown in Table 31 and plotted in Figure 29. The detailed technical evaluation scoring and results are shown in **Appendix A**. As shown, the following alternatives had the highest Cost-Benefit Analysis scores:

- **Membrane Alternative:** Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building.
- **Disinfection Alternative:** Practice UV Disinfection and Chlorinate in New CT Chambers

Table 30 Cost-Benefit Analysis for Membrane Alternatives

Option	Description	Scenario No.1 (Original Weighting)				
		Net Present Value (\$M)	Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	\$77.6	62.7	52.8	55.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	\$61.3	79.4	56.0	63.0	3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	\$51.6	94.4	67.6	75.6	2
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	\$48.6	100.0	79.8	85.9	1

Notes:

1. Sample calculation is shown below for Option 2.1:

$\begin{aligned} \text{Cost Score} &= \frac{\text{Lowest Option NPV}}{\text{Option 2.1 NPV}} \times 100\% \\ &= \frac{\$48.6\text{M}}{\$61.3\text{M}} \times 100\% \\ &= 79.4 \end{aligned}$	$\begin{aligned} \text{Total Score} &= (\text{Cost Score} \times 30\%) + (\text{Technical Score} \times 70\%) \\ &= (79.4 \times 30\%) + (56.0 \times 70\%) \\ &= 23.8 + 39.2 \\ &= 63.0 \end{aligned}$
--	---

Table 31 Cost-Benefit Analysis for Disinfection Alternatives

Option	Description	Scenario No.1 (Original Weighting)				
		Net Present Value (\$M)	Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking
4	Chlorinate in New CT Chambers	\$9.3	75.2	49.0	56.9	2
5	Practice UV Disinfection and Chlorinate in New CT Chambers	\$7.0	100.0	74.0	81.8	1

Notes:

1. Sample calculation is shown below for Option 4:

$\begin{aligned} \text{Cost Score} &= \frac{\text{Lowest Option NPV}}{\text{Option 5 NPV}} \times 100\% \\ &= \frac{\$7.0\text{M}}{\$9.3\text{M}} \times 100\% \\ &= 75.2 \end{aligned}$	$\begin{aligned} \text{Total Score} &= (\text{Cost Score} \times 30\%) + (\text{Technical Score} \times 70\%) \\ &= (75.2 \times 30\%) + (49.0 \times 70\%) \\ &= 22.6 + 34.3 \\ &= 56.9 \end{aligned}$
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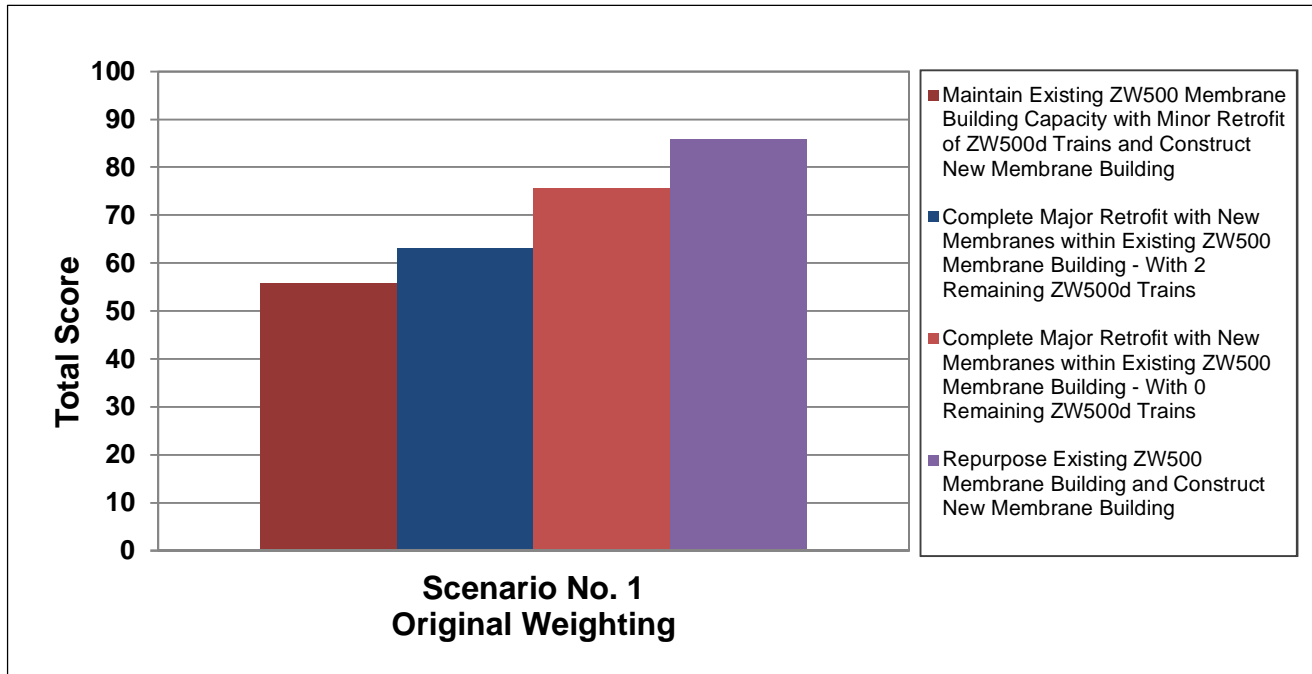


Figure 28 Cost-Benefit Analysis Results for *Membrane Alternatives*

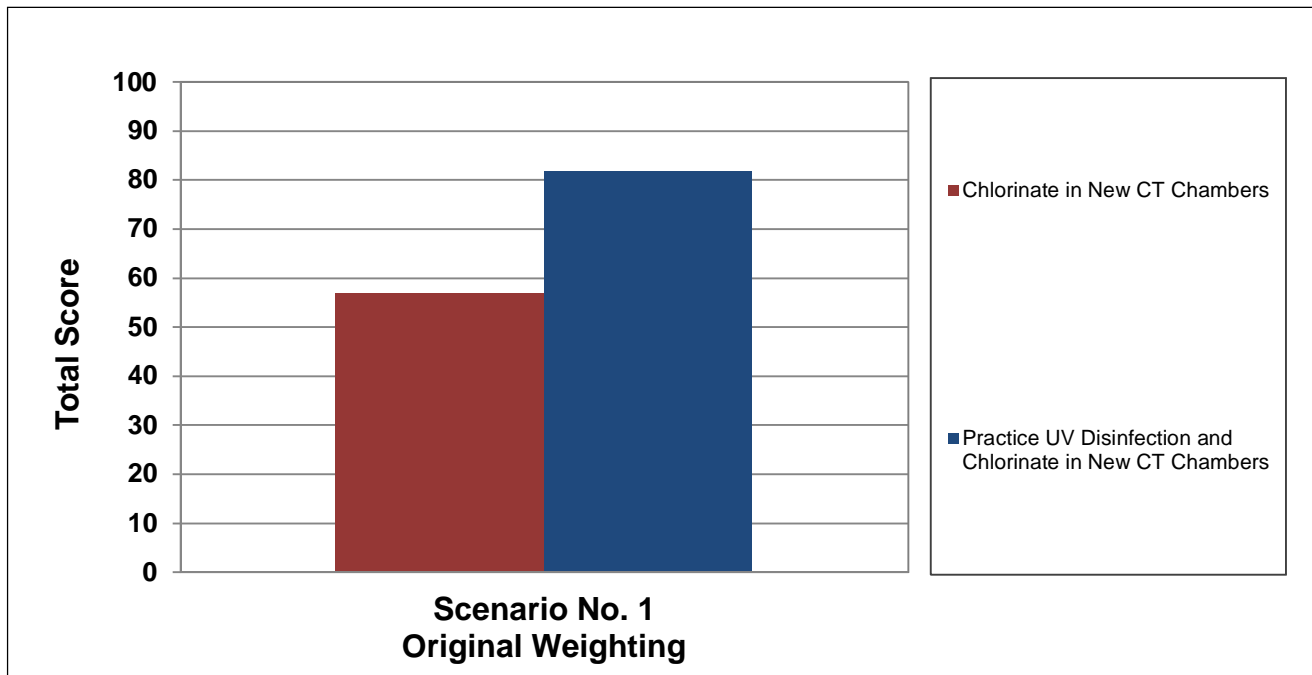


Figure 29 Cost-Benefit Analysis Results for *Disinfection Alternatives*

10. Sensitivity Analysis

10.1 Overview

The decision model incorporated a sensitivity analysis exercise that helps examine the overall Benefit-to-Cost ratio results based on different criteria weightings. This analysis helps us to understand whether the short-listed alternative with the highest Benefit-to-Cost ratio remains the highest scoring alternative when criteria weighting factors are altered.

The model was run for an additional scenario that had different technical and cost weighting factors. This allowed the project team to observe whether the changes had an effect on the original results and also indicates whether the preferred option favours one set of criteria over the other. The technical criteria weights are explained in detail in Section 10.2 below.

10.2 Sensitivity Analysis Results based on Different Evaluation Criteria Weights

The original and modified weighting scenarios for the short-listed alternative sensitivity analysis are described in Table 32 for the *membrane* alternatives and Table 33 for the *disinfection* alternatives.

Table 32 Technical Criteria Weights for Sensitivity Analysis – Membrane Alternatives

Primary Criteria	Secondary Criteria	Scenario 1 (Original Weighting)			Scenario 2 (Modified Weighting)		
		Primary Criteria Weight	Secondary Criteria Relative Weight	Absolute Weighting	Primary Criteria Weight	Secondary Criteria Relative Weight	Absolute Weighting
Technical Considerations	Operation and maintenance requirements, including process complexity	80	50	40	65	53.8	35
	Ease of implementation (construction schedule)		30	24		38.5	25
	Process robustness		20	16		7.7	5
Social Considerations	Minimize footprint and site impacts /architectural aesthetics (plant appearance)	20	70	14	35	71.4	25
	Minimize truck traffic (during construction and operation)		30	6		28.6	10

Table 33 Technical Criteria Weights for Sensitivity Analysis – *Disinfection* Alternatives

Primary Criteria	Secondary Criteria	Scenario 1 (Original Weighting)			Scenario 2 (Modified Weighting)		
		Primary Criteria Weight	Secondary Criteria Relative Weight	Absolute Weighting	Primary Criteria Weight	Secondary Criteria Relative Weight	Absolute Weighting
Water Quality	Pathogen control	35	100.0	35	25	100.0	25
Technical Considerations	Operation and maintenance requirements, including process complexity	50	50.0	25	45	66.7	30
	Ease of implementation (construction schedule)		30.0	15		22.2	10
	Process robustness (multi-barrier treatment)		20.0	10		11.1	5
Social Considerations	Minimize footprint and site impacts /architectural aesthetics (plant appearance)	15	66.7	10	30	66.7	20
	Minimize truck traffic (during construction and operation)		33.3	5		33.3	10

The modified weights for Scenario No. 2 were applied to the technical scores, presented in Section 7.3. The NPV calculated for the short-listed alternatives, as shown in Section 8.2, were used for the calculation of the revised Benefit-to-Cost ratio. **The overall scores for Scenario No. 2 were calculated based on 50% of the weight given to technical aspects and 50% based on cost.**

Recall that the Cost-Benefit analysis in Section 9.2 was performed using Scenario No. 1 (original weighting) based on an overall weigh of 70% for technical criteria and 30% for cost based on the net present value of the different alternatives. The results for Scenario No. 2 in addition to those obtained for Scenario No.1 are presented in Table 34 and Figure 30 for the *membrane* alternatives, and Table 35 and Figure 31 for the *disinfection* alternatives.

Table 34 Sensitivity Analysis Results – Benefits-to-Cost Ratio Results – Membrane Alternatives

Option	Description	Net Present Value (\$M)	Scenario No.1 (Original Weighting)				Scenario No.2 (Modified Weighting)			
			Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking	Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	\$77.6	62.7	52.8	55.8	4	62.7	47.0	54.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	\$61.3	79.4	56.0	63.0	3	79.4	57.0	68.2	3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	\$51.6	94.4	67.6	75.6	2	94.4	72.0	83.2	2
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	\$48.6	100.0	79.8	85.9	1	100.0	79.5	89.8	1

Table 35 Sensitivity Analysis Results – Benefits-to-Cost Ratio Results – Disinfection Alternatives

Option	Description	Net Present Value (\$M)	Scenario No.1 (Original Weighting)				Scenario No.2 (Modified Weighting)			
			Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking	Cost Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking
4	Chlorinate in New CT Chambers	\$9.3	75.2	49.0	56.9	2	75.2	57.0	66.1	2
5	Practice UV Disinfection and Chlorinate in New CT Chambers	\$7.0	100.0	74.0	81.8	1	100.0	67.5	83.8	1

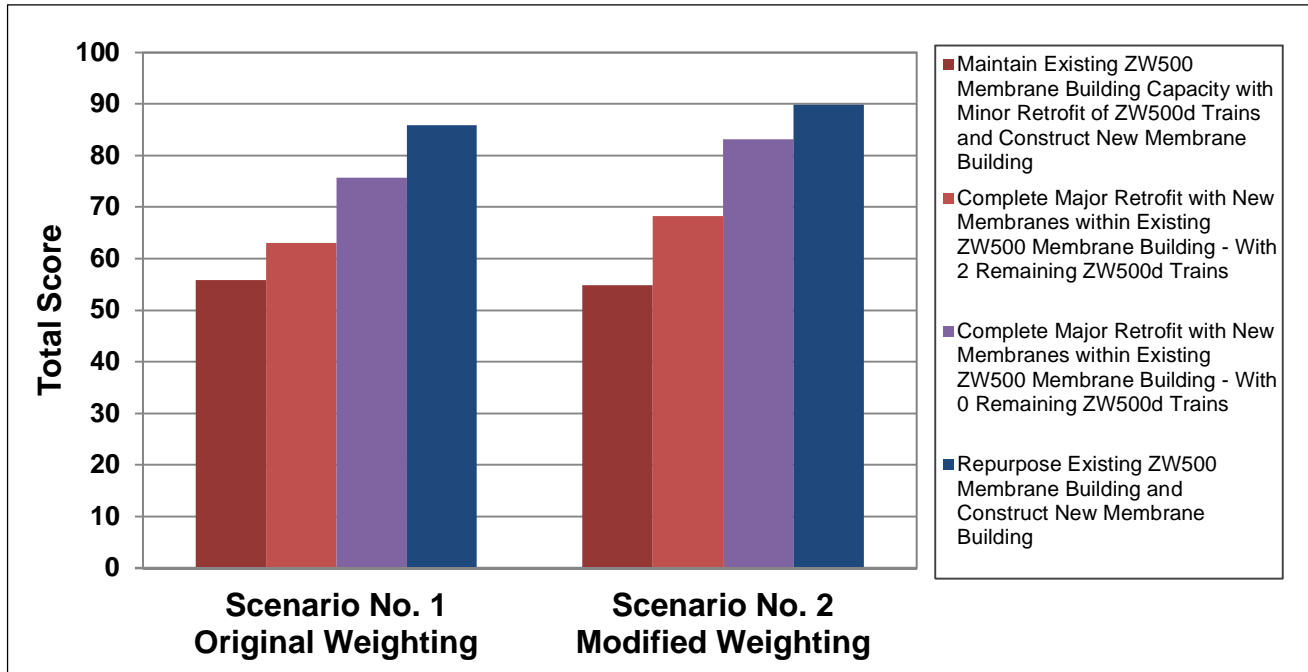


Figure 30 Sensitivity Analysis Results for *Membrane Alternatives*

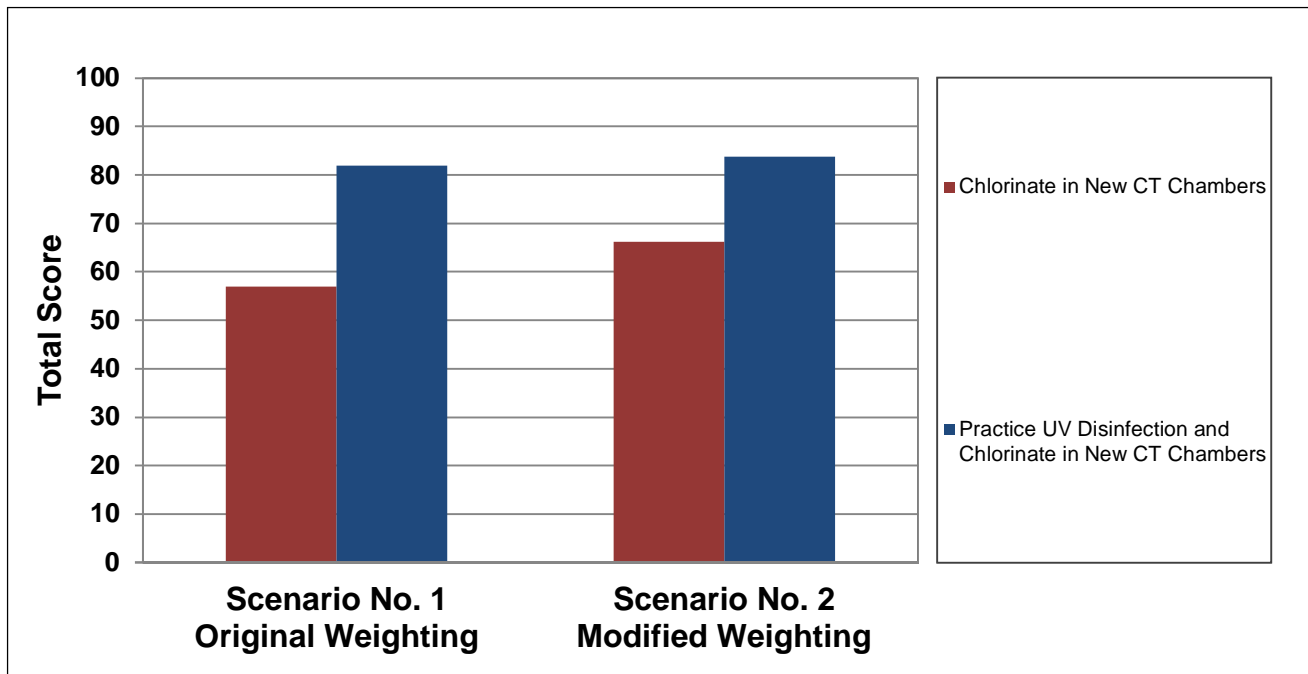


Figure 31 Sensitivity Analysis Results for *Disinfection Alternatives*

From the results of the sensitivity analysis exercise, the following alternatives had the highest cost-benefit analysis scores:

- **Membrane Alternative:** Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building
- **Disinfection Alternative:** Practice UV Disinfection and Chlorinate in New CT Chambers

11. Preferred Alternatives

Given the Cost-Benefit analysis in Sections 9.2 and 10.2 (sensitivity analysis), AECOM recommends the following updates to the *membrane* (Table 36) and *disinfection* (Table 37) systems to achieve the Phase 1 and ultimate flow requirements. It is important to note that the recommended option will not require additional temporary units of any sort to be in place during construction, maintaining plant capacity through appropriate provisions outlined during the staging phase.

Table 36 Membrane Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Membranes	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> • Abandon existing ZW500 trains. • Repurpose the ZW500 membrane building as the new administration building. • Construct new two-storey membrane building sized for ultimate flows with membranes installed to achieve Phase 1 net capacity only. • Install chemical systems for entire plant within this new building. These include sodium hypochlorite, citric acid, sodium bisulphite, hydrochloric acid, and sodium hydroxide. 	-
	Ultimate 101,069 m ³ /d	<ul style="list-style-type: none"> • Install new membranes within membrane building constructed as part of Phase 1. 	-

Table 37 Disinfection Upgrades to Achieve the Phase 1 and Ultimate Flow Requirements

Equipment	Net Flowrate Requirements	Recommended Upgrades	Firm Capacity
Disinfection	Phase 1 51,871 m ³ /d	<ul style="list-style-type: none"> Install minimum two UV reactors (1 duty, 1 standby) for 0.5-log <i>Giardia</i> inactivation, each UV reactor sized for a minimum diameter of 600 mm. The UV reactors can be located within a UV building on top of the new CT chambers discussed below. Estimated footprint of UV building is 16mx10m. Install one CT chamber for 4-log virus inactivation sized for a minimum effective storage volume of 808 m³ with baffles to provide a minimum baffling factor (T10/T) of 0.7. Given a side water depth (SWD) of 3.15m, this requires a footprint of 273m² (assuming 6% footprint to be occupied by baffles), with one possible dimension being 13mx21m. The ideal location of this new CT chamber will be to the north of the ZW500 membrane building to minimize the length of outlet pipe to the existing CT chambers and HLWW mentioned below. Use existing CT chambers for high lift pump equalization by hydraulically connecting these chambers to the existing HLWW by cutting openings in the walls between both tanks at the CT chambers finished floor elevation. This will result in the required 15 minutes high lift pump equalization volume given ultimate net flows of 101,069 m³/d at the current SWD of 4.45m of the HLWW (with 1.5m high lift pump suction pipe submergence excluded from the operating volume calculations). At Phase 1 flows of 51,871 m³/d, the high lift pump equalization will be 29 minutes. 	-
	Ultimate 101,069 m ³ /d	<ul style="list-style-type: none"> Install 3rd duty UV reactor (if needed, depending on UV reactor size installed in Phase 1) for 0.5-log <i>Giardia</i> inactivation. Install another CT chamber identical to that in Phase 1. 	-

Figure 32 presents the proposed new treatment train resulting from the recommended upgrades and the Cost-Benefit analysis. Similarly, Figure 33 shows a conceptual layout of the preferred alternatives and required upgrades to meet Phase 1 and ultimate flows. During detailed design, there will be opportunities to optimize the layout for both phases.

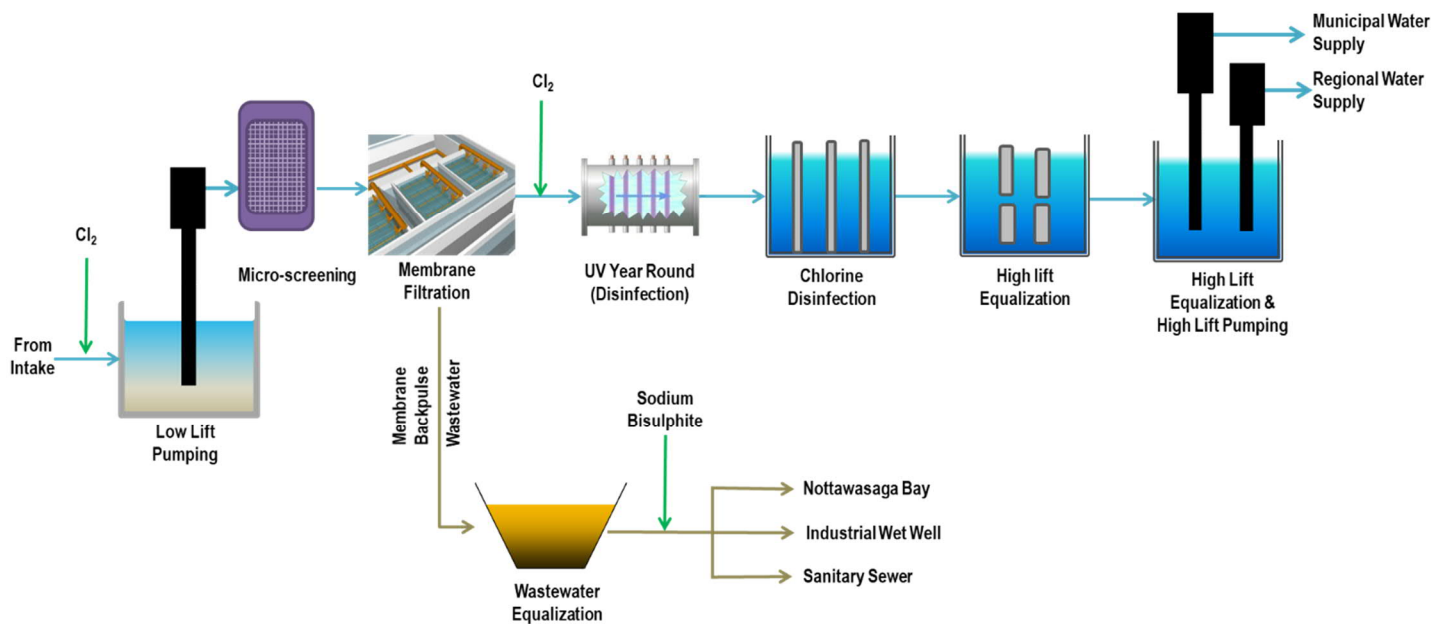
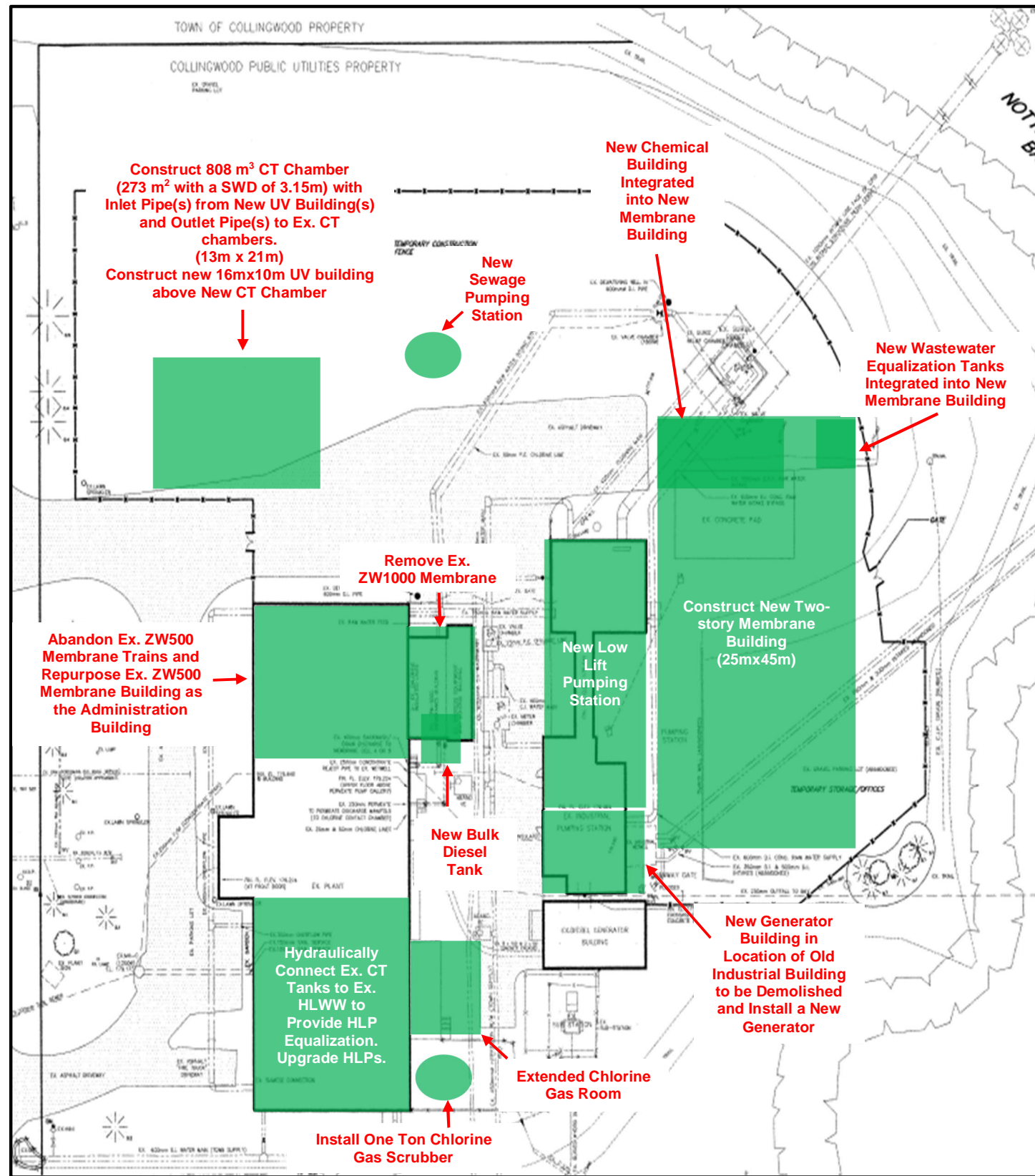
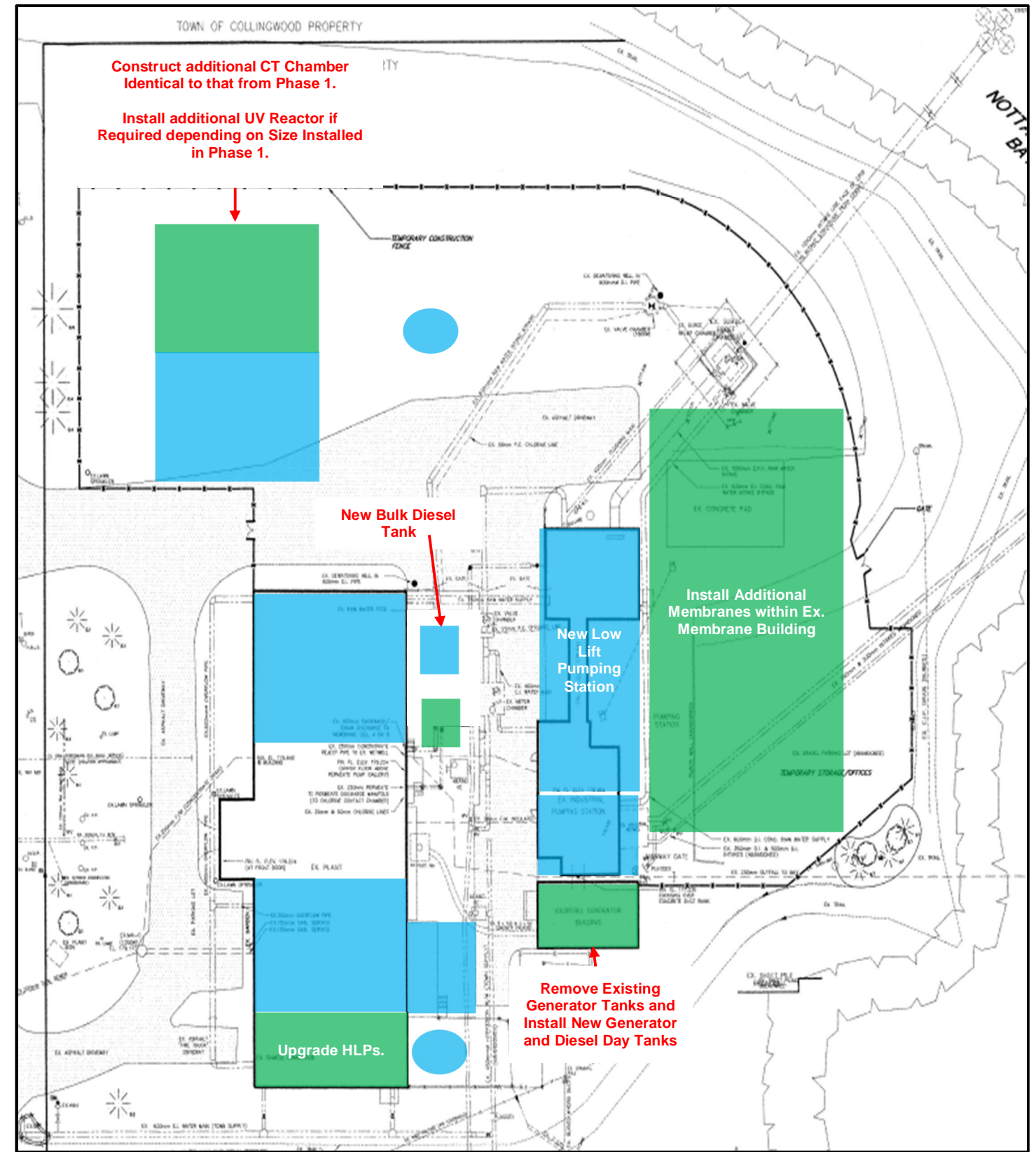


Figure 32 Recommended New Treatment Train for the Raymond A. Barker WTP



Phase 1



Ultimate

Figure 33 Preferred Alternatives and Required Upgrades to Meet Phase 1 and Ultimate Flows

12. Conceptual Design

The upgrades proposed for the Raymond A. Barker WTP will bring changes to the exterior look of the property, which in turn influences the experience of the community living in the surrounding areas. The following figures show the existing infrastructure and the optional concept proposed to achieve ultimate flows side by side from different views for comparison purposes. Figure 34 is a north aerial view of the site to display the full extent of the expansion of the plant. Figure 35 and Figure 36 show the visual impact of the proposed upgrades to residents living in houses on Raglan Street, and the condominiums adjacent to the property, respectively.



Figure 34 North Aerial View of the Existing Infrastructure and Optional Concept to Achieve Ultimate Flows



Figure 35 Raglan Street View of the Existing Infrastructure and Optional Concept to Achieve Ultimate Flows



Figure 36 Condo Top Floor View of the Existing Infrastructure and Optional Concept to Achieve Ultimate Flows

13. Opinion of Costs

Table 38 shows the opinion of costs in for the preferred upgrades to meet Phase 1 and ultimate flows regarding capital cost. The costs are based on Phase 1 upgrades occurring initially followed by the ultimate upgrades.

Table 38 Opinion of Capital Costs for Preferred Upgrades to Meet Phase 1 and Ultimate Flows

Parameter	Opinion of Cost	
	Phase 1 Upgrades	Ultimate Upgrades
	2024	2044
Intake	\$0	\$0
Low Lift Pumping Station and Micro-screening	\$4,308,531	\$694,887
Industrial Pumping	\$930,329	\$0
Membranes	\$20,831,566	\$5,084,671
Disinfection	\$2,938,445	\$1,588,453
High Lift Pump Equalization	\$250,000	\$0
High Lift Pumping	\$560,388	\$2,646,000
Chlorine Gas System	\$738,370	\$20,250
Chemical Systems (separate to membrane systems)	\$494,613	\$0
Residue Management	\$1,102,508	\$0
Sanitary Sewage Transfer Systems	\$481,457	\$0
Site Electrical	\$540,000	\$0
Standby Power	\$1,563,750	\$1,073,250
SCADA	\$877,500	\$0
Building Services	\$1,644,500	\$0
Site Services	\$550,000	\$75,000
Sub-total (A)	\$37,811,957	\$11,182,511
Division 1 - General Requirements (6%)	\$2,268,717	\$670,951
Contractor Profit (8%)	\$3,024,957	\$894,601
Sub-total (B)	\$43,105,631	\$12,748,062
Provisional and Cash Allowances (2%)	\$862,113	\$254,961
Construction Contingency (10%)	\$4,310,563	\$1,274,806
Sub-total (C)	\$48,278,307	\$14,277,830
Overall Level of Accuracy (20%)	\$9,655,661	\$2,855,566
Total Excluding HST and Engineering (2020\$) (D)	\$57,933,968	\$17,133,396

Engineering fees are shown separately in Table 39. Additionally, Table 40 has been included to summarize the total opinion of cost for capital and engineering fees for the project.

Table 39 Engineering Fees Estimate

Parameter	Opinion of Cost	
	Phase 1 Upgrades	Ultimate Upgrades
	2024	2044
Design and Contract Administration (12% of capital costs)	\$6,952,076	\$2,056,007

Table 40 Opinion of Cost for Capital and Engineering Fees

Parameter	Opinion of Cost	
	Phase 1 Upgrades	Ultimate Upgrades
	2024	2044
Capital and Engineering Excluding HST (2020\$)	\$64,886,045	\$19,189,403

Appendix A Detailed Technical Evaluation Scoring and Results

Table A1 Detailed Technical Evaluation Scoring and Results for *Membrane Alternatives*

Option	Technical Consideration									Social Considerations						Total Score	Rank	
	Operation and Maintenance Requirements, Including Process Complexity			Ease of Implementation (Construction Schedule)			Process Robustness			Minimize Footprint and Site Impacts /Architectural Aesthetics (Plant Appearance)			Minimize Truck Traffic (During Construction and Operation)					
	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE			
TOTAL WEIGHT	40			24			16			14			6			100		
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	Complexity is the highest because it requires two membrane systems in two separate buildings with double the amount of equipment to be monitored and maintained over time.	3	12.0	This option allows a new membrane building to be constructed prior to retrofit of the existing membrane building to minimize plant downtime. The membrane infrastructure/ equipment for the existing ZW500 membranes will be upgraded in addition to construction of the new membrane building. A new administration building can be combined with the new membrane building.	7	16.8	Two separate membrane buildings exist allowing one building to be out-of-service while the other building is able to continue producing water. However, the intent is to design the membrane systems with multiple tanks (including a redundant tank) and standby equipment, such that the impact of one tank/equipment being out-of-service is not significant.	10	16.0	Involves the construction of a new ancillary building for the existing ZW500 membranes between the existing ZW500 membrane building and the raw water building; and, a new building for the new membranes as well as administration facilities east of the raw water building. This option will have the largest new building footprint east of the existing raw water building which will be observed by pedestrians traveling along the shoreline.	4	5.6	During construction, requires most excavation followed by trucking off-site and trucking of materials to site for new buildings (ancillary building for existing ZW500 membrane system, and new membrane and administration buildings). ZW500 membrane system will require more chemicals (and thus deliveries) than newer membrane systems given larger tanks and lesser capacity per membrane footprint.	4	2.4	52.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	Process complexity will be higher than Options 2.2 and 3 because it will have two membrane systems in operation. However, both membrane systems will be within the same building. Given the retrofit within the existing membrane building, clearances around some equipment will be less than a greenfield building.	5	20.0	Major retrofits in the existing membrane building means that renting a membrane trailer during construction is necessary. Keeping two ZW500d trains will result in less modifications to the existing infrastructure but will require construction within the building in the future when additional plant capacity is required beyond a certain capacity between Phase 1 and ultimate. Moreover, the membrane infrastructure/ equipment for the existing ZW500 membranes will be upgraded. A new administration building will need to be	3	7.2	Two separate membrane systems exist allowing one system to be out-of-service while the other system is able to continue producing water (but potentially at significant less flowrate if the new system is out-of-service). However, the intent is to design the membrane systems with multiple tanks (including a redundant tank) and standby equipment, such that the impact of one tank/equipment being out-of-service is not significant.	8	12.8	Involves the construction of a new ancillary building for the existing ZW500 membranes and new membranes between the existing ZW500 membrane building and the raw water building; and, a new building for administration facilities potentially east of the raw water building. The new ancillary building will be larger than that for option 2.2 since ancillary equipment for two types of membranes will be required. The new administration building	8	11.2	Compared to Option 2.2, during construction, requires slightly more excavation followed by trucking off-site and trucking of materials to site for new buildings (ancillary building for existing ZW500 membrane system and new membrane system, and new administration building). ZW500 membrane system will require more chemicals (and thus deliveries) than newer membrane systems given larger tanks and lesser capacity per membrane footprint.	8	4.8	56.0	3

Option	Technical Consideration									Social Considerations						Total Score	Rank
	Operation and Maintenance Requirements, Including Process Complexity			Ease of Implementation (Construction Schedule)			Process Robustness			Minimize Footprint and Site Impacts /Architectural Aesthetics (Plant Appearance)			Minimize Truck Traffic (During Construction and Operation)				
	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE		
TOTAL WEIGHT	40			24			16			14			6			100	
				constructed separate to the new membrane ancillary building.						east of the raw water building will be smaller than the new membrane building in options 1 and 3.							
2.2 Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	Process complexity will be minimized by having a single type of membrane system in one building. However, given the retrofit within the existing membrane building, clearances around some equipment will be less than a greenfield building.	8	32.0	Major retrofits in the existing membrane building means that renting a membrane trailer during construction is necessary. Complete renovation of all membrane trains results in more construction during Phase 1 in comparison to Option 2.1. However, with upgrades of the existing ZW500d trains infrastructure/ equipment not being required, this will reduce the construction schedule compared to Option 2.1. A new administration building will need to be constructed separate to the new membrane ancillary building.	4	9.6	Only one membrane system exists such that the entire plant will be offline if the membrane system is out-of-service. However, the intent is to design the membrane system with multiple tanks (including a redundant tank) and standby equipment, such that the impact of one tank/equipment being out-of-service is not significant.	5	8.0	Involves the construction of a new ancillary building for the new membranes between the existing ZW500 membrane building and the raw water building; and, a new building for administration facilities potentially east of the raw water building. The new ancillary building will be smaller than that for option 2.1 since ancillary equipment for one type of membranes will be required. The new administration building east of the raw water building will be smaller than the new membrane building in options 1 and 3.	9	12.6	During construction, requires the least excavation than the other options, followed by trucking off-site and trucking of materials to site for new buildings (ancillary building for new membrane system, and new administration building). With one membrane system in operation at a high capacity per membrane, this option may have similar chemical deliveries to that of Option 3.	9	5.4	67.6	2
3 Repurposing Existing ZW500 Membrane Building and Construct New Membrane Building	Having a single membrane system in one building minimizes process complexity. Moreover, with a greenfield building, there will be more clearances allowance for all equipment.	10	40.0	This option allows a new membrane building to be constructed with negligible impacts to plant operations. This option also requires only one membrane system to be installed and commissioned. The existing ZW500d membrane building can be retrofitted into an administration building.	8	19.2	Only one membrane system exists such that the entire plant will be offline if the membrane system is out-of-service. However, the intent is to design the membrane system with multiple tanks (including a redundant tank) and standby equipment, such that the impact of one tank/equipment being out-of-service is not significant.	5	8.0	Involves the construction of a new membrane building east of the raw water building, with retrofit of the existing ZW500 membrane building with administration facilities. Unlike above options, this option requires no new ancillary building to be constructed between the existing ZW500 membrane building and the raw	6	8.4	During construction, requires more excavation than Options 2.1 and 2.2, followed by trucking off-site and trucking of materials to site for new membrane building (and materials for existing ZW500 membrane building repurpose). With one membrane system in operation at a high capacity per membrane, this option	7	4.2	79.8	1

Option	Technical Consideration									Social Considerations						Total Score	Rank
	Operation and Maintenance Requirements, Including Process Complexity			Ease of Implementation (Construction Schedule)			Process Robustness			Minimize Footprint and Site Impacts /Architectural Aesthetics (Plant Appearance)			Minimize Truck Traffic (During Construction and Operation)				
	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE		
TOTAL WEIGHT	40			24			16			14			6			100	

Table A2 Detailed Technical Evaluation Scoring and Results for *Disinfection* Alternatives

Option	Water Quality			Technical Consideration									Social Considerations						Total Score	Rank
	Pathogen Control			Operation and Maintenance Requirements, Including Process Complexity			Ease of Implementation (Construction Schedule)			Process Robustness (Multi-barrier Treatment)			Minimize Footprint and Site Impacts /Architectural Aesthetics (Plant Appearance)			Minimize Truck Traffic (During Construction and Operation)				
	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE	RATIONALE	SCORE OUT OF 10	WEIGHTED SCORE		
TOTAL WEIGHT	35			25			15			10			10			5			100	
4 Chlorinate in New CT Chambers	Very effective against bacteria and viruses. Less effective against <i>Giardia</i> cysts than UV disinfection. Almost completely ineffective against <i>Cryptosporidium</i> oocysts.	2	7.0	Currently in place at the plant, so the operators have familiarity with process. Larger tank to maintain than that below.	9	22.5	Requires large 3,353 m ³ (1200 m ² footprint) tank to construct after excavation/rock drilling thus requiring a longer construction schedule.	4	6.0	Compared to option below, this option has no multi-barrier approach. However, it has less components to operate/fail with using UV.	4	4.0	Requires a larger tank to be constructed on-site. However, most of the tank will be below grade.	8	8.0	During construction, requires more excavation/rock drilling followed by trucking off-site and trucking of concrete to site.	3	1.5	49.0	2
5 Practice UV Disinfection and Chlorinate in New CT Chambers	Very effective against <i>Giardia</i> cysts and <i>Cryptosporidium</i> oocysts. Virus inactivation and secondary disinfection is obtained through chlorination post UV disinfection.	10	35.0	Added maintenance and replacement of the UV lamps and associated UV components. Adds further complexity to the treatment process despite being relatively simple. Smaller tank to maintain than that above.	4	10.0	Requires much smaller 808 m ³ (273 m ² footprint) tank to construct after excavation/rock drilling. However, requires a UV building to be constructed, which will be above grade and have a footprint of approximately 16mx10m. This will result in a much lesser construction schedule.	7	10.5	UV provides additional disinfection of <i>Cryptosporidium</i> not provided by chlorine only. Moreover, UV can provide additional <i>Giardia</i> disinfection credits by simply turning up the lamp power. However, it has more components to operate/fail with using UV than chlorine only.	9	9.0	Requires a smaller tank to be constructed on-site. However, a small superstructure is required to house the new UV units.	6	6.0	During construction, requires less excavation/rock drilling followed by trucking off-site and trucking of concrete to site. During operation, requires delivery/removal of UV lamps and other UV components to/from site. However, the frequency is minimal (annually).	7	3.5	74.0	1

Appendix B Distribution System Analysis

**Collingwood Raymond A.
Baker WTP:
System Analysis**

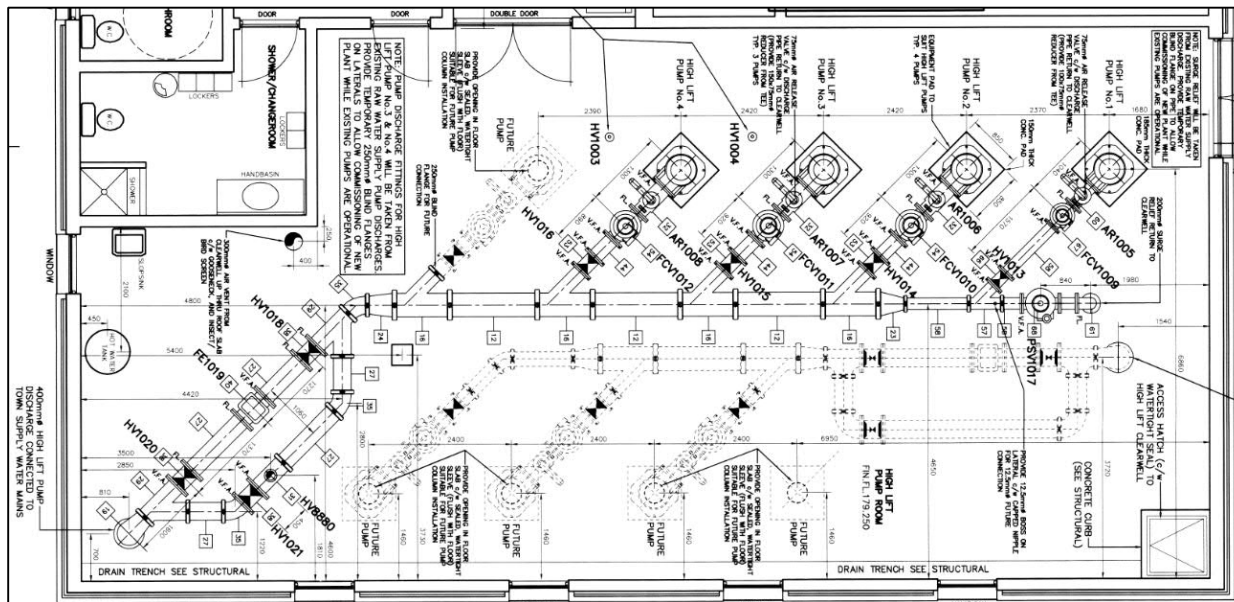
C3 WATER

Existing Pumps

Supply	Zone Supplied	# Units	Pump Type	Rated Flow (L/s)	Firm Capacity (L/s)	Rated Head (m)	HGL (m)	Drive Type
Raymond A. Baker	Zone 1	2	vertical turbine	138.6	333.9	55	227	variable speed
		1	vertical turbine (standby)	138.6		55		constant speed
		1	vertical turbine (jockey)	56.7		37		variable speed
	Regional Transmission	3	vertical turbine	136.1	272.2	55	222	variable speed

Pump & System Curve Analysis

- Determined losses out of pump station from 1st principles
- Determined system losses in model



Pump & System Curve Analysis

- Pump station losses were calculated from 1st principles:
 - Based on existing process piping from record drawing
 - PS losses were kept constant at flows greater than firm capacity, since it was assumed discharge piping upgrades would be designed in the future to avoid unrealistic higher losses
- System losses were determined in the model
 - Existing 400mm & 350mm PS discharge piping is in the model for the distribution system connection for both System and Regional PL based
 - The model provides a conservative estimate of losses since there are low C-factors on many existing pipes specifically near the WTP that will be investigated in future model calibration efforts.

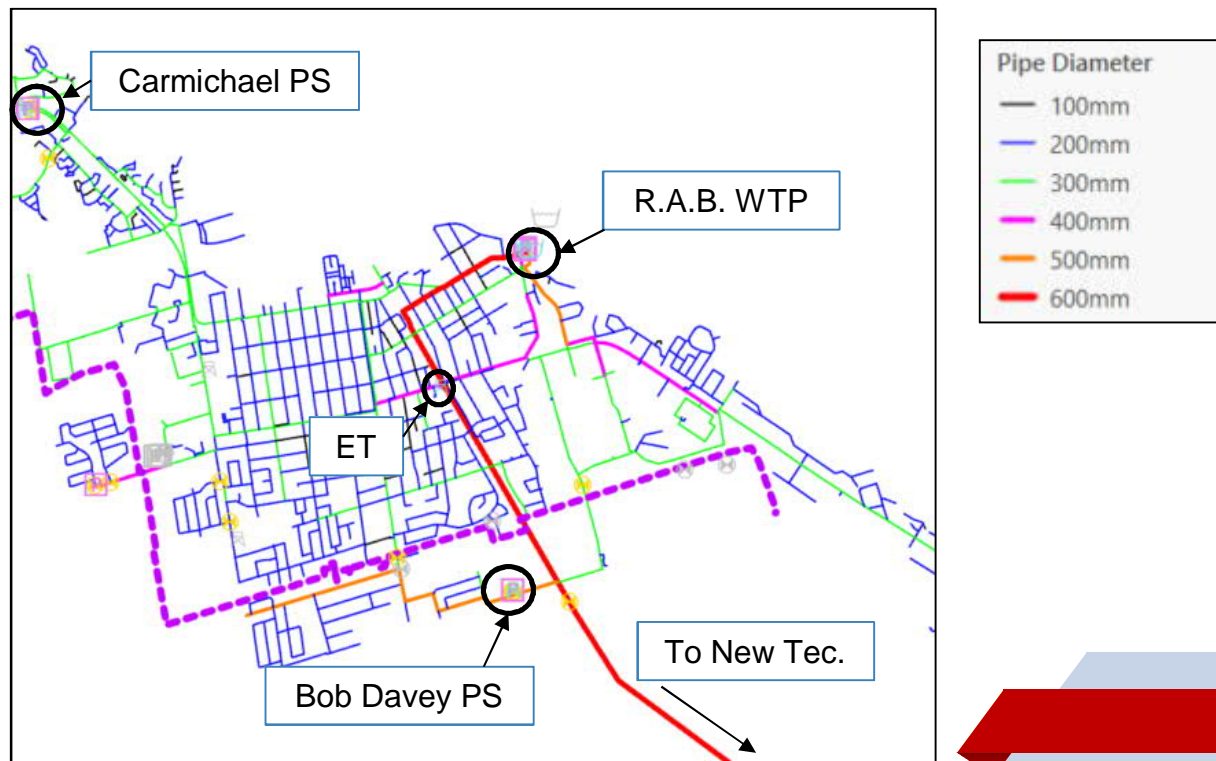
Scenario Development – Zone 1

Zone 1 Pumps – Scenarios:

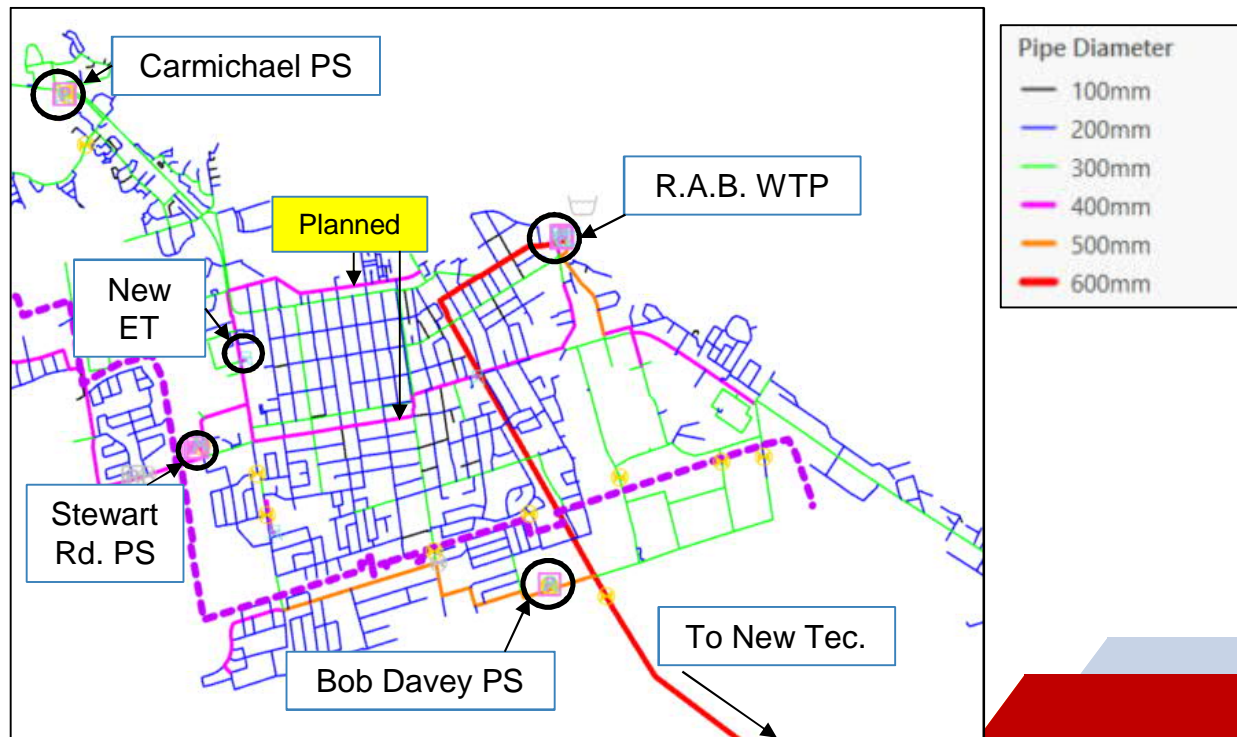
- Existing
 - 2016 ADD
 - 2016 MDD
- Future
 - 2032 (Planned) ADD
 - 2044 (Planned Potential) ADD
 - 2044 (Planned Potential) MDD
 - 2044 (Planned Potential) MDD + downtown fire (189L/s at Hurontario and 1st)
- Future Redundancy
 - 2032 and 2044 with Carmichael PS pumping to Z1E and Z1W
 - Was not found to have significant impact on system curve

Model run under specified demand and planning horizon conditions. Pumps were run at a range of flows

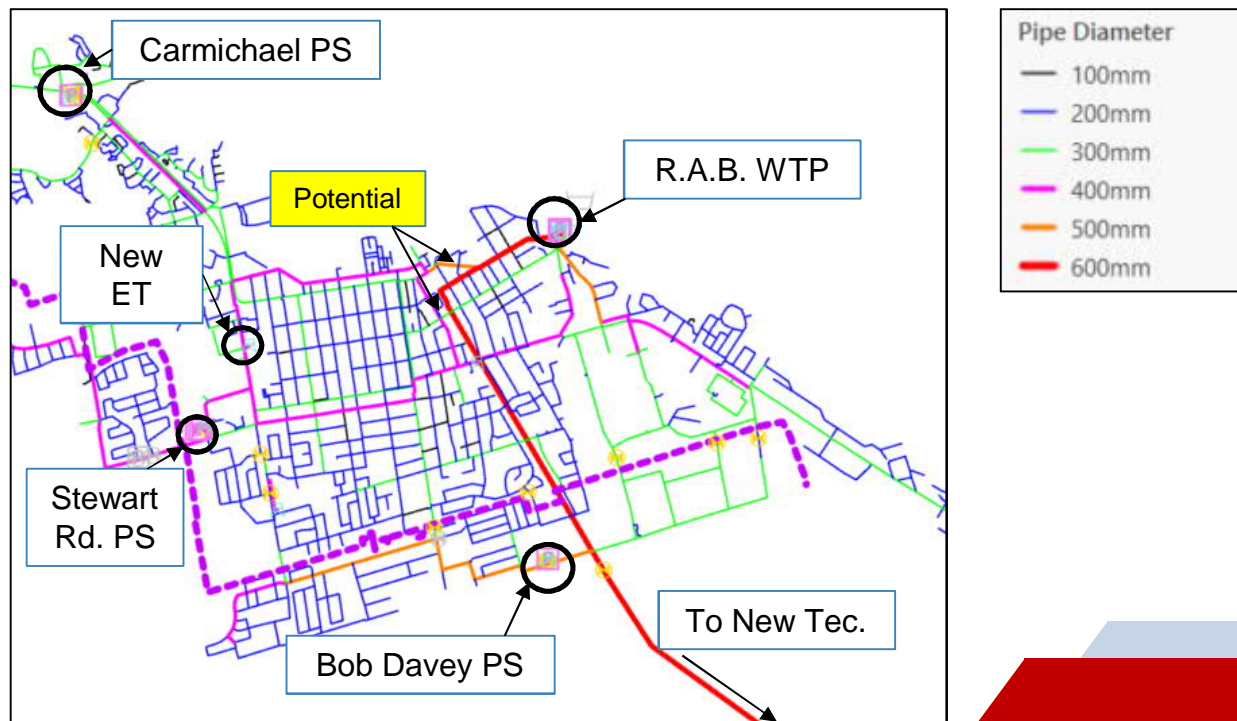
Existing (2016)



Planned (2032)



Potential (2044)



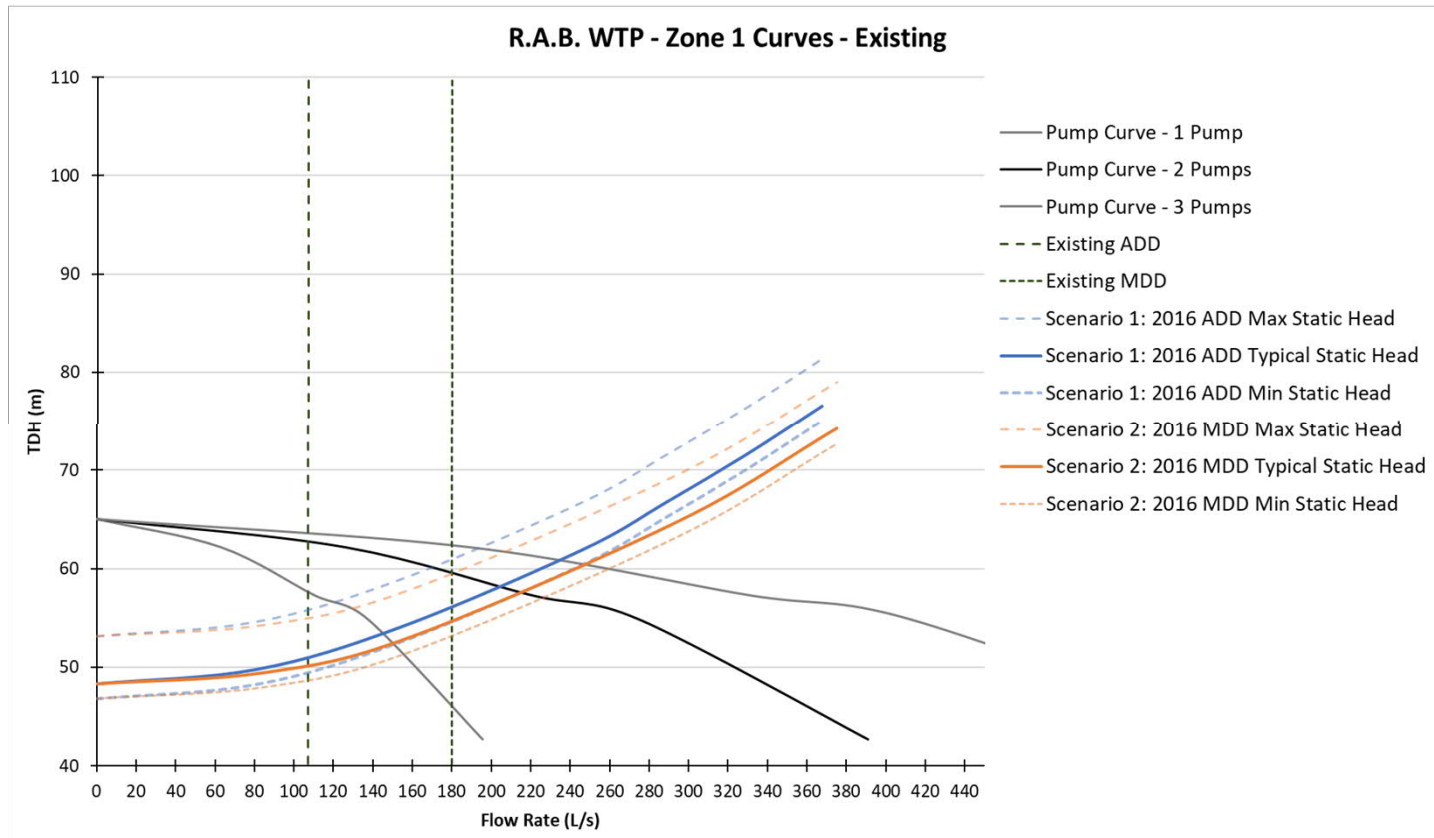
Zone 1 – Static Pressure

Tank	Bottom Elevation (m AMSL)	Typical Water Level (m)	Min Water Level (m)	Max Water Level (m)	Typical Water Elevation (m AMSL)	Min Water Elevation (m AMSL)	Max Water Elevation (m AMSL)
R.A.B. Clearwell	173.2	4.0	1.0	5.0	177.2	174.2	178.1
Collingwood ET	219.9	5.5	5.0	7.3	225.4	224.9	227.2
Future Zone 1 Tank	218.0	9.0	6.0	12.0	227.0	224.0	230.0

Scenario	Static Pressure Lift Required by Pumps (m)		
	Typical	Min	Max
Existing	48.3	46.8	53.1
Future	49.9	45.9	55.9

Zone 1 Pump Curves

- Pump curve field testing data is not available for the Zone 1 20BHC pumps
- For this analysis, the model pump curves were used. These were developed in the Ainley model prior to the Collingwood Master Plan.
- It is recommended that field testing is undertaken to confirm the performance of the Zone 1 pumps.



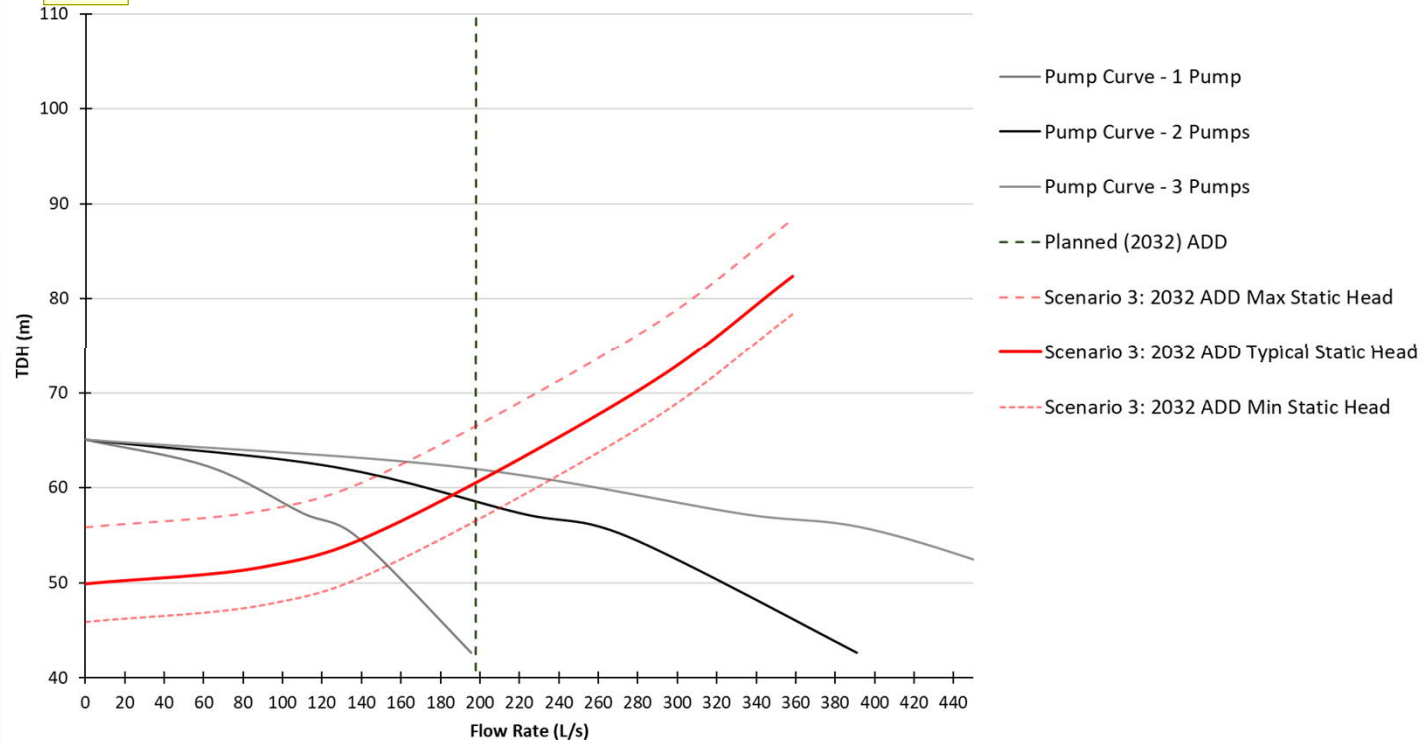
Operating Lines:

- Existing ADD: 103 L/s to Coll. + 14 L/s to TOBM - 10 L/s from Davey
- Existing MDD: 175 L/s to Coll. + 14 L/s to TOBM - 10 L/s from Davey

SZ22

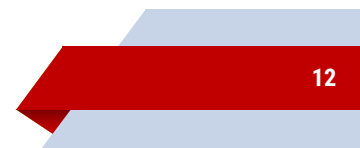
SZ23

R.A.B. WTP - Zone 1 Curves - Planned (2032)



Operating Line:

■ Planned (2032) ADD: 162 L/s to Coll. + 46 L/s to TOBM - 10 L/s for SZ21



SZ21 How is Davey impacted?

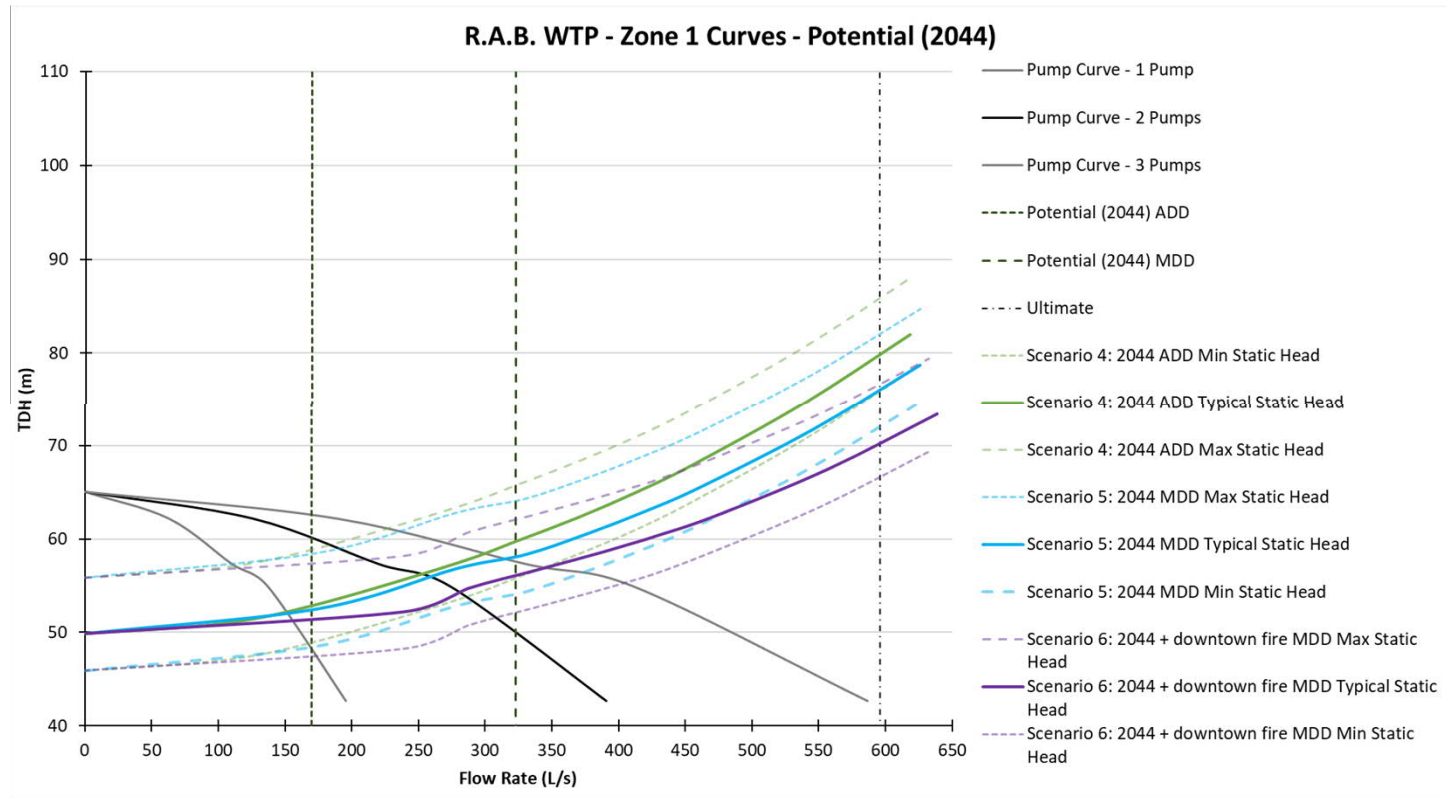
Samuel Ziemann, 4/3/2020

SZ22 Might be worth putting a note on this Y-axis indicating the increase in Static head from existing. The curves appear steeper as well in 2032? Is this true?

Samuel Ziemann, 4/3/2020

SZ23 Were we going to run a sensitivity analysis on the C-factors out of the plant?

Samuel Ziemann, 4/3/2020



Operating Lines:

- Potential (2044) ADD: 207 L/s to Coll. + 93 L/s to TOBM - 130 L/s from Davey
- Potential (2044) MDD: 360 L/s to Coll. + 93 L/s to TOBM - 130 L/s from Davey
- Ultimate: 536 L/s to Coll. + 190 L/s to TOBM - 130 L/s from Davey

Scenario Development – Regional PL

Regional Pipeline Pumps – Scenarios:

- Existing
 - 23 L/s to Bob Davey and 110 L/s to New Tecumseth
- Future
 - 130 L/s to Bob Davey and 388 L/s to New Tecumseth
- Future with Clearview
 - 186 L/s to Bob Davey and 388 L/s to New Tecumseth
 - Includes 56 L/s to Clearview through Bob Davey
- Future Scenarios were run under redundancy scenario with the watermain from the WTP to Bob Davey twinned

Model run to maintain flow into Bob Davey at specified flow rate. Pumps operated to maintain head of 220 mASL at New Tecumseth at a range of flowrates.

Regional Pipeline – Static Pressure

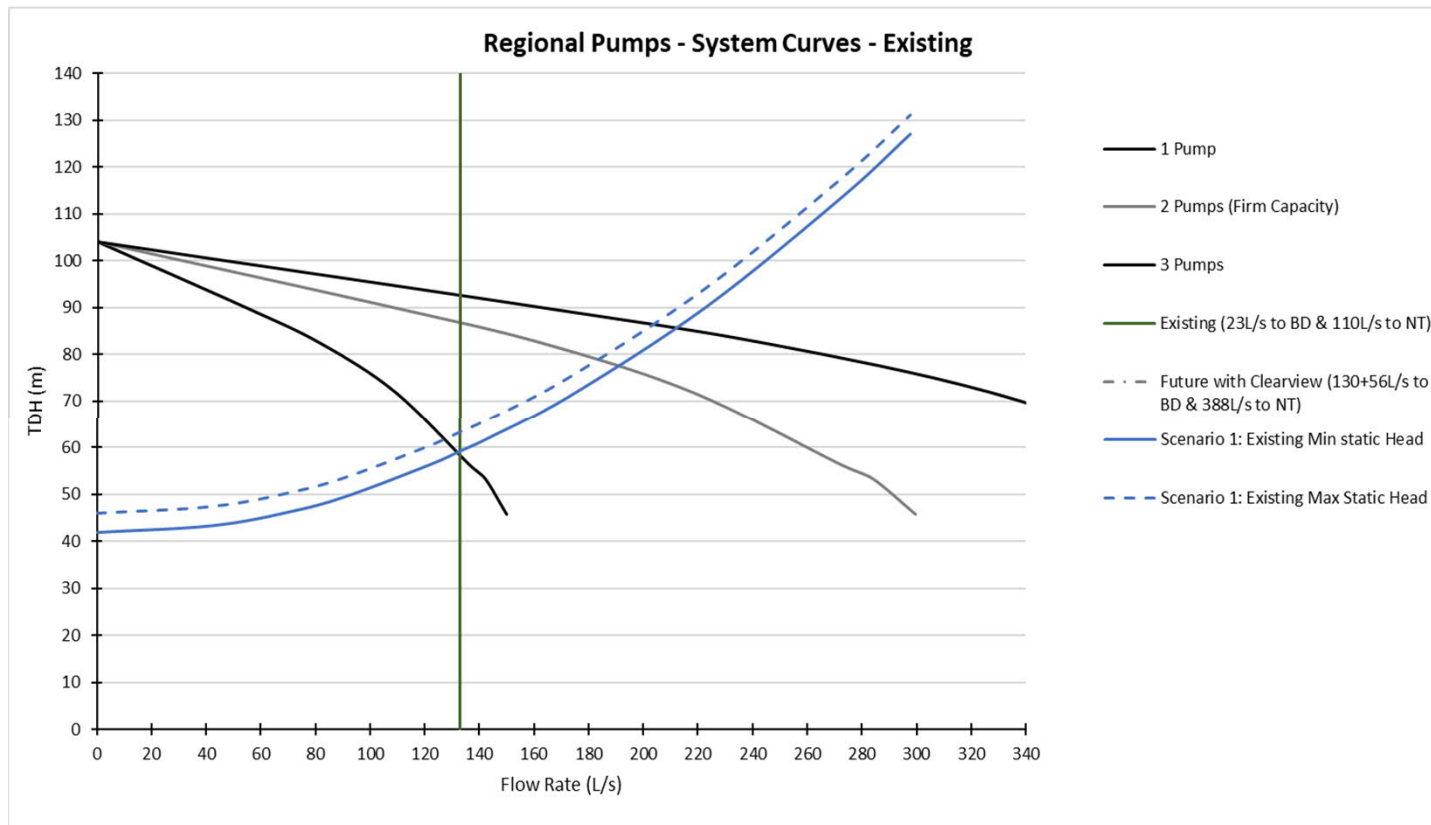
Location	Base Elevation (m AMSL)	Min Water Level (m)	Max Water Level (m)	Min Water Elevation/Head (m AMSL)	Max Water Elevation/Head (m AMSL)
R.A.B. Clearwell	173.2	1.0	5.0	174.2	178.1
Bob Davey Res.	191.3	2.5	5.0	193.8	196.3
New Tec.				220.0	220.0

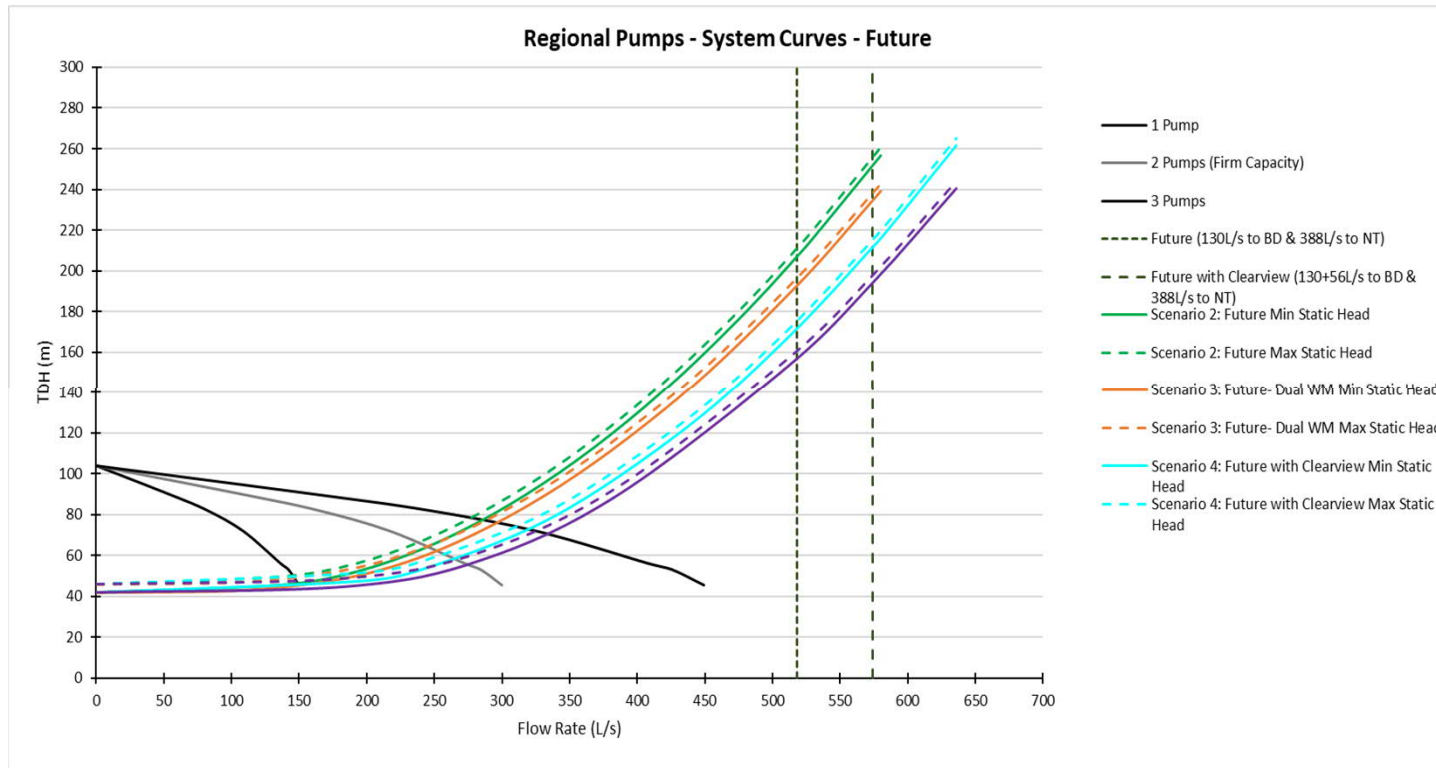
Static Pressure Lift Required by Pumps (m)

Min	Max
41.9	45.9

Regional Pipeline – Pump Curves

- The pump curves used in this analysis are from 2010 performance test results on the 14RJ Regional PL pumps.
- The performance test results are consistent with the original pump curves in the model.





Results Summary – Regional Pipeline

Scenario	Flow (L/s)	TDH (m)	TDH (m) (dual WM to Bob Davey)	HL from Town Boundary to New Tec. (m)
Existing	133	59-63		14 (0.3 m/km)
Future	518	207-211	193-197	140 (2.7 m/km)
Future with Clearview	574	211-215	194-198	

- In future scenarios, majority of the headloss occurs in the 600mm watermain from the Town boundary to New Tec.
- It is understood that in the future, in-line booster pumps will be required to service New Tec. through the Regional Pipeline

Results Summary – Regional Pipeline

Maximum operating points with 3 of existing pumps running

Scenario	Total Flow (L/s)	Approximate TDH (m)	Flow to New Tec. (L/s)	Flow to Bob Davey (L/s)
Existing	200	85	177	23
Future	270	80	140	130
Future with Clearview	310	75	124	186 (130 + 56)

Appendix H

NOTICE OF STUDY COMMENCEMENT

- **August 15 & 22, 2019 Notice of Study Commencement**
- **Agency Mailing List**
- **August 15, 2019 Mail Out of Notice of Study Commencement to Adjacent Residents, Review Agencies and Indigenous Communities and Agencies**
- **Comments Received and Associated Responses from Notice of Study Commencement (including Meeting Notes of December 4, 2019 meeting with NVCA)**



Town of Collingwood Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion NOTICE OF STUDY COMMENCEMENT

The Study

The Town of Collingwood held a Public Information Centre (PIC) as part of the Master Servicing Plan (MSP) process in March 2019 which identified the need to expand the existing Raymond A. Barker Water Treatment Plant to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. A Class Environmental Assessment (EA) previously filed in September 2004 for the plant expansion has now expired. The Town has determined the need to prepare an updated Class EA to confirm or amend the preferred solution(s) identified in the original EA by addressing changes to regulations and design standards, advances in technology and adjustments to phasing based on current water demand projections, and to convey this information to a list of stakeholders and interested parties that has expanded since 2004. Subsequent to the MSP PIC it was determined that it would be necessary to increase the ultimate plant capacity identified in the 2004 Class EA (74.6 MLD) to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities.

The Raymond A. Barker Water Treatment Plant is located on Raglan Street as illustrated on the accompanying map. The study area is defined as the municipal boundary of the Town (see map). The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.



The Process

The Town of Collingwood has retained Ainley Group (in partnership with AECOM) to complete and document a Class EA update in accordance with the Municipal Class Environmental Assessment Document, October 2000, as amended in 2015.

How to Get Involved

Public consultation is a key component of the Class EA process. Additional information will be made available once alternative solutions have been identified and evaluated. Advance notice will be provided to allow all interested parties an opportunity to comment. For further information regarding the project, please contact either of the following members of the study team:

Ken Kaden, P. Eng.
Project Engineer, Environmental Services
Town of Collingwood
43 Stewart Road
Collingwood, ON L9Y 4M7
Tel: (705) 445-1581
Fax: (705) 445-0791
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
Ainley Group
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
Tel: (705) 445-3451
Fax: (705) 445-0968
ainley.m@ainleygroup.com

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on August 15, 2019.

Photo Credit
Dave West

Town of Collingwood Weekly Town Page



Thursday, August 15, 2019

Notice

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The Raymond A. Barker Water Treatment Plant is located on Raglan Street as illustrated on the accompanying map. The study area is defined as the municipal boundary of the Town (see map). The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

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Dave West

Town of Collingwood Weekly Town Page



Thursday, August 22, 2019

Notice

Town of Collingwood Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion NOTICE OF STUDY COMMENCEMENT

The Study

The Town of Collingwood held a Public Information Centre (PIC) as part of the Master Servicing Plan (MSP) process in March 2019 which identified the need to expand the existing Raymond A. Barker Water Treatment Plant to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. A Class Environmental Assessment (EA) previously filed in September 2004 for the plant expansion has now expired. The Town has determined the need to prepare an updated Class EA to confirm or amend the preferred solution(s) identified in the original EA by addressing changes to regulations and design standards, advances in technology and adjustments to phasing based on current water demand projections, and to convey this information to a list of stakeholders and interested parties that has expanded since 2004. Subsequent to the MSP PIC it was determined that it would be necessary to increase the ultimate plant capacity identified in the 2004 Class EA (74.6 MLD) to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities.

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Email us at: townhall@collingwood.ca



Town of Collingwood
Raymond A. Barker WTP Class EA
Notice of Commencement
AGENCY CONTACT LIST

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Provincial & Federal Agencies										
Mr.	Rob	Dobos	Manager, Environmental Assessment Section	Environment Canada - Environmental Protection Operations Division - Ontario Region	867 Lakeshore Road	P.O. Box 5050	Burlington, ON	L7R 4A6	905-336-4953	rob.dobos@canada.ca
Ms.	Chunmei	Liu	Environmental Resource Planner & EA Coordinator - Air, Pesticides and Environmental Planner (<i>Barrie, Orillia & County of Simcoe</i>)	Central Region Ministry of Environment, Conservation and Parks	5775 Yonge Street	8th Floor	North York, ON	M2M 4J1	416-326-4886	chunmei.liu@ontario.ca
Ms.	Cindy	Hood	District Manager	Barrie District Office Ministry of Environment, Conservation and Parks	54 Cedar Point Drive	Unit 1201	Barrie, ON	L4N 5R7	705-739-6436	cindy.hood@ontario.ca
Hon.	Jeff	Yurek	Minister	Ministry of the Environment, Conservation and Parks	77 Wellesley Street West	11th Floor	Toronto, ON	M7A 2T5		minister.mecp@ontario.ca
			Director, Environmental Assessment and Permissions Branch	Ministry of the Environment, Conservation and Parks	135 St. Clair Avenue West	1st Floor	Toronto, ON	M4V 1P5		moeccpermissions@ontario.ca
Mr.	Shawn	Carey	District Manager	Midhurst District Ministry of Natural Resources and Forestry	2284 Nursery Road		Midhurst, ON	L0L 1N8	705-725-7561	shawn.carey@ontario.ca
Ms.	Karla	Barboza	Team Lead, Heritage	Ministry of Tourism, Culture & Sport	401 Bay Street	Suite 1700	Toronto, ON	M7A 0A7	416-314-7120	karla.barboza@ontario.ca
Ms.	Kimberly	Livingstone		Ministry of Tourism, Culture & Sport	402 Bay Street	Suite 1701	Toronto, ON	M7A 0A8		Kimberly.Livingstone@ontario.ca
Ms.	Carol	Neumann	Rural Planner	Ontario Ministry of Agriculture, Food and Rural Affairs	6484 Wellington Rd. 7	Unit 10	Elora, ON	N0B 1S0	519-846-3393	carol.neumann@ontario.ca
Mr.	Teepu	Khawja	Regional Director	Ministry of Transportation, Central Region	1201 Wilson Avenue		Toronto, ON	M3M 1J8	416-235-5400	teepu.khawja@ontario.ca
Mr.	Peter	Dorton	Senior Project Manager	Ministry of Transportation, Corridor Management Section	159 Sir William Hearst Avenue	Bldg. D, 7th Floor	Toronto, ON	M3M 0B7	416-235-4280	peter.dorton@ontario.ca
Mr.	Chris	Gauer	Executive Vice President Major Projects, Roads & Transit	Infrastructure Ontario	777 Bay Street	6th Floor, Suite 602	Toronto, ON	M5G 2C8	416-327-8037	Chris.Gauer@infrastructureontario.ca
Mr.	Tim	Haldenby	Municipal Planning Advisor - Team Lead Central Ontario	Ministry of Municipal Affairs and Housing	777 Bay Street	13th Floor	Toronto, ON	M5G 2E5	416-585-6559	tim.haldenby@ontario.ca
			Fish Habitat Biologist	Department of Fisheries and Ocean	867 Lakeshore Road		Burlington, ON	L7S 1A1	905-336-4999	info@dfo-mpo.gc.ca
				Department of Fisheries and Ocean	520 Exmouth Street		Sarnia, ON	N7T 8B1	1-866-290-3731	
Mr.	M.	Tracey		Ontario Clean Water Agency	100 Woodland Drive		Wasaga Beach, ON	L0L 2P0		
Local Government, Adjacent Municipalities & Other Agencies										
Mr.	Christian	Meile	Director, Transportation Construction & Maintenance	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	christian.meile@simcoe.ca
Mr.	Dave	Parks	Director, Planning, Development & Tourism	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	dave.parks@simcoe.ca
Ms.	Cathy	Clark	Manager of Emergency Planning	County of Simcoe	1111 Highway 26 West		Midhurst, ON	L9X 1N6		
Mr.	Mark	Aitken	CAO	County of Simcoe	1113 Highway 26 West		Midhurst, ON	L9X 1N6		
Mr.	Allan	Greenwood	Director, Corporate Communications	County of Simcoe	1114 Highway 26 West		Midhurst, ON	L9X 1N6		
Ms.	MaryAnn	Hunt	Planner III, Planning Department	County of Simcoe	1117 Highway 26 West		Midhurst, ON	L9X 1N6		
Mr.	Fareed	Amin	CAO	Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	cao@collingwood.ca
Mr.	Adam	Farr	Director, Planning Services	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	afarr@collingwood.ca
Mr.	Dean	Collver	Director, Parks, Recreation & Culture	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	dcollver@collingwood.ca

**Town of Collingwood
Raymond A. Barker WTP Class EA
Notice of Commencement
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Mr.	Chris	Hibberd	Director, Watershed Management Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0	705-424-1479	c.hibberd@nvca.on.ca
Mr.	Lee	Bull	Manager, Planning Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0		
Mr.	Steve	Sage	CAO	Township of Clearview	217 Gideon Street	Box 200	Stayner, ON	L0M 1S0	705-428-6230 ext. 228	ssage@clearview.ca
Mr.	Shawn	Everitt	CAO	Town of the Blue Mountains	32 Mill Street	P.O. Box 310	Thornbury, ON	N0H 2P0	519-599-3131 ext. 234	tspeck@thebluemountains.ca
Mr.	George	Vadeboncoeur	CAO	Town of Wasaga Beach	30 Lewis Street		Wasaga Beach, ON	L9Z 1A1		
Ms.	Colleen	Healey-Dowdall	CAO	Township of Essa	5786 County Road 12		Utopia, ON	L0M 1T0		
Mr.	Blaine	Parkin	CAO	Town of New Tecumseth	10 Wellington Street East		Alliston, ON	L9R 1A1	705-435-3900	
Mr.	Jason	Reynar	CAO	Town of Innisfil	2101 Innisfil Beach Road		Innisfil, ON	L9S 1A1	705-436-3740 Ext. 1202	kshea@innisfil (Karen Shea, Executive Assistant)
Mr.	Geoff	McKnight	CAO	Town of Bradford West Gwillimbury	100 Dissette Street	Unit 7&8, P.O. Box 100	Bradford, ON	L3Z 2A7	905-775-5366 ext. 1201	gmcknight@townofbwg.com
Ms.	Barb	Fox	Planning Officer	Simcoe Muskoka Catholic District School Board	46 Alliance Blvd.		Barrie, ON	L4M 5K3	705-722-3559 ext. 250	bfox.smcdsb.on.ca
Ms.	Holly	Spacek	Planning Officer	Simcoe County District School Board	1170 Highway 26		Midhurst, ON	L9X 1N6	705-728-7570 ext. 11311	hspacek@scdsb.on.ca
Mr.	Miguel	Ladouceur	Director of Building, Maintenance and Planning	Conseil Scolaire Viamonde	116 Cornelius Parkway		Toronto, ON	M6L 2K5	1-416-614-5917	ladouceurm@csviamonde.ca
Ms.	Nathalie	Huard	Transportation Technician, Service de Transport Francobus	Association Franco-Ontarienne Des Conseils Scolaires Catholiques	138 rue Main Est	Bureau 205	Welland, ON	L3B 3W6	1-800-749-0002	huardn@francobus.ca
Mr.	Earl	Elliott	President	Simcoe County Historical Association		P.O. Box 144	Barrie, ON	L4M 4S9	705-796-7649	earl.elliott@rogers.com
Ms.	Bonnie	Branch	Transportation Coordinator	Simcoe County Student Transportation Consortium	64 Cedar Pointe Drive	Unit 1403	Barrie, ON	L4N 5R7	705-733-8965, ext. 107	transportation@scstc.ca
Ms.	Sara	Almas	Clerk	Accessibility Advisory Committee Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	salmas@collingwood.ca
				Simcoe Muskoka District Health Unit	280 Pretty River Parkway		Collingwood, ON	L9Y 4J5	705-445-6498	
				Blue Mountain Watershed Trust Foundation		P.O. Box 605	Collingwood, ON	L9Y 4E8		
Emergency Services										
Mr.	JC	Gilbert	Deputy Chief Operations	County of Simcoe Paramedic Services	1110 Highway 26		Midhurst, ON	L9X 1N6	705-726-9300	jc.gilbert@simcoe.ca
Mr.	Ross	Parr	Fire Chief	Town of Collingwood Fire Department	45 High Street		Collingwood, ON	L9Y 4V4	705-445-3920 ext. 7502	rparr@collingwood.ca
Mr.	Colin	Shewell	Fire Chief	Township of Clearview Fire Department	217 Gideon Street		Stayner, ON	L0M 1S0	705-428-6230 ext. 403	cshewell@clearview.ca
Ms.	Mary	Shannon	Inspector	Ontario Provincial Police Collingwood and the Blue Mountains	201 Ontario Street		Collingwood, ON	L9Y 4M4	705-445-4321	mary.shannon.opp.ca
Ms.	Paula	Brown	Operational Policy & Strategic Planning	Ontario Provincial Police	777 Memorial Ave., 2nd Floor		Orillia, ON	L3V 7V3		
Member of Parliament										
Mr.	Jim	Wilson	Member of Provincial Parliament	Collingwood Consistency Office	50 Hume Street		Collingwood, ON	L9Y 1V2	1-800-268-7542	
Ms.	Kellie	Leitch	Member of Parliament - Simcoe-Grey	Collingwood Consistency Office	501 Hume Street	#4	Collingwood, ON	L9Y 4H8	705-445-5557	kellie.leitch@parl.gc.ca
Interest Groups										
Ms.	Trish	Irwin	GM/CEO	Collingwood Chamber of Commerce	115 Hurontario Street	Suite 102	Collingwood, ON	L9Y 2L9	705-445-0221	tirwin@collingwoodchamber.com
Ms.	Kandas	Bondarchuk	Planner - Technician	Collingwood Heritage Committee	55 Ste. Marie Street	Unit 302	Collingwood, ON	L9Y 0W6	705-445-1290 ext. 3275	kbondarchuk@collingwood.ca
Mr.	Jamie	Forsythe		Blue Mountain & Collingwood Snowdrifters Snowmobile Club	453 Oak Street		Collingwood, ON	L9Y 4N1	705-446-1848 705-606-1453	
Mr.	Ben	McNabb		Collingwood Cycling Club	47 Sherwood Street		Collingwood, ON	L9Y0C5		info@collingwoodcyclingclub.ca
Mr.	Murray	Knowles		Black Ash Trail Committee	32 Westwind Drive		Collingwood, ON	L9Y 5J1		knowles.murray@gmail.com
Aboriginal Consultation										
Att: Consultation Unit				Ministry of Indigenous Affairs	160 Bloor St. East	4th Floor	Toronto, ON	M7A 2E6	416-326-4740	

**Town of Collingwood
Raymond A. Barker WTP Class EA
Notice of Commencement
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
(CIRNAC (formerly INAC) <u>not</u> contacted for this project as project is not on Aboriginal lands)				Crown-Indigenous Relations and Northern Affairs Canada (formerly Indigenous & Northern Affairs Canada Consultation Unit)	25 St. Clair Avenue East	8th Floor	Toronto, ON	M4T 1M2	1-800-567-9604	
Ms.	Lori	Keeshig-Martin	Executive Assistant to Ontario Regional Chief	Chiefs of Ontario						lori.keeshig-martin@coo.org
Mr.	Tony	Muscat	President Interim	Moon River Metis Council	B26360 Cedarhurst Beach Road	R.R. 1	Beaverton, ON	L0K 1A0	705-426-1381	tonymuscat@rogers.com moonrivermetisCouncil@outlook.com k.a.sandy-mckenzie@rogers.com inquiries@williamstreatiesfirstnations.ca
Ms.	Karry	Sandy-Mckenzie	Coordinator / Negotiator	Williams Treaties First Nation						
Ms.	Corrina	Serda	Manager	Saugeen Ojibway Nation Environment Office	25 Maadookii Subdivision		Neyaashiinigming, ON	N0H 2T0	519-534-5507	c.serda@saugeenojibwaynation.ca
Mr.	Doran	Ritchie	Land Use Planning Coordinator	Saugeen Ojibway Nation Environment Office	25 Maadookii Subdivision		Neyaashiinigming, ON	N0H 2T0	519-534-5507	d.ritchie@saugeenojibwaynation.ca
First Nation Communities (as per MECP Email dated July 5, 2019)										
Chief	Mary	McQue-King		Beausoleil First Nation	General Delivery		Cedar Point, ON	L0K 1C0	705-247-2051	bfchief@chimissing.ca
Chief	Donna	Big Canoe		Chippewas of Georgina Island First Nation	R.R. #2	P.O. Box 13	Sutton West, ON	L0E 1R0	705-437-1337	donna.bigcanoe@georginaisland.com
Chief	Greg	Nadjiwon		Chippewas of Nawash First Nation	135 Lakeshore Blvd.		Neyaashiinigmiing, ON	N0H 2T0	519-534-1689	chiefsdesk@newash.ca cnadministrator@newash.ca chief@ramafirstnation.ca consultation@ramafirstnation.ca
Chief	Rodney	Noganosh		Chippewas of Rama First Nation	200-5884-Rama Road		Rama, ON	L3V 6H6	705-325-3611	consultation@ramafirstnation.ca
Chief	Lester	Anoquot		Saugeen First Nation	6493 Highway 21	R.R.#1	Southampton, ON	N0H 2L0	519-797-2781	sfn@saugeen.org
		Family Chief		Nation Huronne-Wendat	255 Place Michel Laveau		Wendake, QC	G0A 4V0		maxime.picard@cnhw.qc.ca
Mr.	Brian	Tucker	Manager of Way of Life Framework	The Metis Nation of Ontario	500 Old St. Patrick St.	Unit 3	Ottawa, ON	K1N 9G4	807-274-1386 (direct) 613-798-1488 (Secretary)	Prefers digital - briant@metisnation.org & copy to consultation@metisnation.org
Mr.	Alden	Barty	Consultation Assessment Coordinator	The Metis Nation of Ontario	355 Cranston Crescent	PO Box 4	Midland, ON	L4R 4K6	705-526-6335 ext. 210	aldenb@metisnation.org
Mr.	Dave	Dusome	President	Georgian Bay Metis Council	355 Cranston Crescent	P.O. Box 400	Midland, ON	L4R 4K6	705-526-6335	gbmcontact@gmail.com
Ms.	Lynette	Davis	Director of Operations	Metis National Council	4-340 MacLaren Street		Ottawa, ON	K2P 0M6	613-232-3216	info@metisnation.ca
Utilities										
Mr.	Ted	Burrell		EPCOR	43 Stewart Road		Collingwood, ON	L9Y 4M7	705-443-1868	tburrell@epcor.com
				Hydro One						
Ms.	Carol	O'Brien		Bell Canada	136 Bayfield Street	2nd Floor	Barrie, ON	L4M 3B1	705-722-2405	carol.obrien@bell.ca
Mr.	Tony	Dominguez		Rogers	1 Sperling Drive		Barrie, ON	L4N 6B8	705-737-4660 xt 6907	tony.dominguez@rci.rogers.com
Mr.	Tom	Jedemann		Enbridge Gas	101 Honda Blvd		Markham, ON	L6C 0M6	905-927-3184	tom.jedemann@enbridge.com
				Enbridge Gas						municipalnotices@enbridge.com
Land Use Planning										
				Plan Well Associates	40 Connor Avenue		Collingwood, ON	L9Y 5K6	705-444-5812	
				Georgian Planning Solutions					705-446-0530	
				R. J. Burnside and Associates Limited	3 Ronell Crescent		Collingwood, ON	L9Y 4J6		
				C.C. Tatham & Associates Ltd.	115 Sandford Fleming Drive	Suite 200	Collingwood, ON	L9Y 5A6	705-444-2565	
				Greenland	120 Hume Street		Collingwood, ON	L9Y 1V5	705-444-5482	
				Travis and Associates	275 First Street	Unit 7	Collingwood, ON	L9Y 1A8	705-446-9917	
				Loft Planning Inc.	308 Hurontario Street		Collingwood, ON	L9Y 2M4	705-446-1168	



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

August 15, 2019

File No. 119013

Re: **Town of Collingwood
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Study Commencement**

Dear Sir and/or Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment (Class EA) planning process to update the September 2004 Environmental Study Report (ESR) for an expansion of the Raymond A. Barker Water Treatment Plant.

The purpose of the project is to confirm or amend the preferred solutions identified in the original ESR by addressing changes to regulations and design standards, advances in technology and adjustments to phasing based on current water supply projections, and to convey this information to an expanded list of mandatory contacts and interested parties since 2004.

This notice is to advise you of the commencement of the Class EA process and to provide you with the opportunity to comment on the project. Please refer to the attached copy of the Notice of Study Commencement for further details regarding the project. Further correspondence regarding this project will follow in the coming months.

Should you have any further questions or concerns, please contact the undersigned or Ken Kaden, Project Engineer, Environmental Services, Town of Collingwood at 705-445-1581 or via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

Mike Ainley, P. Eng., PMP
Project Manager
Phone: 705-445-3451
ainley.m@ainleygroup.com

Comments Received

Jody Marks

To: Reid Mitchell
Subject: RE: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Hello,

Further to Karla's email below, could you please send me a copy of the 2014 ESR?

Thanks so much.

Regards,

Kimberly Livingstone | Heritage Planner (A)
Culture Division | Programs and Services Branch | Heritage Planning Unit
Ministry of Tourism, Culture and Sport
401 Bay Street
17th Floor, Suite 1700
Toronto, ON M7A 0A7
416.314.7133
kimberly.livingstone@ontario.ca

From: Barboza, Karla (MTCS)
Sent: August-15-19 1:16 PM
To: Victoria Perejmybida <perejmybida@ainleygroup.com>
Cc: Ken Kaden <kkaden@collingwood.ca>; Mike Ainley <ainley.m@ainleygroup.com>; Livingstone, Kimberly (MTCS) <Kimberly.Livingstone@ontario.ca>
Subject: FW: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Hi Tori,

Thanks for sending the notice of commencement for the Collingwood Water Treatment Plant to the Ministry of Tourism, Culture and Sport (MTCS) – Culture Division.

Kimberly Livingstone, MTCS Heritage Planner, is assigned to this file [MTCS File 0011264]. She will review the documentation and provide preliminary comments/advice. Please continue to send any notices and information about this project to both Kim and I.

In the meantime, we would appreciate if you could send us a digital (electronic) copy of the 2014 ESR and point us to any information (or website page) about the Master Servicing Plan. These will assist us in formulating our preliminary advice.

Thanks in advance,
Karla

Karla Barboza MCIP, RPP, CAHP | (A) Team Lead, Heritage
Ministry of Tourism, Culture and Sport
Culture Division | Programs and Services Branch | Heritage Planning Unit
T. 416.314.7120 | Email: karla.barboza@ontario.ca

From: Victoria Perejmybida <perejmybida@ainleygroup.com>
Sent: August-15-19 11:24 AM
Cc: Ken Kaden <kkaden@collingwood.ca>; Mike Ainley <ainley.m@ainleygroup.com>
Subject: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Good morning,

The Town of Collingwood is undertaking a Class Environmental Assessment study to update the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. You are on the stakeholder contact list for this project. Please find attached the Notice of Study Commencement.

If you have any question please do not hesitate to contact us. Thank you.

Regards,

Tori Perejmybida, M.A.Sc., P.Eng.



www.ainleygroup.com

*****Please note the name and e-mail change. Please update your contact list/address book. Thank you.*****

perejmybida@ainleygroup.com

Tel: (705) 445-3451 Ext. 119

Cell: (705) 539-0149

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September 10, 2019

EMAIL ONLY

Mike Ainley, P.Eng.
Project Manager
Ainley and Associates Limited
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
ainley.m@ainleygroup.com

MTCS File : **0011264**
Proponent : **Town of Collingwood**
Subject : **Notice of Study Commencement**
Project : **Raymond A. Barker Water Treatment Plant Expansion**
Location : **Raglan Street, Town of Collingwood, County of Simcoe**

Dear Mr. Ainley:

Thank you for providing the Ministry of Tourism, Culture and Sport (MTCS) with the Notice of Study Commencement for the above-referenced project. MTCS's interest in this Environmental Assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- Archaeological resources, including land and marine;
- Built heritage resources, including bridges and monuments; and,
- Cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on cultural heritage resources.

Project Summary

As part of the Town of Collingwood's Master Servicing Plan process, the Town has identified the need to expand the existing Raymond A. Barker Water Treatment Plan to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. A Class Environmental Assessment (EA) previously filed on September 2004 for the plant expansion has now expired. The Town has determined the need to prepare an updated Class EA to confirm or amend the preferred solution(s) identified in the original EA by addressing changes to regulations and design standards, advances in technology and adjustments to phasing based on current water demand projections, and to convey this information to a list of stakeholders and interested parties that has expanded since 2004.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to these communities. Municipal Heritage Committees, historical societies and other local heritage organizations may also have knowledge that contributes to the identification of cultural heritage resources.

Archaeological Resources

This EA project may impact archaeological resources and should be screened using the MTCS [Criteria for Evaluating Archaeological Potential](#) and [Criteria for Evaluating Marine Archaeological Potential](#) to determine if an archaeological assessment is needed. MTCS archaeological sites data are available at archaeology@ontario.ca. If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) should be undertaken by an archaeologist licenced under the *OHA*, who is responsible for submitting the report directly to MTCS for review.

Built Heritage and Cultural Heritage Landscapes

The MTCS [Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes](#) should be completed to help determine whether this EA project may impact cultural heritage resources.

A Cultural Heritage Evaluation Report (CHER) is used to determine the cultural heritage value or interest of a potential Provincial Heritage Property. If potential or known heritage resources exist, MTCS recommends that a Heritage Impact Assessment (HIA), prepared by a qualified consultant, should be completed to assess potential project impacts. Our Ministry's [Info Sheet #5: Heritage Impact Assessments and Conservation Plans](#) outlines the scope of HIAs. Please send the HIA to MTCS (and the local municipality as appropriate) for review, and make it available to local organizations or individuals who have expressed interest in review.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MTCS whether any technical cultural heritage studies will be completed for this EA project, and provide them to MTCS before issuing a Notice of Completion or commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Thank you for consulting MTCS on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, do not hesitate to contact me.

Sincerely,



Kimberly Livingstone
Heritage Planner (A)
Heritage Planning Unit
kimberly.livingstone@ontario.ca

Copied to: Ken Kaden, Project Engineer, Town of Collingwood, kkaden@collingwood.ca
Chunmei Liu, Environmental Resource Planner, MECP, Central Region, chunmei.liu@ontario.ca

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MTCS makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MTCS be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MTCS if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately, and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police or coroner as well as the Registrar, Burials of the Ministry of Government and Consumer Services (<https://www.ontario.ca/feedback/contact-us?id=26922&nid=72703>) must be contacted. In situations where human remains are associated with archaeological resources, MTCS should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

Victoria Perejmybida

From: Dorton, Peter (MTO) <Peter.Dorton@ontario.ca>
Sent: Wednesday, August 21, 2019 2:11 PM
To: Victoria Perejmybida
Cc: Ken Kaden; Mike Ainley
Subject: RE: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Hi Tori:

As the R. A. Barker Water Treatment Plant on Raglan St. is beyond MTO permit control area, MTO review / approvals of proposals on this site are not required.

Should future works be proposed to supply treated water in proximity to a provincial highway then MTO review and approvals may be required

Thanks,
Peter Dorton
Senior Project Manager
MTO Central Region Engineering Office
Corridor Management Section
159 Sir William Hearst Ave., 7th Floor
Toronto, ON M3M 0B7
Ph: 416-235-4280
Fx: 416-235-4267
Email: peter.dorton@ontario.ca

From: Victoria Perejmybida <perejmybida@ainleygroup.com>
Sent: August 15, 2019 11:24 AM
Cc: Ken Kaden <kkaden@collingwood.ca>; Mike Ainley <ainley.m@ainleygroup.com>
Subject: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Good morning,

The Town of Collingwood is undertaking a Class Environmental Assessment study to update the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. You are on the stakeholder contact list for this project. Please find attached the Notice of Study Commencement.

If you have any question please do not hesitate to contact us. Thank you.

Regards,

Tori Perejmybida, M.A.Sc., P.Eng.



www.ainleygroup.com

*****Please note the name and e-mail change. Please update your contact list/address book. Thank you.*****

perejmybida@ainleygroup.com

Ministry of the Environment,
Conservation and Parks
*Drinking Water and Environmental
Compliance Division*

Central Region,
Technical Support Section
5775 Yonge Street, 9th Floor
North York, ON M2M 4J1
Tel. (416) 326-6700
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Ministère de l'Environnement, de la
Protection de la nature et des Parcs
*Division de la conformité en matière d'eau
potable et d'environnement*

Région du Centre
Section d'appui technique
5775, rue Yonge, 8^{ième} étage
North York, Ontario M2M 4J1
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October 24, 2019

File No.: EA 01-06-02

Ken Kaden, P. Eng.
Project Engineer, Environmental Services
Town of Collingwood
43 Stewart Road
Collingwood, ON L9Y 4M7

Re: **Raymond A. Barker Water Treatment Plant Expansion
Town of Collingwood
Municipal Class Environmental Assessment
Response to Notice of Study Commencement**

Dear Mr. Kaden;

This letter is in response to the Notice of Study Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that the Town of Collingwood has indicated that the study is following the approved environmental planning process for a Schedule C project under the Municipal Class Environmental Assessment (Class EA).

The attached "Areas of Interest" document provides guidance regarding the ministry's interests with respect to the Class EA process. Please identify the areas of interest which are applicable to the project and ensure they are addressed. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule.

The Crown has a legal duty to consult Indigenous communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada's *Constitution Act* 1982. Where the Crown's duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information provided to date and the Crown`s preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project.

- Chippewas of Georgina Island
- Chippewas of Rama First Nation (Chippewas of Mnjikaning)
- Beausoleil First Nation
- Chippewas of Nawash First Nation
- Chippewas of Saugeen
- Huron-Wendat Nation (if there is potential for the project to impact archeological resources)
- Métis Nation of Ontario
 - MNO Georgian Bay Métis Council
 - please cc Métis Nation of Ontario (MNO) on any correspondence going to the Councils

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the “Code of Practice for Consultation in Ontario’s Environmental Assessment Process” which can be found at the following link:

<https://www.ontario.ca/page/consultation-ontarios-environmental-assessment-process>

Additional information related to Ontario’s Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments

Please also refer to the attached document “A Proponent’s Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities” for further information.

The proponent must contact the Director of Environmental Assessment and Permissions Branch under the following circumstances after initial discussions with the communities identified by MECP:

- Aboriginal or treaty rights impacts are identified to the proponent by the communities
- The proponent has reason to believe that the proposed project may adversely affect an Aboriginal or treaty right
- Consultation has reached an impasse
- A Part II Order request or elevation request is expected

The Director of the Environmental Assessment and Permissions Branch can be notified either by email with the subject line “Potential Duty to Consult” to enviopermissions@ontario.ca or by mail or fax at the address provided below:

Email:	enviopermissions@ontario.ca Subject: Potential Duty to Consult
Fax:	416-314-8452
Address:	Environmental Assessment and Permissions Branch 135 St. Clair Avenue West, 1 st Floor Toronto, ON, M4V 1P5

The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role the proponent will be asked to play in them.

Should you or any members of your project team have any questions regarding the material above and attached in this letter, please contact me at chunmei.liu@ontario.ca or 416-326-4886.

Yours truly,



Chunmei Liu
Regional Environmental Assessment Coordinator
Air, Pesticides and Environmental Planning

cc: Mike Ainley, Project Manager, Ainley Group
Cindy Hood, Manager, Barrie District Office, MECP
Paul Martin, APEP Supervisor, Central Region, MECP
Central Region EA File
A & P File

Attach: Areas of Interest
A Proponent's Introduction to the Delegation of Procedural Aspects of consultation
with Aboriginal Communities

AREAS OF INTEREST

It is suggested that you check off each applicable area after you have considered / addressed it.

Source Water Protection (all projects)

The Clean Water Act, 2006 (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e. systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- As you may be aware, in October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the Project File/ESR on source water protection.**
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area. If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the project file or ESR how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.

- In order to determine if this project is occurring within a vulnerable area, proponents can use this mapping tool: <http://www.applications.ene.gov.on.ca/swp/en/index.php>. The mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.
- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the Report and include all communication documents/correspondence.**

More Information

For more information on the Clean Water Act, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to Conservation Ontario's website where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in section 1.1 of Ontario Regulation 287/07 made under the Clean Water Act. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

□ **Climate Change**

Ontario is leading the fight against climate change through the Climate Change Action Plan. Recently released, the plan lays out the specific actions Ontario will take in the next five years to meet its 2020 greenhouse gas reduction targets and establishes the framework necessary to meet its long-term targets. As a commitment of the action plan, **the province has now finalized a guide, "Considering Climate Change in the Environmental Assessment Process" (Guide), which is found online at: <https://www.ontario.ca/page/considering-climate-change-environmental-assessment-process>**

The Guide is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. **Proponents should review this Guide in detail.**

- The MECP expects proponents to:
 1. Take into account during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
 2. Include a discrete section in the Project File/ESR detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature, and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered. Please ensure climate change is considered in the report.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide

guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

□ **Planning and Policy**

- Parts of the study area may be subject to the Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan, Greenbelt Plan, [Lake Simcoe Protection Plan](#), or Growth Plan for the Greater Golden Horseshoe. Applicable policies should be referenced in the Project File/ESR, and the proponent should describe how the proposed study adheres to the relevant policies in these plans. **The [new 2017 provincial plans](#) are now in effect.**
- The [Provincial Policy Statement](#) (2014) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the Project File/ESR, and the proponent should describe how this proposed project is consistent with these policies.

□ **Air Quality, Dust and Noise**

- If there are sensitive receptors in the surrounding area of this project, an air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- **If a full Air Quality Impact Assessment is not required for the project, the Project File/ESR should still contain:**
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to *Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from Construction and Demolition Activities*. Report prepared for Environment Canada. March 2005. <http://www.bv.transports.gouv.qc.ca/mono/1173259.pdf>
- The Project File/ESR should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

□ Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The Project File/ESR should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- All natural heritage features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Areas of Natural and Scientific Interest (ANSIs)
 - Rare Species of flora or fauna
 - Watercourses
 - Wetlands
 - Woodlots

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, you may consider the provisions of the Rouge Park Management Plan if applicable.

□ Surface Water

- The Project File/ESR must include a sufficient level of information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the Project File/ESR and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the Ontario Water Resources Act (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If the proposed sewage treatment plant is listed in Table 1 of the regulation, the Project File/ESR should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
- Any potential approval requirements for surface water taking or discharge should be identified in the Project File/ESR. In particular, a Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information. Additionally, an

Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

□ **Groundwater**

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the Project File/ESR.
- If the potential construction or decommissioning of water wells is identified as an issue, the Project File/ESR should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the Project File/ESR. In particular, a Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.

□ **Contaminated Soils**

- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act (EPA)* and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the ministry's District Offices for further consultation if contaminated sites are present.
- Any current or historical waste disposal sites should be identified in the Project File/ESR. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites.
- The location of any underground storage tanks should be investigated in the Project File/ESR. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- The Project File/ESR should identify any underground transmission lines in the study area. The owners should be consulted to avoid impacts to this infrastructure, including potential spills.

□ **Excess Materials Management**

- Activities involving the management of excess soil should be completed in accordance with the

MECP's current guidance document titled "Management of Excess Soil – A Guide for Best Management Practices" (2014) available online (<http://www.ontario.ca/document/management-excess-soil-guide-best-management-practices>).

- All waste generated during construction must be disposed of in accordance with ministry requirements.

□ **Servicing and Facilities**

- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with the Environmental Approvals Access and Service Integration Branch (EAASIB) to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's "D-Series" guidelines – Land Use Compatibility to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

□ **Mitigation and Monitoring**

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the Project File/ESR and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the Project File/ESR, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

□ **Consultation**

- The Project File/ESR must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the Project File/ESR that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout the planning process. The Class EA also directs proponents to include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments.

□ **Class EA Process**

- The Project File/ESR should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. The Master Plan should clearly indicate the selected approach for conducting the plan, in particular by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the

requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the *Environmental Assessment Act* (EAA), although the plan itself would not be.

- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment. The Project File/ESR should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments) such that all potential impacts can be identified and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the Project File/ESR.
- Please include in the Project File/ESR a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, and approvals under the *Canadian Environmental Assessment Act* (CEAA).
- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the Project File/ESR.

A PROPONENT'S INTRODUCTION TO THE DELEGATION OF PROCEDURAL ASPECTS OF CONSULTATION WITH ABORIGINAL COMMUNITIES

DEFINITIONS

The following definitions are specific to this document and may not apply in other contexts:

Aboriginal communities – the First Nation or Métis communities identified by the Crown for the purpose of consultation.

Consultation – the Crown's legal obligation to consult when the Crown has knowledge of an established or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. This is the type of consultation required pursuant to s. 35 of the *Constitution Act, 1982*. Note that this definition does not include consultation with Aboriginal communities for other reasons, such as regulatory requirements.

Crown – the Ontario Crown, acting through a particular ministry or ministries.

Procedural aspects of consultation – those portions of consultation related to the process of consultation, such as notifying an Aboriginal community about a project, providing information about the potential impacts of a project, responding to concerns raised by an Aboriginal community and proposing changes to the project to avoid negative impacts.

Proponent – the person or entity that wants to undertake a project and requires an Ontario Crown decision or approval for the project.

I. PURPOSE

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that may adversely impact that right. In outlining a framework for the duty to consult, the Supreme Court of Canada has stated that the Crown may delegate procedural aspects of consultation to third parties. This document provides general information about the Ontario Crown's approach to delegation of the procedural aspects of consultation to proponents.

This document is not intended to instruct a proponent about an individual project, and it does not constitute legal advice.

II. WHY IS IT NECESSARY TO CONSULT WITH ABORIGINAL COMMUNITIES?

The objective of the modern law of Aboriginal and treaty rights is the *reconciliation* of Aboriginal peoples and non-Aboriginal peoples and their respective rights, claims and interests. Consultation is an important component of the reconciliation process.

The Crown has a legal duty to consult Aboriginal communities when it has knowledge of an existing or asserted Aboriginal or treaty right and contemplates conduct that might adversely impact that right. For example, the Crown's duty to consult is triggered when it considers issuing a permit, authorization or approval for a project which has the potential to adversely impact an Aboriginal right, such as the right to hunt, fish, or trap in a particular area.

The scope of consultation required in particular circumstances ranges across a spectrum depending on both the nature of the asserted or established right and the seriousness of the potential adverse impacts on that right.

Depending on the particular circumstances, the Crown may also need to take steps to accommodate the potentially impacted Aboriginal or treaty right. For example, the Crown may be required to avoid or minimize the potential adverse impacts of the project.

III. THE CROWN'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

The Crown has the responsibility for ensuring that the duty to consult, and accommodate where appropriate, is met. However, the Crown may delegate the procedural aspects of consultation to a proponent.

There are different ways in which the Crown may delegate the procedural aspects of consultation to a proponent, including through a letter, a memorandum of understanding, legislation, regulation, policy and codes of practice.

If the Crown decides to delegate procedural aspects of consultation, the Crown will generally:

- Ensure that the delegation of procedural aspects of consultation and the responsibilities of the proponent are clearly communicated to the proponent;
- Identify which Aboriginal communities must be consulted;
- Provide contact information for the Aboriginal communities;
- Revise, as necessary, the list of Aboriginal communities to be consulted as new information becomes available and is assessed by the Crown;
- Assess the scope of consultation owed to the Aboriginal communities;
- Maintain appropriate oversight of the actions taken by the proponent in fulfilling the procedural aspects of consultation;
- Assess the adequacy of consultation that is undertaken and any accommodation that may be required;
- Provide a contact within any responsible ministry in case issues arise that require direction from the Crown; and
- Participate in the consultation process as necessary and as determined by the Crown.

IV. THE PROPONENT'S ROLE AND RESPONSIBILITIES IN THE DELEGATED CONSULTATION PROCESS

Where aspects of the consultation process have been delegated to a proponent, the Crown, in meeting its duty to consult, will rely on the proponent's consultation activities and documentation of those activities. The consultation process informs the Crown's decision of whether to approve a proposed project or activity.

A proponent's role and responsibilities will vary depending on a variety of factors including the extent of consultation required in the circumstance and the procedural aspects of consultation the Crown has delegated to it. Proponents are often in a better position than the Crown to discuss a project and its potential impacts with Aboriginal communities and to determine ways to avoid or minimize the adverse impacts of a project.

A proponent can raise issues or questions with the Crown at any time during the consultation process. If issues or concerns arise during the consultation that cannot be addressed by the proponent, the proponent should contact the Crown.

a) What might a proponent be required to do in carrying out the procedural aspects of consultation?

Where the Crown delegates procedural aspects of consultation, it is often the proponent's responsibility to provide notice of the proposed project to the identified Aboriginal communities. The notice should indicate that the Crown has delegated the procedural aspects of consultation to the proponent and should include the following information:

- a description of the proposed project or activity;
- mapping;
- proposed timelines;
- details regarding anticipated environmental and other impacts;
- details regarding opportunities to comment; and
- any changes to the proposed project that have been made for seasonal conditions or other factors, where relevant.

Proponents should provide enough information and time to allow Aboriginal communities to provide meaningful feedback regarding the potential impacts of the project. Depending on the nature of consultation required for a project, a proponent also may be required to:

- provide the Crown with copies of any consultation plans prepared and an opportunity to review and comment;
- ensure that any necessary follow-up discussions with Aboriginal communities take place in a timely manner, including to confirm receipt of information, share and update information and to address questions or concerns that may arise;
- as appropriate, discuss with Aboriginal communities potential mitigation measures and/or changes to the project in response to concerns raised by Aboriginal communities;
- use language that is accessible and not overly technical, and translate material into Aboriginal languages where requested or appropriate;
- bear the reasonable costs associated with the consultation process such as, but not limited to, meeting hall rental, meal costs, document translation(s), or to address technical & capacity issues;
- provide the Crown with all the details about potential impacts on established or asserted Aboriginal or treaty rights, how these concerns have been considered and addressed by the proponent and the Aboriginal communities and any steps taken to mitigate the potential impacts;
- provide the Crown with complete and accurate documentation from these meetings and communications; and
- notify the Crown immediately if an Aboriginal community not identified by the Crown approaches the proponent seeking consultation opportunities.

b) What documentation and reporting does the Crown need from the proponent?

Proponents should keep records of all communications with the Aboriginal communities involved in the consultation process and any information provided to these Aboriginal communities.

As the Crown is required to assess the adequacy of consultation, it needs documentation to satisfy itself that the proponent has fulfilled the procedural aspects of consultation delegated to it. The documentation required would typically include:

- the date of meetings, the agendas, any materials distributed, those in attendance and copies of any minutes prepared;
- the description of the proposed project that was shared at the meeting;
- any and all concerns or other feedback provided by the communities;
- any information that was shared by a community in relation to its asserted or established Aboriginal or treaty rights and any potential adverse impacts of the proposed activity, approval or disposition on such rights;
- any proposed project changes or mitigation measures that were discussed, and feedback from Aboriginal communities about the proposed changes and measures;
- any commitments made by the proponent in response to any concerns raised, and feedback from Aboriginal communities on those commitments;
- copies of correspondence to or from Aboriginal communities, and any materials distributed electronically or by mail;
- information regarding any financial assistance provided by the proponent to enable participation by Aboriginal communities in the consultation;
- periodic consultation progress reports or copies of meeting notes if requested by the Crown;
- a summary of how the delegated aspects of consultation were carried out and the results; and
- a summary of issues raised by the Aboriginal communities, how the issues were addressed and any outstanding issues.

In certain circumstances, the Crown may share and discuss the proponent's consultation record with an Aboriginal community to ensure that it is an accurate reflection of the consultation process.

c) Will the Crown require a proponent to provide information about its commercial arrangements with Aboriginal communities?

The Crown may require a proponent to share information about aspects of commercial arrangements between the proponent and Aboriginal communities where the arrangements:

- include elements that are directed at mitigating or otherwise addressing impacts of the project;
- include securing an Aboriginal community's support for the project; or
- may potentially affect the obligations of the Crown to the Aboriginal communities.

The proponent should make every reasonable effort to exempt the Crown from confidentiality provisions in commercial arrangements with Aboriginal communities to the extent necessary to allow this information to be shared with the Crown.

The Crown cannot guarantee that information shared with the Crown will remain confidential. Confidential commercial information should not be provided to the Crown as part of the consultation record if it is not relevant to the duty to consult or otherwise required to be submitted to the Crown as part of the regulatory process.

V. WHAT ARE THE ROLES AND RESPONSIBILITIES OF ABORIGINAL COMMUNITIES' IN THE CONSULTATION PROCESS?

Like the Crown, Aboriginal communities are expected to engage in consultation in good faith. This includes:

- responding to the consultation notice;
- engaging in the proposed consultation process;
- providing relevant documentation;
- clearly articulating the potential impacts of the proposed project on Aboriginal or treaty rights; and
- discussing ways to mitigate any adverse impacts.

Some Aboriginal communities have developed tools, such as consultation protocols, policies or processes that provide guidance on how they would prefer to be consulted. Although not legally binding, proponents are encouraged to respect these community processes where it is reasonable to do so. Please note that there is no obligation for a proponent to pay a fee to an Aboriginal community in order to enter into a consultation process.

To ensure that the Crown is aware of existing community consultation protocols, proponents should contact the relevant Crown ministry when presented with a consultation protocol by an Aboriginal community or anyone purporting to be a representative of an Aboriginal community.

VI. WHAT IF MORE THAN ONE PROVINCIAL CROWN MINISTRY IS INVOLVED IN APPROVING A PROPONENT'S PROJECT?

Depending on the project and the required permits or approvals, one or more ministries may delegate procedural aspects of the Crown's duty to consult to the proponent. The proponent may contact individual ministries for guidance related to the delegation of procedural aspects of consultation for ministry-specific permits/approvals required for the project in question. Proponents are encouraged to seek input from all involved Crown ministries sooner rather than later.

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Thursday, October 24, 2019 3:07 PM
To: Reid Mitchell
Cc: Mike Ainley; Jody Marks
Subject: FW: Raymond A. Barker Water Treatment Plan Expansion - Town of Collingwood - NVCA ID # 37757
Attachments: ASSESSMENT RPT JULY 2019.pdf

Reid,

Please see the email below from the NVCA to be added to the EA correspondence file and noted action items required.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

From: Lee Bull [mailto:lbull@nvca.on.ca]
Sent: October-24-19 2:48 PM
To: Ken Kaden <kkaden@collingwood.ca>
Subject: Raymond A. Barker Water Treatment Plan Expansion - Town of Collingwood - NVCA ID # 37757

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Good afternoon Ken

Nottawasaga Valley Conservation Authority [NVCA] is in receipt of a "Notice of Study Commencement" of a Class Environmental Assessment associated with the Raymond A. Barker Water Treatment Plant Expansion.

General Comments:

The water treatment plant property is partially regulated by the NVCA for Shoreline Hazards associated with Georgian Bay.

In accordance with Ontario Regulation 172/06 (our Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation), a permit will be required from the NVCA prior to any of the following:

- Construction of any building or structure within the shoreline flood hazard;
- Placing fill within an area Regulated by the NVCA;
- Straightening, changing, diverting or interfering in any way of the existing channel of a river, creek, stream or watercourse;
- Interference with a wetland.

General Design Objectives Engineering

1. The project should include quality and quantity control measures to treat stormwater runoff from the site in accordance with MECP and NVCA Guidelines. Typically we request that the proponent provide treatment for all new proposed impervious areas and where possible existing road surfaces. Low Impact Development measures are encouraged.
2. All proposed structures (i.e. elevated storage tanks, booster pumping station, etc.) should be planned, and constructed outside of the hazard limits.
3. Water quality treatment (to the enhanced level) should be applied to all new and existing road improvements. Consideration should be given to implementing a treatment train approach.
4. During the detailed design period of this project, all proposed methods to control sedimentation during construction and potential erosion following the completion of the project should be included.

Hydrogeology Comments:

The *Safe Drinking Water Act, 2002* and the *Clean Water Act, 2006* were amended to ensure that source protection planning is incorporated early in the municipal residential drinking water supply process.

Effective July 1, 2018, the new amendments require that system owners ensure that work to assess the vulnerability of a new or expanding drinking water system is completed and accepted by the source protection authority (SPA) before the owner can apply for a drinking water works permit / license, and that the water not be provided to the public until the updated source protection plan that protects the system is approved by the Ministry of the Environment, Conservation, and Parks.

Under section 2(3) of O. Reg. 205/18, an application for an amendment to a drinking water works permit / license, must be accompanied by a copy of a Notice (described in Clause 48 (1.1) (b) of O. Reg. 287/07) given to the owner of the drinking water system. This Notice must state that the SPA is satisfied that the technical work has been completed, for the purpose of identifying amendments to the source protection plan that are anticipated to be necessary, and the timing to submit any proposed amendments to the Ministry of the Environment, Conservation, and Parks..

It is noted in the commencement letter that subsequent to the MSP PIC it was determined that it would be necessary to increase the ultimate plant capacity identified in the 2004 Class EA (74.6 MLD) to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities. It is assumed that this would trigger a permit to take renewal. Therefore, the EA process should be aware of the O.Reg 205/18.

Attached to this email is the draft implementation guidelines for O.Reg. 205/18 for consideration by the municipality.

Next steps:

Given NVCA's interest, staff would like to be kept informed of future meetings and proceedings through the Environmental Assessment process. Please forward any detailed information or reports including any draft Environmental Servicing Reports, when available to ensure that this

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Thursday, November 21, 2019 8:43 AM
To: rpost@nvca.on.ca
Cc: Peggy Slama; Robin Shugan; Reid Mitchell; Jody Marks
Subject: RE: water treatment plant EA

Ryan,

In response to your inquiry regarding the EA currently underway for the Town of Collingwood's water treatment plant.

As you have noted the EA is underway, we are hoping to have it completed in late spring/early summer of 2020 such that we could have a design engineer retained by the fall of 2020 to undertake the design of phase 1 of the upgrades we will need at our treatment plant.

While the EA does identify the need for increase water taking, this is part of the ultimate design and will not be part of the Phase 1 work. Our PTTW is up for renewal in January 2021 and the current plan is to renew it at the same taking limits as this will satisfy our projected needs for the next 10 years. No new surface water intake or alterations to the existing intake pipe are proposed under Phase 1.

Trust that this clarifies things a bit. Should you have any follow up questions please feel free to contact me directly.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

From: Robin Shugan
Sent: Monday, November 18, 2019 10:19 AM
To: 'Ryan Post'
Cc: Peggy Slama
Subject: RE: water treatment plant EA

Hi Ryan,
I have passed your email on to Peggy Slama to answer your inquiry.
Thanks,
Robin

Robin Shugan CPT, ACST
Planning Technician
Secretary Treasurer Committee of Adjustment,
RMO/I
Planning Services

Town of Collingwood
55 Ste. Marie Street Unit 302
Collingwood ON. L9Y 0W6
705-445-1290 Ext. 3259

rshugan@collingwood.ca | www.collingwood.ca

From: Ryan Post [<mailto:rpost@nvca.on.ca>]
Sent: Monday, November 18, 2019 9:50 AM
To: Robin Shugan
Subject: water treatment plant EA

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robin;

hope all is well

I understand that the Town of Collingwood is undergoing a Class EA regarding the water treatment plant expansion (see attached). do you happen to know the timelines for the Class EA completion and status for this endeavor? further, since the notice has already identified the increase in the maximum taking, has any work been completed to update the PTTW?

the reason I ask is that depending on the volume change, there may need to be some updating/work under O. Reg 205/18- see attached in order to be in compliance with the clean water act.

please let me know if you have any questions

sincerely

ryan post

Ryan Post M.Sc., P. Geo | Manager, Watershed Science

Nottawasaga Valley Conservation Authority

8195 8th Line, Utopia, ON L0M 1T0

T 705-424-1479 ext. 249 | **F** 705-424-2115

rpost@nvca.on.ca | nvca.on.ca

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Authority's policy and program interests are reflected in the planning and design components for this project.

We thank you for the opportunity to provide comments at this stage in the EA process and we look forward to working with you on this matter.

Sincerely,

Lee J. Bull, MCIP, RPP | Manager, Planning Services

Nottawasaga Valley Conservation Authority

8195 8th Line, Utopia, ON L0M 1T0

T 705-424-1479 ext. 231 | F 705-424-2115

lbull@nvca.on.ca | nvca.on.ca

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Victoria Perejmybida

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Friday, August 16, 2019 9:51 AM
To: Victoria Perejmybida
Cc: mitchell@ainleygroup.com; Peggy Slama; Mike Ainley
Subject: Fwd: Raymond A. Barker Water Treatment Plant Expansion, Collingwood

Tori

FYI. See email below.

Sent from my iPhone

Begin forwarded message:

From: Sharday James <shardayj@ramafirstnation.ca>
Date: August 16, 2019 at 9:45:54 AM EDT
To: "kkaden@collingwood.ca" <kkaden@collingwood.ca>
Subject: Raymond A. Barker Water Treatment Plant Expansion, Collingwood

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Good Morning,

My name is Sharday James and I am the Community Consultation Worker for the Chippewas of Rama First Nation. I am sending this email in regards to a notice we received from you dated August 15th about the commencement of an EA for the expansion of the Raymond A. Barker Water Treatment Plant in Collingwood. I wanted to thank you for contacting us. At this time we have no comments but we ask that you keep us informed moving forward. I also wanted to let you know that I should be the one who is contacted on any future updates.

Thank you,
Sharday James

Sharday James

Community Consultation Worker, Communications

Chippewas of Rama First Nation

(ph) 705-325-3611,1633

(cell)

(fax)

(url) www.ramafirstnation.ca

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By submitting your or another individual's personal information to Chippewas of Rama First Nation, its service providers and agents, you agree and confirm your authority from such other individual, to our collection, use and disclosure of such personal information in accordance with our privacy policy.

 Please consider the environment before printing this e-mail.

Victoria Perejmybida

From: Juanita Meekins <juanita.meekins@saugeenojibwaynation.ca>
Sent: Tuesday, August 20, 2019 3:26 PM
To: Victoria Perejmybida; Doran Ritchie
Subject: Town of Collingwood Class Environmental Assessment Raymond

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Tori and Veronica,

The Saugeen Ojibway Nation Environment Office would like further information regarding the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. We would like information as to the scope of the project and timelines.

You can email this information to Doran Ritchie and myself, I will be the contact for this project. I look forward to this information and if you have any questions or concerns my contact information is below.

Thank you,

--

Juanita Meekins Executive Assistant of Resources and Infrastructure
Saugeen Ojibway Nation Environment Office
25 Maadokii Subdivision Neyaashiinigiing, Ontario N0H 2T0
Cell: (519) 379-0558 | Office: (519) 534-5507 | Fax: (519) 534-5525

Victoria Perejmybida

From: Victoria Perejmybida
Sent: Thursday, August 15, 2019 2:47 PM
To: [REDACTED]
Cc: Mike Ainley; Ken Kaden
Subject: RE: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Hi [REDACTED],

Thank you for the email. We have updated the agency contact list with your information for further project correspondence.

Regards,

Tori Perejmybida, M.A.Sc., P.Eng.



www.ainleygroup.com

*****Please note the name and e-mail change. Please update your contact list/address book. Thank you.*****

perejmybida@ainleygroup.com
Tel: (705) 445-3451 Ext. 119
Cell: (705) 539-0149

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From: [REDACTED] >
Sent: Thursday, August 15, 2019 11:50 AM
To: Victoria Perejmybida <perejmybida@ainleygroup.com>
Subject: RE: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Thank you Tori for including us on your mailing list.

Please send any further notifications to me directly.

[REDACTED]

[REDACTED] Water and Wastewater Engineering

Tatham Engineering Limited

115 Sandford Fleming Drive, Suite 200 | Collingwood | Ontario | L9Y 5A6
T 705-444-2565 x2089 | [REDACTED]

In conjunction with our 30th year of operations, we are pleased to announce our new name **Tatham Engineering Limited** and website **tathameng.com**. Please update your records accordingly, including email addresses which have also changed.

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From: Victoria Perejmybida <perejmybida@ainleygroup.com>
Sent: Thursday, August 15, 2019 11:24 AM
Cc: Ken Kaden <kkaden@collingwood.ca>; Mike Ainley <ainley.m@ainleygroup.com>
Subject: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement

Good morning,

The Town of Collingwood is undertaking a Class Environmental Assessment study to update the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. You are on the stakeholder contact list for this project. Please find attached the Notice of Study Commencement.

If you have any question please do not hesitate to contact us. Thank you.

Regards,

Tori Perejmybida, M.A.Sc., P.Eng.



www.ainleygroup.com

*****Please note the name and e-mail change. Please update your contact list/address book. Thank you.*****

perejmybida@ainleygroup.com

Tel: (705) 445-3451 Ext. 119

Cell: (705) 539-0149

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Victoria Perejmybida

From: Victoria Perejmybida
Sent: Thursday, August 22, 2019 10:01 AM
To: [REDACTED]
Cc: Ken Kaden; Mike Ainley; Reid Mitchell
Subject: RE: Collingwood Class EA

Hi [REDACTED],

Thank you for providing your contact information. The contact list has been updated accordingly.

Regards,

Tori Perejmybida, M.A.Sc., P.Eng.



www.ainleygroup.com

*****Please note the name and e-mail change. Please update your contact list/address book. Thank you. *****

perejmybida@ainleygroup.com
Tel: (705) 445-3451 Ext. 119
Cell: (705) 539-0149

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From: [REDACTED] >
Sent: Thursday, August 22, 2019 10:15 AM
To: Victoria Perejmybida <perejmybida@ainleygroup.com>
Subject: Collingwood Class EA

Hello Tori,
Thank you for forwarding this Notice. My email address is [REDACTED] for future notices and the office telephone number is [REDACTED] for your records
Regards
[REDACTED]

From: info@planwells.com <info@planwells.com>
Sent: Wednesday, August 21, 2019 3:13 PM
To: [REDACTED]
Subject: [FWD: Collingwood Water Treatment Plant Environmental Assessment - Notice of Study Commencement]

----- Original Message -----
Subject: Collingwood Water Treatment Plant Environmental Assessment -
Notice of Study Commencement
From: Victoria Perejmybida <perejmybida@ainleygroup.com>

Date: Thu, August 15, 2019 8:23 am

To:

Cc: Ken Kaden <kkaden@collingwood.ca>, Mike Ainley
<ainley.m@ainleygroup.com>

Good morning,

The Town of Collingwood is undertaking a Class Environmental Assessment study to update the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. You are on the stakeholder contact list for this project. Please find attached the Notice of Study Commencement.

If you have any question please do not hesitate to contact us. Thank you.

Regards,

Tori Perejmybida, [M.A.Sc.](https://www.aainleygroup.com), P.Eng.



www.ainleygroup.com

***** Please note the name and e-mail change. Please update your contact list/address book. Thank you. *****

perejmybida@ainleygroup.com

Tel: (705) 445-3451 Ext. 119

Cell: (705) 539-0149

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Plan Wells Associates

Plan Wells Associates,
40 Connor Avenue,
Collingwood, Ontario, L9Y 5K6
Telephone 705 444 5812
Fax 705 444 6756

www.planwells.com



From: [Reid Mitchell](#)
To: [Jody Marks](#)
Subject: FW: Class EA - Raymond A. Barker Water Treatment Plant Expansion
Date: Wednesday, September 11, 2019 9:03:54 AM

FYI for your files.

Reid Mitchell
Engineering Technologist



www.ainleygroup.com
Tel: (705) 445-3451 Ext. 135
Cell: (705) 444-4837

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From: Ken Kaden [mailto:kkaden@collingwood.ca]
Sent: Wednesday, September 04, 2019 7:44 AM
To: [REDACTED]
Cc: [REDACTED]; John Velick; Reid Mitchell; Peggy Slama
Subject: RE: Class EA - Raymond A. Barker Water Treatment Plant Expansion

[REDACTED],

You are correct, this development was included in the MSP as a potential development and therefore will be included in future water demands to be accounted for in the WTP expansion.

Trust this clarifies things for you.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

From: [REDACTED]
Sent: September-03-19 3:08 PM
To: Ken Kaden <kkaden@collingwood.ca>
Cc: [REDACTED]; John Velick <jvelick@collingwood.ca>; Reid Mitchell <mitchell@ainleygroup.com>; Peggy Slama <pslama@collingwood.ca>
Subject: RE: Class EA - Raymond A. Barker Water Treatment Plant Expansion

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Ken – we appreciate the response below; however, we'd like more definitive confirmation that [REDACTED] is considered a potential development and included in the servicing scenarios (in lieu of the "we believe"). If it is, then it would appear the study also considered greenfield developments located outside the 'built boundary' and you may want to update that wording accordingly.

Regards,

[REDACTED]

From: Ken Kaden <kkaden@collingwood.ca>

Sent: Tuesday, September 3, 2019 11:51 AM

To: [REDACTED]

Cc: [REDACTED]; John Velick <jvelick@collingwood.ca>; Reid Mitchell <mitchell@ainleygroup.com>; Peggy Slama <pslama@collingwood.ca>

Subject: RE: Class EA - Raymond A. Barker Water Treatment Plant Expansion

[REDACTED]

My apologies for the delay in my response. I have been out of the office unexpectedly.

The master servicing plan looked in detail at planned development and potential development, and in less detail the servicing of all remnant lands within the municipality. We believe the property you are referring to is considered a potential development and would have been included in our servicing scenarios. The Water Plant Expansion EA is including a phased approach for servicing the full build out of the Collingwood boundary

Trust this answers your question.

Ken Kaden P.Eng.

Project Coordinator, Environmental Services

P 705-445-1581 Ext. 3303 | M 705-351-2133

kkaden@collingwood.ca

From: [REDACTED]

Sent: August-23-19 10:15 AM

To: Ken Kaden <kkaden@collingwood.ca>

Cc: [REDACTED]

Subject: Class EA - Raymond A. Barker Water Treatment Plant Expansion

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click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Good morning Ken,

Thank you for circulating us on the Notice of Study Commencement for the Raymond A. Barker Water Treatment Plant Expansion. On behalf of our Client, [REDACTED], we'd like some clarification on the area that will be serviced by this expansion. The documentation provided indicates "the capacity will be increased from 74.6 MLD to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities". We assume there's a typo and that should refer to the 'built' boundary projections.

Our Clients property [REDACTED] is located outside of the built boundary. We have applied for Draft Plan Approval (this site has been previously Draft Plan Approved for many years) and expect the application to go to council shortly. Will the expansion service their development and other 'greenfield' developments?

Please advise. We look forward to receiving future information regarding this Class EA process.

Regards,

[REDACTED]

Tatham Engineering Limited

115 Sandford Fleming Drive, Suite 200 | Collingwood | Ontario | L9Y 5A6
T 705.444.2565 x2007 | [REDACTED]

In conjunction with our 30th year of operations, we are pleased to announce our new name Tatham Engineering Limited and website tathameng.com. Please update your records accordingly, including email addresses which have also changed.

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Meeting Notes

December 4, 2019 Meeting with NVCA

To: File **File:** 119013
From: Jody Marks
Date: December 13, 2019
Ref: Town of Collingwood Raymond A. Barker WTP Expansion Class EA

As part of agency consultation of the Class EA process, the Nottawasaga Valley Conservation Authority (NVCA) was sent the *Notice of Commencement*. The NVCA responded informing the project team that part of the project area is regulated by the NVCA. The response letter further outlined additional guidelines pertaining to water quality control measures, low impact development (LID) features, and Source Water Protection. A copy of the NVCA's response letter in full and correspondence is included in Appendix A.

On December 4, 2019 the project team met with staff from the NVCA to discuss the Authority's policy and program as they relate to the Raymond A. Barker Water Treatment Plant (WTP) Expansion Class Environmental Assessment (Class EA). This memo is intended as a summary of the meeting's discussion and direction.

Those in attendance at this meeting were:

Ken Kaden (Town of Collingwood)	Lee Bull (NVCA)
Reid Mitchell (Ainley Group)	Mark Hartley (NVCA)
Jody Marks (Ainley Group)	

At the start of the meeting Ainley provided NVCA staff with a brief history on the existing WTP and expansion project.

NVCA staff identified that the Shoreline Hazard limit associated with Georgian Bay traverses through the existing WTP land area, while the entire proposed WTP expansion area is within lands designated as Shoreline Hazard. Development within hazardous lands as described in the *Provincial Policy Statement* would require approval under the *Planning Act*. However, development associated with the proposed infrastructure is authorized through completion of the environmental assessment process. A permit from the NVCA will be required for the construction of any buildings within the designated area.

As part of the consultation process, NVCA staff provided recommendations on the information to be included in the Environmental Study Report (ESR) to effectively address their comments and concerns. The following outlines information to be demonstrated within the ESR:

- Consideration for the implications of developing within hazardous lands; such as public safety, erosion, and access for shoreline maintenance.
- The design of any buildings should be cautious of elevations and consider raised openings to all entryways to help reduce impacts from potential flooding.
- The design and location of hazardous materials storage
- Develop appropriate mitigation measures to address impacts from potential hazards.
- The use of LID features is encouraged to slow rapid runoff and should be considered

throughout the project area. In particular an effort should be made to incorporate LIDs in areas where hard surfaces are required, such as driveways and roof tops.

Ainley formally requested from the NVCA established lake level and wave uprush data. The NVCA agreed to provide this information to Ainley. Based off of the information provided, Ainley will determine the appropriate elevation for all building openings and consult with the NVCA for further review.

In the NVCA's response letter to the Town of Collingwood, it is noted that as of July 1, 2018 Ontario Regulation 205/18 came into effect. This amendment requires, among other details, that system owners ensure that work to assess the vulnerability of a new or expanding drinking water system is completed and accepted by the source protection authority (SPA) before the owner can apply for a drinking water works permit/license. The following was confirmed through discussions on how this Class EA would have regard for O. Reg. 2015/18:

- The SPA for this project is the NVCA
- Phase 1 of the WTP expansion will operate within the capacity limits of the Town's current Permit to Take Water (PTTW) and therefore it is anticipated that only a renewal will be required.
- To achieve the ultimate capacity phase of the WTP expansion, a new PTTW will be required. It would be at this time that the process described under O. Reg 205/18 will need to be fulfilled by the Town.
- The NVCA recommends that the ESR demonstrate an understanding of O. Reg. 205/18 as it applies to this project.

Staff from the NVCA recommended that future consultation on this project be included to Ryan Post, Manager of Watershed Science of the NVCA.

Continued consultation with the NVCA is expected throughout the remainder of this Class EA and therefore an Appendix of the ESR will be dedicated to NVCA guidelines.

APPENDIX A

NVCA Response Letter and Associated Correspondence

From: [Ken Kaden](#)
To: [Reid Mitchell](#)
Cc: [Mike Ainley](#); [Jody Marks](#)
Subject: FW: Raymond A. Barker Water Treatment Plan Expansion - Town of Collingwood - NVCA ID # 37757
Date: Thursday, October 24, 2019 3:07:15 PM
Attachments: [ASSESSMENT RPT JULY 2019.pdf](#)

Reid,

Please see the email below from the NVCA to be added to the EA correspondence file and noted action items required.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

From: Lee Bull [<mailto:lbull@nvca.on.ca>]
Sent: October-24-19 2:48 PM
To: Ken Kaden <kkaden@collingwood.ca>
Subject: Raymond A. Barker Water Treatment Plan Expansion - Town of Collingwood - NVCA ID # 37757

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Good afternoon Ken

Nottawasaga Valley Conservation Authority [NVCA] is in receipt of a "Notice of Study Commencement" of a Class Environmental Assessment associated with the Raymond A. Barker Water Treatment Plant Expansion.

General Comments:

The water treatment plant property is partially regulated by the NVCA for Shoreline Hazards associated with Georgian Bay.

In accordance with Ontario Regulation 172/06 (our Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation), a permit will be required from the NVCA prior to any of the following:

- Construction of any building or structure within the shoreline flood hazard;
- Placing fill within an area Regulated by the NVCA;
- Straightening, changing, diverting or interfering in any way of the existing channel of a river, creek, stream or watercourse;

- Interference with a wetland.

General Design Objectives Engineering

1. The project should include quality and quantity control measures to treat stormwater runoff from the site in accordance with MECP and NVCA Guidelines. Typically we request that the proponent provide treatment for all new proposed impervious areas and where possible existing road surfaces. Low Impact Development measures are encouraged.
2. All proposed structures (i.e. elevated storage tanks, booster pumping station, etc.) should be planned, and constructed outside of the hazard limits.
3. Water quality treatment (to the enhanced level) should be applied to all new and existing road improvements. Consideration should be given to implementing a treatment train approach.
4. During the detailed design period of this project, all proposed methods to control sedimentation during construction and potential erosion following the completion of the project should be included.

Hydrogeology Comments:

The *Safe Drinking Water Act, 2002* and the *Clean Water Act, 2006* were amended to ensure that source protection planning is incorporated early in the municipal residential drinking water supply process.

Effective July 1, 2018, the new amendments require that system owners ensure that work to assess the vulnerability of a new or expanding drinking water system is completed and accepted by the source protection authority (SPA) before the owner can apply for a drinking water works permit / license, and that the water not be provided to the public until the updated source protection plan that protects the system is approved by the Ministry of the Environment, Conservation, and Parks.

Under section 2(3) of O. Reg. 205/18, an application for an amendment to a drinking water works permit / license, must be accompanied by a copy of a Notice (described in Clause 48 (1.1) (b) of O. Reg. 287/07) given to the owner of the drinking water system. This Notice must state that the SPA is satisfied that the technical work has been completed, for the purpose of identifying amendments to the source protection plan that are anticipated to be necessary, and the timing to submit any proposed amendments to the Ministry of the Environment, Conservation, and Parks..

It is noted in the commencement letter that subsequent to the MSP PIC it was determined that it would be necessary to increase the ultimate plant capacity identified in the 2004 Class EA (74.6 MLD) to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities. It is assumed that this would trigger a permit to take renewal. Therefore, the EA process should be aware of the O.Reg 205/18.

Attached to this email is the draft implementation guidelines for O.Reg. 205/18 for consideration by the municipality.

Next steps:

Given NVCA's interest, staff would like to be kept informed of future meetings and proceedings through the Environmental Assessment process. Please forward any detailed information or reports including any draft Environmental Servicing Reports, when available to ensure that this Authority's policy and program interests are reflected in the planning and design components for this project.

We thank you for the opportunity to provide comments at this stage in the EA process and we look forward to working with you on this matter.

Sincerely,

Lee J. Bull, MCIP, RPP | Manager, Planning Services

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Assessment Report and Plan Amendments under s.34 of the Clean Water Act – Internal Process for Implementing Regulatory Requirements in the SGBLS Region

July 2019

Purpose

To provide guidance to SPAs for implementing the regulatory requirements under the *Safe Drinking Water Act, 2002*, O. Reg. 205/18 and the *Clean Water Act, 2006*, s.48(1.1) (b), O. Reg. 287/07 in order to incorporate source protection planning into the municipal residential drinking water supply process.

Background

The *Safe Drinking Water Act, 2002* and the *Clean Water Act, 2006* were amended to ensure that source protection planning is incorporated early in the municipal residential drinking water supply process.

Effective July 1, 2018, the new amendments require that system owners ensure that work to assess the vulnerability of a new or expanding drinking water system is completed and accepted by the source protection authority (SPA) before the owner can apply for a drinking water works permit / license, and that the water not be provided to the public until the updated source protection plan that protects the system is approved by the Ministry of the Environment, Conservation, and Parks.

Under section 2(3) of O. Reg. 205/18, an application for an amendment to a drinking water works permit / license, must be accompanied by a copy of a Notice (described in Clause 48 (1.1) (b) of O. Reg. 287/07) given to the owner of the drinking water system. This Notice must state that the SPA is satisfied that the technical work has been completed, for the purpose of identifying amendments to the source protection plan that are anticipated to be necessary, and the timing to submit any proposed amendments to the Ministry of the Environment, Conservation, and Parks.

Implementing the Regulations in the SGBLS Source Protection Region

To assist with the implementation of these new requirements, a protocol including a work flow diagram and checklist has been developed. The goal is to provide a framework linking source protection planning to Municipal Class Environmental Assessment and drinking water works permit/license processes. The protocol is comprised of:

1. Work flow diagram (Appendix A)
2. Checklist of required steps and tasks to be completed by the SPA (Appendix B)
3. Series of Class Environmental Assessment and Source Protection Planning Matrices (Appendix C)
4. Checklist of files to be submitted to the SPA (Appendix D)
5. Example SPA Notice of Amendments to SPP (Appendix E)
6. Folders and documents for SPA to submit to MECP on USB key (Appendix F)

Appendix A – Work Flow Diagram

<p>Step 1: Early Planning Municipal residential drinking water system owners and local SPA discuss the owner’s intention of establishing or altering a system</p>	
<p>Step 2: Notice from Owner System owner conducts technical EA and source protection planning work (mapping, vulnerability) and provides a written notice to the local SPA of their intent of applying for a permit/license from MECP.</p>	<p>Approximate timing for SPA to complete steps after receiving notice *</p>
<p>Step 3: Source Protection Work Complete and submit WHPA mapping and vulnerability delineation to the local SPA and the Lead SPA program Manager. Note that even after approval of EA, the provision of water cannot commence until the updated SPP is approved</p>	
<p>Step 4: Notice from SPA Local SPA reviews technical work to determine if work is sufficiently complete to identify amendments needed to the SPP and if complete, issue a notice to the owner stating that the work is complete. Owner can then apply for a drinking water works permit/licence</p>	<p>~1 month</p>
<p>Step 5: SPP Update</p>	
<p>Step 5a: Early Engagement 1 Local SPA to inform affected Municipalities that council resolution will be required and start early engagement with MECP for feedback</p>	<p>~1 month (may be completed concurrently with Step 4)</p>
<p>Step 5b: Plan Amendment(s) Developed SPA and SPC agree on amendments required</p>	<p>~3 months</p>
<p>Step 5c: Early Engagement 2 At the discretion of the local SPA copies of proposed amendments can be provided to Clerk of affected Municipalities and other persons</p>	<p>~1-2 months (may be able to be completed concurrently with Step 5b)</p>
<p>Step 5d: Pre-consultation Notice of SPP revisions including draft policy text, summary of rationale for changes, and request for written comments sent to impacted bodies including Municipalities and government bodies</p>	
<p>Step 5d: Municipal Endorsement Municipality(ies) affected by proposed amendments pass a council resolution endorsing the amendments if it has not already been accomplished in pre-consultation step 5c</p>	<p>TBD municipality by municipality</p>
<p>Step 5e: Public Consultation Local SPA publishes proposed amendments on website with hardcopies to be made available and notification in newspaper and to affected parties. Public consultation to last at minimum 35-days from date of notification</p>	<p>~1-2 months</p>
<p>Step 6: SPA Submission to MECP Including a cover letter confirming SPA support of amendments, proposed amendments, revised explanatory document, summary of all consultation activities, and example notices</p>	<p>~3 months</p>
<p>Step 7: Provision of Water Chair of SPC, Local and Lead SPAs will receive notification from Ministry that amendments to the SGBLS Source Protection Plan have been approved. The drinking water system owner can supply water to the public</p>	

* Please note that approximate timing for SPAs to complete each work flow step is a very rough estimate and will depend on the complexity of the update and the ability to schedule meetings with relevant committees, boards, and councils.

Appendix B – Checklist of required steps to be completed by SPA

Step 1: Early Planning

- Initiated by Municipality to inform local SPA of anticipated s.34 update
- Recommended that Local SPA provide Municipality with pdf document of protocol for s.34 update so Municipality is aware of expectations, requirements and anticipated timelines of the local SPA

Step 2: Notice from Owner

- Initiated by Municipality to confirm intent
- Recommended that local SPA confirm with the owner the municipal well/ intake alteration category (to determine required technical work as outlined in the planning matrix Appendix C)
- Recommended that local SPA provide Municipality with pdf document of protocol for s.34 update if haven't already
- Local SPA to confirm with municipality a list of files to be submitted to the SPA based on extent of technical changes expected as outlined in the protocol document (Appendix D)
- Local SPA to inform lead SPA of Municipality intent and upcoming s.34 amendment

Step 3: Source Protection Work

- Initiated by Municipality and provided to local SPA and should include the following technical work/documents but will depend on the EA category (as outlined in Appendix C and D)
 - Mapping and GIS files of any new vulnerable areas or alteration of existing vulnerable areas
 - Mapping and GIS files of percent impervious, percent managed lands, and livestock density where applicable
 - Any information related to existing issues / conditions that municipalities are aware of
- Local SPA to ensure all appropriate documentation of technical work required for submission to MECP has been provided by municipality (refer to appendix D for required documents)

Step 4: Notice from SPA

- Local SPA reviews technical work to determine if work is sufficiently complete to identify amendments needed to SPP. Note: the SPA review of technical work is to ensure it is complete for the purposes of the SPA identifying amendments that are anticipated to be necessary to the SPP and not for accuracy
 - To determine if technical work is “sufficiently complete” and that we are satisfied, consider the following: quality of technical work; methods consistent with previous technical work and if not then changes to methodology makes sense; WHPA delineation method is appropriate (e.g. model is adequate or 2D method seems reasonable); go through Assessment report to ensure can make all changes required; GIS files have what we need for mapping and determining significant/moderate/low threats; etc.
- Local SPA assess potential amendments needed to the AR and SPP
- Local SPA estimates the time necessary to complete the amendment, including the Steps for consultation with SPC, municipalities, implementing bodies, and SPA Board endorsement
- NOTE: ensure the notice is not issued until all information required to update the SPP is obtained (including GIS files, etc.)
- Local SPA issues notice to system owner upon confirmation that technical work is complete (cc the MECP Liaison for SGBLS). An example notice template is provided in Appendix E but should include the following:
 - Addressed to relevant Municipality(ies)/Joint board
 - Statement that the SPA is satisfied that the technical work has been completed for the purpose of being able to identify the amendments to the SPP that are anticipated to be necessary

- Identification of the anticipated amendments that may be needed to the SPP. Table of specific sections within the AR and SPP that will need to be revised, including whether or not it is anticipated that new policies will need to be developed
- Estimated timing for the SPA to propose amendments to the MECP. Could include estimated timelines for when SPA will be able to request municipal endorsement, and subsequent public consultation if known. Can also mention that timing of MECP review and approval is not within control of the SPA
- Indicate if any amendments have been or will be implemented as a result of the SPC updating the SPP after completing a review under s.36
- NOTE: if a new well in an existing system will not result in changes to vulnerable areas or scores, the Notice can state that the SPA is satisfied with the required mapping information for the new well and that no SPP amendments are needed at this time because the new well does not alter any existing vulnerable areas and will be fully protected by the current WHPA and SPP policies. The administrative addition of a location on a map to show the new well and any other minor edits to the SPP can be completed the next time a change is occurring to the SPP, i.e. during future amendments under s.34 or s.36.
- The notice must state that it is subject to the Clean Water Act but a disclaimer is not necessary

Step 5: SPP Update

- Once technical work is received from the owner, the SPA can start the SPP update process as outlined below
- Local SPA to keep track of all formal consultation activities (e.g. description of who was consulted, how they were consulted, and when) and methods/dates/locations (e.g. letters, newspaper notices ,name of publication and geographic area served should be included), public meetings, etc. undertaken during the preparation of the amendment as it is required for submission to MECP (MECP requires a summary of notification dates and consultation periods related to various notices issued throughout the technical and policy work). This would include formal consultation with municipalities but not general correspondence.
- NOTE: that for some instances a new well or changes to existing wells may not cause changes to WHPAs and only the addition of a WHPA-A is required. If the new WHPA-A is substantially overlapping the existing WHPA-A and if it is entirely within the same property then the current WHPA is considered to provide adequate protection for the well and the SPP can be updated at a later date (i.e. different s.34 or s.36) and the owner can provide water prior to this update. However, if the new WHPA-A extends onto a new property then the current WHPA may not provide adequate protection and a s.34 must be completed before water can be provided.
- Prepare list of proposed amendments to take to SPC (technical work and policy related changes, booking keeping changes not required)
- Updates to SPP will / could include:
 - Updates to the explanatory document to reflect amended plan, if amendment includes proposals to change / add policies;
 - Addition of new section under 7.2 in SPP to explain consultation process (keep written to ~1 paragraph with a sentence or two for each phase of the amendment);
 - Indication of amendment in SPP under Summary of Amendments
 - Minor text changes to the SPP
 - Changes to Assessment Report text and figures (details of new wells and removal of relevant wells with mention of year it was removed)
 - Possible changes to Methods chapter
 - Review of policies to ensure still sufficient / adequate

- Creation of Chemical, Pathogen, and DNAPL low/medium/significant threats maps (if not completed by the municipality – it is not currently a required aspect municipalities must provide to us)

Step 5a: Early Engagement 1

- Local SPA advises affected Municipalities that council resolution will be required (this is a new process and some Municipalities may not be aware of it)
- SPA to start early engagement with MECP for feedback before taking amendment to SPC
- At the discretion of the SPA early engagement with Municipalities for feedback can occur

Step 5b: Plan Amendment(s) Developed

- SPA present technical work to the SPC Technical Working Group (optional at discretion of SPA)
- SPA present proposed amendments to the SPC. This should include: description of system (bullet points); any changes to WHPAs and vulnerability (VS and intrinsic vulnerability); any water quality concerns; changes or lack of changes to threat enumeration; and justification for keeping or changing policies within SPP.
- SPA and SPC agree on amendments required to AR and SPP
 - Request SPC to agree that, if no changes are required after Pre-Consultation and Public Consultation, than the SPA can move directly to the SPA Board(s) for endorsement without coming back to the SPC.
- SPA starts updating AR and SPP

Step 5c: Early Engagement 2

- At the discretion of the local SPA a copy of proposed amendments can be provided to the clerk of affected municipalities (consider if major changes occurring)
- At the discretion of the SPA early notification of revisions to persons engaging in significant threat activities, implementing bodies, or any other persons to obtain feedback can be made
- The SPA is to keep a mailing list for all parties that received notices (including early engagement, pre-consultation, and public posting of amended technical work and/or policies)

Step 5d: Pre-consultation

- SPA sends notice of AR and SPP revisions to all bodies responsible for implementing proposed policies (for new/changed policies or new/removed threats), those affected by plan amendments and MECP. This includes Municipalities and government bodies and should include:
 - Draft policy text (including vulnerable area mapping)
 - Summary of rationale for changes
 - Explanation of any new policies or outline of policies that already exist that will apply in the new areas (clearly state that previous policies will apply in new locations)
 - Request for submission of written comments
 - The assessment report
 - NOTE: pre-consultation is still required even if there are no text changes and only changes to vulnerable areas
- Pre-Consultation with MECP should be sent to the MECP Liaison for SGBLS and the general inquiry email (source.protection@ontario.ca). All other MECP contacts can be obtained from LSRCA.
 - It is useful to provide MECP with a copy of the marked up changes to the assessment report and plan, along with a summary of what has changed and why
 - Other MECP staff should be consulted at various stages of the s.34 process when revisions may result in changes to existing policies, the addition of new policies, and/or an extension of the geographical area within which policies already contained in the plan apply
- SPA must consider comments received and if policies should be amended prior to public consultation
- If required SPA present proposed changes to amendments to SPC prior to public consultation
- NOTE: at this time SPA can request municipal council resolution but if you do, you must also provide a copy of the notice to Clerk of the Municipality (This is the best time to receive council resolution for

simpler amendments but keep in mind that if comments come back from Pre-consultation that require changes to the SPP you would need to go back to Municipalities for new council resolution)

- All comments received during consultation are to be kept and submitted to MECP

Step 5e: Municipal Endorsement

- Municipality(ies) affected by proposed amendments pass a council resolution endorsing the amendments although at the discretion of the SPA this can be completed earlier during the pre-consultation step. Recommend completing this step earlier in the process especially if Municipalities come back with comments indicating it doesn't impact them.

Step 5f: Public Consultation

- Local SPA to publish proposed amendments on website and makes hard copies available in at least one suitable location (recommend hard copies to be available at LSRCA head office and relevant town office).
- Local SPA publishes notice of request for written comments in newspaper within a reasonable time once proposed amendments have been published on the website. The notice must indicate the opportunity to:
 - View the proposed amendments on the internet;
 - Inspect the proposed amendment, during times and at a location specified in the notice; and
 - Submit written comments by a date specified in the notice that is not earlier than 35 days after the notice is first published in the newspaper
- Local SPA notifies affected parties of posting and opportunity to submit written comments including the opportunities listed above. Those that should be notified include:
 - the clerk of affected municipalities;
 - chief of any affected First Nations Band (notice must include invitation to discuss the proposed amendments and if accepted the Director must be notified);
 - all bodies responsible for implementing policies including MECP, even if policies do not change and just extending to new areas;
 - if the proposed amendment relates to a significant threat policy then every new person believed to be engaged in that significant threat activity (not people already affected by that threat policy– i.e. already engaged in the SDWT activity before amendment) should be notified (notice should indicate that they are receiving the notice because the SPA believes the person could be engaging in one or more activities that are or would be significant drinking water threats according to the information contained in the assessment report and that the proposed amendments may affect the manner in which an activity is engaged in. Specify the activities in writing or provide list of activities listed in assessment report under clause 15(2)(g) of the Act); and
 - other miscellaneous bodies identified in O. Reg. 287/07 under ss.50(2) (e.g. Niagara Escarpment Commission, planning boards, contacts for Great Lakes water quality agreements, etc.)
 - It is useful for the notice to clearly indicate it is a follow-up to earlier pre-consultation notices that they would have received concerning the same amendment package
- To the discretion of the SPA and the local circumstances the public consultation period can be extended or a public meeting can be hosted

Step 6: SPA Submission to MECP

- SPA amend proposed amendment, as necessary based on consultation results
- SPA present final proposed amendment to SPC for endorsement (may not be required if no changes following Pre-Consultation and Public Consultation and if the SPC agreed that the SPA can move directly to the board for endorsement)
- SPA present final proposed amendment to local SPA Board for endorsement, as appropriate
- SPA present final proposed amendment to lead SPA Board for endorsement

- SPA electronically provides MECP with the following documents on a USB key in word and PDF formats. Each document must include 2 versions, one track changes and one clean version:
 - Cover letter confirming SPA supports the amendments (this is required from each SPA in the geographic region affected by the amendments. There is no specific method of endorsement for SPA Board but could be a cover letter or board council resolution) and should include:
 - Any comments about amendments
 - Summary of amendments
 - Outline of if policies have changed or not
 - Revised technical work and/or policies (changed doc and clean version)
 - Revised section of the explanatory document (changed doc and clean version)
 - Municipal council resolutions related to updated technical and policy amendments
 - Comments received during consultation
 - Summary of all consultation activities undertaken (methods/dates/locations, etc)
 - Sample notices and mailing lists from pre- and public consultations
 - Analysis of outstanding concerns

Step 7: Provision of Water

- Chair of SPC, Local and Lead SPAs will receive notification from the Ministry that amendments to the SGBLS Source Protection Plan have been approved
- SPA communicates with Municipality that the drinking water system owner can supply water to the public

Appendix C – Series of Class Environmental Assessment and Source Protection Planning Matrices

Table 1: Class Environmental Assessment and Source Protection Planning Matrix – New Supply Well

Category #	Municipal Supply Well Category	Class EA Schedule	Technical Work Required to Confirm Category	Technical Work for AR (modelling)	Changes to AR	Changes to Time of Travel	Notice Required	Content of Notice	Type of Amendment*	Clean Water Act Public Consultation Requirements	Comments
1a	Direct replacement well (same depth, same Capture Zone Delineation Rate, same property, no new threats)	A	No	No	Minor	No	yes	Satisfied that work is complete (existing WHPA provides protection for new well)	S.34,35,36	Formal 35-day public consultation period for AR and SPP	Only WHPA-A shift, amendment type dependent on magnitude of change to WHPAs. Work may not alter the vulnerable area scoring, affected properties and threats. In this situation the SPP amendment can be made at a later date, i.e. the system owner can provide water to the public before the updated plan is approved by the Province. The SPA notice would indicate that plan amendments are not necessary at this time.
1b	Direct replacement well (same depth, same Capture Zone Delineation Rate, different property, new threats)	A	No	No	Minor	No	yes	Satisfied that work is complete (existing WHPA doesn't provide protection and SPP will need to be updated)	S.34	Formal 35-day public consultation period for AR and SPP + property owner notification	WHPA-A shift and new threats delineation
2	Direct replacement well (same depth, decreased Capture Zone Delineation Rate, same property, no new threats)	A	No	yes	Minor	yes	yes	Satisfied that work is complete (existing WHPA provides protection for new well)	S.34,35,36	Formal 35-day public consultation period + property owner notification	Smaller WHPAs, amendment options (s.34/s.36) a matter of timing and priorities. Since changes are protected by existing WHPA, it may be decided that the system owner can provide water to the public before the updated plan is approved by the Province. The SPA notice would indicate that plan amendments are not necessary at this time.
3	Direct replacement well (same depth, increased Capture Zone Delineation Rate, same property, new threats)	A	No	yes	Minor/Major	yes	yes	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period + property owner notification	Larger WHPAs and new threats delineation
4a	New well, existing water supply system (back-up capacity), close proximity (same Capture Zone Delineation Rate, same property, no new threats)	A	No	No	Minor	No	yes	Satisfied that the work is complete (existing WHPA provides protection for new well)	S.34,35,36	Formal 35-day public consultation period for AR and SPP	Assumes backup well is same or less Capture Zone Delineation Rate and within defined WHPA, new WHPA-A added, type of amendment dependent on magnitude of change in WHPAs. Work may not alter the vulnerable area scoring, affected properties and threats. In this situation the SPP amendment can be made at a later date, i.e. the system owner can provide water to the public before the updated plan is approved by the Province. The SPA notice would indicate that plan amendments are not necessary at this time.
4b	New well, existing water supply system (back-up capacity), close proximity (same capture Zone Delineation Rate, different property, new threats)	A	No	No	Minor	No	yes	Satisfied that work is complete (existing WHPA doesn't provide protection and SPP will need to be updated)	S.34,	Formal 35-day public consultation period for AR and SPP + property owner notification	WHPA-A addition and update new threats
5	New well, existing water supply system, new location	B	No	yes	Major	yes	Yes (new)	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period for AR and SPP + property owner notification	New WHPAs
6	New well system at new location	C	No	yes	Major	yes	Yes (new)	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period for AR and SPP + property owner notification	

* S.34: Initiated by SPA, major revisions related to specific system, requires Minister approval
S.35: Top-down (ordered by the Minister), major revisions related to specific system/issue, required Minister approval
S.36: Top-down (ordered by the Minister), comprehensive review with major/minor revisions, required Minister approval
S.51: administrative, in-house, does not require Minister approval

Table 2: Class Environmental Assessment and Source Protection Planning Matrix – Existing Supply Well

Category #	Municipal Supply Well Category	Class EA Schedule	Technical Work Required to Confirm Category	Technical Work for AR (modelling)	Changes to AR	Changes to Time of Travel	Notice Required	Content of Notice	Type of Amendment*	Clean Water Act Public Consultation Requirements	Comments
7	Increase in capacity at existing well	B	No	yes	Minor	yes	yes	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period for AR and SPP + property owner notification	Larger WHPA
8	Installation of liner or casing in existing well (no substantial change where water coming from)	A	No	No	No	No	yes	Satisfied that work is complete (existing WHPA provides protection for new well)	N/A	No	
9	Installation of liner or casing in existing well (substantial change where water coming from)	A	yes	yes	Minor	yes	yes	Satisfied that work is complete (new technical work)	S.34,35,36	Formal 35-day public consultation period for AR and SPP + property owner notification	Amendment type dependent on magnitude of change to WHPAs Work may not alter the vulnerable area scoring, affected properties and threats. In this situation the SPP amendment can be made at a later date, i.e. the system owner can provide water to the public before the updated plan is approved by the Province. The SPA notice would indicate that plan amendments are not necessary at this time.
10	Deepening existing well (no substantial change where water coming from)	A/B	yes	No	No	No	yes	Satisfied that work is complete (existing WHPA provides protection for new well)	N/A	No	Assume same aquifer, no change in Capture Zone Delineation Rate
11	Deepening existing well (substantial change where water coming from)	A/B	yes	yes	Minor	yes	yes	Satisfied that work is complete (new technical work)	S.34,35,36	Formal 35-day public consultation period for AR and SPP + property owner notification	Amendment type dependent on magnitude of change to WHPAs Work may not alter the vulnerable area scoring, affected properties and threats. In this situation the SPP amendment can be made at a later date, i.e. the system owner can provide water to the public before the updated plan is approved by the Province. The SPA notice would indicate that plan amendments are not necessary at this time.
12	Addition of treatment system to supply wells	A/B	No	No	No	No	yes	Satisfied that work is complete (existing WHPA provides protection for new well)	N/A	No	
13	Well decommissioning	N/A	No	No	Minor	N/A	No	N/A	S.51	N/A	

Table 3: Class Environmental Assessment and Source Protection Planning Matrix – New and Existing Drinking Water Intake

Category #	Municipal Supply Well Category	Class EA Schedule	Technical Work Required to Confirm Category	Technical Work for AR (modelling)	Changes to AR	Changes to Time of Travel	Notice Required	Content of Notice	Type of Amendment*	Clean Water Act Public Consultation Requirements	Comments
14	New intake at new location (existing system)	B	No	Yes	Major	Yes (new)	Yes	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period + property owner notification	New IPZs
15	New intake at new location (new system)	C	No	Yes	Major	Yes (new)	Yes	Satisfied that work is complete (new technical work)	S.34	Formal 35-day public consultation period + property owner notification	New IPZs
16	Any infrastructure to current intake	A/B	yes	yes	No	no	Yes	Satisfied that work is complete (existing IPZ provides protection for intake)	N/A	No	

Appendix D – Checklist of files to be submitted to the SPA

System owner conducts technical work and provides a notice to the SPA of their intent of applying for a permit/license from the MECP. Technical work required, based on anticipated changes, is below.

NO CHANGES TO VULNERABLE AREAS DELINEATION OR SCORING – WHPA OR IPZ

- A professional opinion confirming that no changes to technical work is necessary. This opinion can be in the form of a written memo or letter and should include:
 - Written memo/letter on company letterhead
 - Stamp from a qualified professional
 - In the case of a new well this memo/letter should also include a map confirming that the addition of the new WHPA-A will not result in any new threats (i.e. the new WHPA-A is completely within the existing properties and does not incorporate new properties)

NEW TECHNICAL WORK – WHPAS

- A report submitted with a stamp from a qualified professional confirming the following details:
 - Description and map of wellhead protection areas and vulnerability scores,
 - Description of wells obtained from borehole information (depth, screen depth, geologic unit etc),
 - Pumping rates from Permit-To-Take-Water (maximum and average),
 - Description of groundwater model and assumptions (model inputs such as infiltration rates, model boundary conditions, etc.),
 - Mapping of groundwater vulnerability ratings (high, medium, low),
 - Description of how vulnerability scores were determined,
 - Description of the groundwater vulnerability ratings,
 - List and counts of existing prescribed significant threats (please identify number of threats removed or added if within an existing system) and number of parcels
 - Mailing list of properties with significant drinking water threats and type of threat
 - Uncertainty analysis for WHPAs should be completed for new systems and are optional for existing systems (i.e., can be updated based on discretion of municipality)
 - Make sure that we also get material necessary to identify areas where an activity or condition is or would be a significant/moderate/low drinking water threat. In some cases this may mean maps of percent impervious, percent managed lands, and livestock density
 - NOTE: for percent managed lands there are two methods for calculating (September 2009 and November 2009). If the newer November 2009 methodology is estimated to change the % managed lands scoring such that a commercial fertilizer, ASM or NASM would become a threat then the new method should be used. However, if there is no major difference between the methods then use whichever method is consistent with the exiting methodology within the Municipality. Also keep in mind that if there are existing WHPAs in the same system they should use the same methodology (i.e. if changing methodologies they would require being updated to the new methodology also).

NEW TECHNICAL WORK – IPZS

- A report submitted with a stamp from a qualified professional confirming the following details:
 - Description and map of intake protection area and vulnerability scores,
 - Description of watercourse,
 - Identification of storm sewers and ditches used for surface water delineations,
 - Flow statistics,
 - Information about the dye/droque studies including corresponding hydraulic studies and corresponding assumptions used to delineate IPZ-2,
 - Description of how vulnerability scores were determined, and
 - List and counts of existing prescribed threats (optional).

- Make sure that we also get material necessary to identify areas where an activity or condition is or would be a significant/moderate/low drinking water threat. In some cases this may mean maps of percent impervious, percent managed lands, and livestock density

NEW TECHNICAL WORK – SUPPORTING INFORMATION MANAGEMENT REQUIREMENTS

- Separate GIS shapefiles of the new well/intake, vulnerable areas and vulnerability scoring
- If applicable, the locations of:
 - Storm sewer(s) and ditch(es) used for intake protection zone delineations,
 - Transport Pathways
 - Make sure that we also get material necessary to identify areas where an activity or condition is or would be a significant/moderate/low drinking water threat. In some cases this may mean GIS shapefiles of percent impervious, percent managed lands, and livestock density

DRAFT

Appendix E – Example SPA Notice of Amendments to SPP

NOTICE OF AMENDMENTS TO SOURCE PROTECTION PLAN (pursuant to section 48(1.1)(b) of Ontario Regulation 287/07)

Existing or Planned Municipal Drinking Water System (System):

Name of Owner of Existing or Planned Municipal Drinking Water System (Owner):

Applicable Source Protection Area (Source Protection Area):

The [insert name of Source Protection Authority] is the Source Protection Authority for the Source Protection Area under the *Clean Water Act, 2006*.

The [insert name of Source Protection Authority] has received written notice from the Owner about an intended application under the *Safe Drinking Water Act, 2002* for an existing or planned System that is located within the Source Protection Area.

The [insert name of Source Protection Authority] is satisfied that the technical work required pursuant to subsection 48(1.1) of Ontario Regulation 287/07 under the *Clean Water Act, 2006* is completed for the purposes of identifying anticipated amendments to the source protection plan for the Source Protection Area.

The [insert name of Source Protection Authority] anticipates the amendments set out in Schedule A of this notice will be required as a result of the intended application. The list of anticipated amendments in Schedule A is provisional and will undergo consultations with stakeholders and the source protection committee. All amendments must be approved by the Ministry of the Environment, Conservation and Parks and are subject to change after this notice is issued. The timing for approval of the amendments by the Ministry of Environment, Conservation and Parks is not within the control of the Source Protection Authority. The Schedule A also indicates amendments that have been completed.

All actions by [insert name of Source Protection Authority] for the purposes of this notice are undertaken as the Source Protection Authority for the above noted Source Protection Area and are subject to the *Clean Water Act, 2006*. This notice does not exempt the Owner from obtaining the required licence or permit to operate the System under the *Safe Drinking Water Act, 2002*.

Issued by: _____

Date: _____

Appendix E - Folders and documents to submit to MECP on USB key

- 01_Revised technical work and plan
 - include both a clean version and a version illustrating changes since the last approval*
- 02_Revised explanatory document
 - include both a clean version and a version illustrating changes*
- 03_SPA cover letter and comments
- 04_Municipal council resolutions
- 05_Comments received during consultation
- 06_Unresolved municipal or FN concerns
- 07_Supporting documents
 - a_Sample early engagement letters (to persons engaged in significant drinking water threats, municipalities, or implementing bodies)
 - b_Sample notice municipal clerks
 - c_Sample notice pre-consultation
 - d_Sample internet posting
 - e_Sample newspaper notice updated AR and revised SPP
 - f_Sample persons engaged notice
 - g_Sample chiefs of bands notice
 - h_Sample letters to other persons or bodies
 - i_Notification dates and comment periods summary
 - j_Mailing lists
 - k_Public meeting information
 - l_Outstanding concerns analysis
- 08_Water quality and quantity vulnerability area mapping data

Ainley Correspondence with NVCA

From: [Reid Mitchell](#)
To: "Lee Bull"
Cc: "Ken Kaden"; [Mike Ainley](#); [Jody Marks](#)
Subject: RE: Collingwood WTP Class EA - File 119013
Date: Monday, November 25, 2019 9:43:11 AM

Thanks Lee. That works for us.

Reid Mitchell
Engineering Technologist



www.ainleygroup.com

Tel: (705) 445-3451 Ext. 135

Cell: (705) 444-4837

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From: Lee Bull [<mailto:lbull@nvca.on.ca>]
Sent: Friday, November 22, 2019 4:14 PM
To: 'Reid Mitchell'
Cc: Ken Kaden; ainley.m@ainleygroup.com; Jody Marks
Subject: RE: Collingwood WTP Class EA - File 119013

Hi Reid

We could host a meeting here at 11 am on the 4th of December. Please let me know if that works for the team on your end and I will send an outlook invitation.

Enjoy the weekend.

Sincerely,

Lee J. Bull, MCIP, RPP | Manager, Planning Services

Nottawasaga Valley Conservation Authority
8195 8th Line, Utopia, ON L0M 1T0
T 705-424-1479 ext. 231 | F 705-424-2115
lbull@nvca.on.ca | nvca.on.ca

This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original message.

From: Reid Mitchell [<mailto:mitchell@ainleygroup.com>]
Sent: Thursday, November 21, 2019 9:59 AM
To: Lee Bull <lbull@nvca.on.ca>
Cc: Ken Kaden <kkaden@collingwood.ca>; ainley.m@ainleygroup.com; Jody Marks

<marks@ainleygroup.com>

Subject: Collingwood WTP Class EA - File 119013

Good morning Lee. Further to our telephone conversation of today, we are working with Collingwood to plan for an expansion of the Water Treatment Plant in the Town. Ken Kaden passed your email of Oct 24 on to us and we would like to meet to discuss a few points. NVCA comments and concerns will be addressed in the ESR but we simply want to clarify a few points. They are as follows:

- Get limit of "Shorelines Hazards" for property. O. Reg 172/06 – Permit Required for construction of building and placing fill. **Include note in ESR.** May not be able to construct outside of shoreline hazard area. **What are ramifications?**
- Consider low impact development measures for surface water runoff to Lake. Oil grease separator? **Add note to ESR**
- Water quality treatment – new roads – treatment train approach. **Is that swales/ditches with oil/grease separator and pipe to lake? Add note to ESR.**
- Control sedimentation/erosion during construction – **add to ESR**
- Identify Source Water Protection Authority (SPA) and consult with them (**is that the NVCA?**) **Can this meeting be considered as consultation?**
- Get Notice from SPA stating that "Technical work has been completed" – need for PTTW and for license. **Add Note to ESR.**
- Discuss PTTW renewal – current max taking of 68250 L/d (expires Jan 31, 2021). Town plans to expand to limit of current PTTW (Phase 1 demand of approximately 51,871 in year 2038) and then undertake a further capacity increase to a total max taking 101,000 L/d (Ultimate) New PTTW will be required for ultimate. Therefore, assuming Town gets a renewal of current taking in Jan 2021, there is no need for a new PTTW in the near future. **However, this will be noted in the ESR.**
- Discuss Steps 1 to 4 of Work Flow Diagram
- Is Category 16 (Table 3 of NVCA Appendix C) applicable?

We are available to meet on:

- Nov 25 am
- Nov 26 am
- Nov 27 am
- Dec 2 all day
- Dec 4 all day
-

Thanks in advance for your assistance.

Reid Mitchell
Engineering Technologist



www.ainleygroup.com
Tel: (705) 445-3451 Ext. 135
Cell: (705) 444-4837

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Responses Provided



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, Ontario L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail: collingwood@ainleygroup.com

September 19, 2019

File No. 119013

Kimberly Livingstone, Heritage Planner (A)
Ministry of Tourism, Culture and Sport
401 Bay Street 17th Floor, Suite 1700
Toronto, ON M7A 0A7
kimberly.livingstone@ontario.ca

Ref: **Town of Collingwood
Municipal Class Environmental Assessment Schedule 'C'
Raymond A. Barker Water Treatment Plant Expansion
Response to Comments Received from Notice of Study Commencement**

Dear Ms. Livingstone:

We are responding on behalf of the Town of Collingwood to your request for a copy of the Class Environmental Assessment (Class EA) Document previously completed for the plant expansion, filed September 2004. We respectfully wish to advise that the validity of the previous Class EA has expired and as such, the 2004 Document is no longer pertinent. We offer that you base your review of the Town's proposed Water Treatment Plant (WTP) project on the most recent Class EA documentation as it becomes available.

This project constitutes a Schedule "C" project in accordance with the Municipal Class Environmental Assessment guidelines. Consultation is an integral part of a Class EA, external agencies, Indigenous communities, and members of the public will have full access to all documentation that is produced under the Master Servicing Plan and Phase 3 and 4 of this Class EA. The updated Master Servicing Plan, once finalized, will be made available on the Town's website.

Should you have any further questions or concerns, please do not hesitate to contact the undersigned or Ken Kaden, Project Engineer, Environmental Services, Town of Collingwood at 705-445-1581 or via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley', written over a white background.

Mike Ainley, P. Eng., PMP
Project Manager
Phone: 705-445-3451
ainley.m@ainleygroup.com



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, Ontario L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail: collingwood@ainleygroup.com

September 19, 2019

File No. 119013

Juanita Meekins
Executive Assistant of Resources and Infrastructure
Saugeen Ojibway Nation Environment Office
25 Maadokii Subdivision Neyaashiinigmiing, Ontario N0H 2T0
Office: (519) 534-5507 | Fax: (519) 534-5525
juanita.meekins@saugeenojibwaynation.ca

Ref: **Town of Collingwood
Municipal Class Environmental Assessment Schedule 'C'
Raymond A. Barker Water Treatment Plant Expansion
Response to Comments Received from Notice of Study Commencement**

Dear Ms. Meekins:

We are responding on behalf of the Town of Collingwood to your request for a copy of the Environmental Study Report previously completed for the plant expansion Class Environmental Assessment (Class EA), filed September 2004. We respectfully wish to advise that the validity of the previous Class EA has expired and as such, the 2004 Report is no longer pertinent. We offer that you base your review of the Town's proposed Water Treatment Plant (WTP) project on the most recent Class EA documentation as it becomes available.

This project constitutes a Schedule "C" project in accordance with the Municipal Class Environmental Assessment Document (October 2000, as amended in 2015). Consultation is an integral part of a Class EA, external agencies, Indigenous communities, and members of the public will have full access to all documentation that is produced under the Master Servicing Plan and Phase 3 and 4 of this Class EA. As the Class EA progresses through the process, the scope will be further defined and timelines identified.

Should you have any further questions or concerns, please do not hesitate to contact the undersigned or Ken Kaden, Project Engineer, Environmental Services, Town of Collingwood at 705-445-1581 or via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley', written over a white background.

Mike Ainley, P. Eng., PMP
Project Manager
Phone: 705-445-3451
ainley.m@ainleygroup.com

From: [Juanita Meekins](#)
To: [Jody Marks](#)
Subject: Re: Town of Collingwood Class Environmental Assessment Water Treatment Plant Expansion
Date: Thursday, September 19, 2019 2:19:46 PM
Attachments: [image001.jpg](#)

Good afternoon Jody,

Thank you for your email I look forward to reviewing the EA once it is available.

Regards,

On Thu, Sep 19, 2019 at 2:14 PM Jody Marks <marks@ainleygroup.com> wrote:

Hello Ms. Meekins,

Thank you for your email following the Notice of Commencement for the Town of Collingwood Class Environmental Assessment – Raymond A. Barker Water Treatment Plant Expansion. Please find attached a response to your comments.

Best Regards,

Jody Marks

Environmental Planning Assistant



www.ainleygroup.com

Tel: (705) 726-3371 Ext. 227

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--

Juanita Meekins Executive Assistant of Resources and Infrastructure
Saugeen Ojibway Nation Environment Office

25 Maadokii Subdivision Neyaashiinigiing, Ontario N0H 2T0
Cell: (519) 379-0558 | Office: (519) 534-5507 | Fax: (519) 534-5525

Appendix I

PHASE 3 PUBLIC CONSULTATION

- **March 12, 2020 Notice of PIC**
- **March 9, 2020 Mail Out of Notice of PIC to Adjacent Residents, Review Agencies and Indigenous Communities and Agencies**
- **March 19, 2020 Notice of Postponement of PIC**
- **March 16, 2020 Mail Out of Notice of Postponement of PIC to Adjacent Residents, Review Agencies and Indigenous Communities and Agencies**
- **April 23 & 30, 2020 Notice of Virtual PIC**
- **April 20 & 23, 2020 Mail Out of Notice of Virtual PIC to Adjacent Residents, Review Agencies and Indigenous Communities and Agencies**
- **Agency Mailing List**
- **April 24 – June 1 PIC Presentation Provided Online on the Engage Collingwood Platform**
- **List of Attendees (Registrants)**
- **March 17, 2020 Meeting Notes of meeting with New Tecumsesth**
- **Table 8 – Summary of Comments and Responses**
- **Comments Received and Associated Responses from PIC**
- **June 12, 2020 Meeting Notes of Meeting with Saugeen Ojibway Nation**



Town of Collingwood
Schedule 'C' Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
NOTICE OF PUBLIC INFORMATION CENTRE

Public Information Centre

A Public Information Centre (PIC) has been scheduled to provide an opportunity for all interested parties to review the alternatives developed for the WTP expansion and to discuss the project with the study team. The PIC has been scheduled as follows:

Date: Tuesday March 24, 2020
Time: 4:00pm – 8:00pm
Location: Collingwood Library, Community Rooms B & C
55 Ste. Marie St, Collingwood, ON L9Y 0W6

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.



The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

Intended Project Scope (Recommended Solution)

Based on an assessment of Options, the Recommended Solution is to repurpose the existing membrane building, construct a new membrane building, proceed with UV disinfection, chlorinate in new contact chambers and undertake associated upgrades to the other existing facilities in the plant. It is suggested that the expansion in the capacity of the plant be undertaken in two phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The opinion of capital cost of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements. Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and the establishment of Water Agreements with other municipalities.

Comments

Public engagement and input is an integral part of the Class EA process. Comments on the information presented at the PIC will be received until **April 7, 2020**. If you are unable to attend the PIC, presentation material will be available on the Town of Collingwood's website at www.collingwood.ca as of March 24, 2020. To obtain additional information or to provide input, please contact either of the following members of the study team:

Ken Kaden, P. Eng.
Project Engineer, Environmental Services
Town of Collingwood
43 Stewart Road
Collingwood, ON L9Y 4M7
Tel: (705) 445-1581
Fax: (705) 445-0791
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
Ainley Group
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
Tel. (705) 445-3451
Fax: (705) 445-0968
ainley.m@ainleygroup.com

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on March 9, 2020.

Thursday, March 12, 2020

Notice of Public Information Centre



Town of Collingwood
Schedule 'C' Class Environmental Assessment
Raymond A. Barker Water Treatment Plant
Expansion
NOTICE OF PUBLIC INFORMATION CENTRE

Public Information Centre

A Public Information Centre (PIC) has been scheduled to provide an opportunity for all interested parties to review the alternatives developed for the WTP expansion and to discuss the project with the study team. The PIC has been scheduled as follows:

Date: Tuesday March 24, 2020
Time: 4:00pm – 8:00pm
Location: Collingwood Library, Community Rooms B & C
55 Ste. Marie St, Collingwood,
ON L9Y 0W6

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity),

this project constitutes a Schedule "C" project in accordance with the MCEA document.

The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

Intended Project Scope (Recommended Solution)

Based on an assessment of Options, the Recommended Solution is to repurpose the existing membrane building, construct a new membrane building, proceed with UV disinfection, chlorinate in new contact chambers and undertake associated upgrades to the other existing facilities in the plant. It is suggested that the expansion in the capacity



of the plant be undertaken in two phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The opinion of capital cost of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements.

Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and the establishment of Water Agreements with other municipalities.

Comments

Public engagement and input is an integral part of the Class EA process. Comments on the information presented at the PIC will be received until **April 7, 2020**. If you are unable to attend the PIC, presentation material will be available on the Town of Collingwood's website at www.collingwood.ca as of March 24, 2020. To obtain additional information or to provide input, please contact either of the following members of the study team:

Ken Kaden, P. Eng.

Project Engineer, Environmental Services

Town of Collingwood
43 Stewart Road
Collingwood, ON L9Y 4M7
Tel: (705) 445-1581
Fax: (705) 445-0791
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager

Ainley Group
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
Tel. (705) 445-3451
Fax: (705) 445-0968
ainley.m@ainleygroup.com

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on March 9, 2020.



97 Hurontario Street,
Collingwood
705-445-1030

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Clerk Services at 705-445-1030 ext. 3294

Visit us at: www.collingwood.ca Call us at: 705-445-1030
Email us at: townhall@collingwood.ca





Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

March 9, 2020

File No. 119013

Re: **Town of Collingwood**
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Public Information Centre

Dear Sir and/or Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant (WTP). The Town has scheduled an upcoming Public Information Centre (PIC) to provide an opportunity for interested parties to review the alternatives developed for the WTP expansion. Please refer to the attached Notice of PIC for further details.

Should you have any questions or concerns, please contact the undersigned or Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood at 705-445-1581 or via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

Mike Ainley, P. Eng., PMP
Project Manager
Phone: 705-445-3451
ainley.m@ainleygroup.com

Photo Credit
Dave West

Town of Collingwood Weekly Town Page



Thursday, March 19, 2020

Notices

Raymond A. Barker Water Treatment Plant Expansion Public Information Centre Postponed Until Further Notice

The Public Information Centre (PIC) to review the alternatives developed for the WTP expansion originally scheduled for Tuesday, March 24, 2020 has been postponed until further notice.

Once a new date and location have been determined, the public will be notified in accordance with the Town's Public Notice by-law.

For questions, please contact:

Ken Kaden, P. Eng. Project Engineer, Environmental Services Town of Collingwood 43 Stewart Road Collingwood, ON L9Y 4M7 Tel: (705) 445-1581 Fax: (705) 445-0791 kkaden@collingwood.ca	Mike Ainley, P. Eng., PMP Project Manager Ainley Group 280 Pretty River Parkway Collingwood, ON L9Y 4J5 Tel. (705) 445-3451 Fax: (705) 445-0968 ainley.m@ainleygroup.com
--	--

We are Happy to Assist You Online & Over the Phone

Please take notice that the Town Hall facility and all in-person Customer Service Desks are now closed until further notice. The Town will continue to offer services online and over the phone.

The Town's critical and essential services, including fire services, drinking water & wastewater treatment, snow clearing, enforcement of priority bylaws, and essential customer services will continue.

This temporary closure is part of the Town of Collingwood's proactive efforts to help get ahead of COVID-19 and to protect Residents and Staff.

We are happy to assist you online and over the phone.

- **Call: 705-445-1030**
- **Email: townhall@collingwood.ca**
- **Visit: www.collingwood.ca**
- **Drop Box: Drop Payments, Forms, or any questions off at the Town Hall Drop Box located at the front door. Please include your Contact Info.**

Updates about Town Services will be available on the Town Website, and the Town Twitter & Facebook channels, as well as local News channels. The Town will continue to provide timely updates to residents.



Your Feedback is Important!

Economic Development Action Plan

The community is invited to join the conversation online at Engage Collingwood.

The Town of Collingwood is developing its next 5 year Economic Development Action Plan, which is part of the broader Community-based Strategic Plan (CBSP).

Business leaders and other community members, including families, are encouraged to visit Engage Collingwood to learn more about the proposed Economic Development Action Plan. Online feedback is open until April 6.

Learn more about the Economic Development Action Plan at <https://engage.collingwood.ca/economic-development-action-plan>

Surplus Items

The Town of Collingwood is providing notice regarding the

Sale of Surplus Items and Equipment

These items include:

- 2010 Chemguard Defender Series Dual Tote Foam Trailer
- 2013 Olympia Battery Powered Arena Ice Edger D
- 2013 Olympia Battery Powered Arena Ice Edger D
- Five (5) Juniper EX2200-48P-4G Network Switches-Lot 1
- Five (5) Juniper EX2200-48P-4G Network Switches-Lot 2
- Five (5) Juniper EX2200-48P-4G Network Switches-Lot 3

More information on these items may be found by visiting www.govdeals.ca/collingwood

These items are sold "as is" "where is" and the suitability for the intended purpose may not be guaranteed.

For more information on this process contact:

Dave McNalty
Fleet and Facility Manager
(705) 445-1292 ext. 4208
dmcnalty@collingwood.ca



97 Hurontario Street,
Collingwood
705-445-1030

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Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 ▪ Fax: (705) 445-0968
E-mail
collingwood@ainleygroup.com

March 16, 2020

File No. 119013

Re: **Town of Collingwood
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Public Information Centre - Postponed**

Dear Sir and/or Madam:

This letter is a follow-up to the previous Notice of Public Information Centre (PIC) that was mailed to you on March 9, 2020.

Due to the current circumstances of COVID-19 safety protocols, the Public Information Centre has been postponed. A letter indicating the rescheduled date of the PIC will be sent to you upon confirmation.

Should you have any questions or concerns, please contact the undersigned or Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood at 705-445-1581 or via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley'.

Mike Ainley, P. Eng., PMP
Project Manager
Phone: 705-445-3451
ainley.m@ainleygroup.com



Town of Collingwood
Schedule 'C' Class Environmental Assessment Raymond A. Barker
Water Treatment Plant Expansion
NOTICE OF PUBLIC INFORMATION CENTRE

Public Information Centre

The Public Information Centre (PIC) previously scheduled for March 24 2020, will now be held through digital engagement. This project is important to our Community and we want to keep moving forward. Our current community restrictions do not affect our ability to engage you, the stakeholder, and work on the project can continue through businesses that are providing services remotely. We hope the Community takes this opportunity to review the work completed on this critical piece of community infrastructure. The PIC presentation and engagement material can be accessed using the Engage Collingwood Platform at engage.collingwood.ca starting on **April, 24, 2020**. Through this platform, interested parties will be prompted to register using the survey tool. Once registered the PIC presentation can be viewed followed by a comment page. The digital PIC has been created to provide an opportunity for all interested parties to review the alternatives developed for the Water Treatment Plant expansion and discuss the project with the study team.

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.



The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

Intended Project Scope (Recommended Solution)

Based on an assessment of Options, the Recommended Solution is to repurpose the existing membrane building, construct a new membrane building, proceed with UV disinfection, chlorinate in new contact chambers and undertake associated upgrades to the other existing facilities in the plant. It is suggested that the expansion in the capacity of the plant be undertaken in two phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The opinion of capital cost of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements. Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and the establishment of Water Agreements with other municipalities.

Comments

Public engagement and input is an integral part of the Class EA process. Comments on the information presented will be received until **June 1, 2020**. To obtain additional information or to provide input, please contact either of the following members of the study team:

Ken Kaden, P. Eng.
Project Coordinator, Environmental Services
Town of Collingwood
Tel: (705) 445-1581
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
Ainley Group
Tel. (705) 445-3451
ainley.m@ainleygroup.com

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on April 23, 2020.

Photo Credit
Dave West

Town of Collingwood Weekly Town Page



Thursday, April 23, 2020

Notice

Town of Collingwood
Schedule 'C' Class Environmental Assessment Raymond A. Barker
Water Treatment Plant Expansion
NOTICE OF PUBLIC INFORMATION CENTRE

Public Information Centre

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Project Background

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Ken Kaden, P. Eng.
Project Engineer,
Environmental Services
 Town of Collingwood
 43 Stewart Road
 Collingwood, ON L9Y 4M7
 Tel: (705) 445-1581
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
 Ainley Group
 280 Pretty River Parkway
 Collingwood, ON L9Y 4J5
 Tel. (705) 445-3451
ainley.m@ainleygroup.com

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Photo Credit
Dave West

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Thursday, April 30, 2020

Notice

Town of Collingwood
Schedule 'C' Class Environmental Assessment Raymond A. Barker
Water Treatment Plant Expansion
NOTICE OF PUBLIC INFORMATION CENTRE

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Comments

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Project Engineer,
Environmental Services
 Town of Collingwood
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 Collingwood, ON L9Y 4M7
 Tel: (705) 445-1581
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Mike Ainley, P. Eng., PMP
Project Manager
 Ainley Group
 280 Pretty River Parkway
 Collingwood, ON L9Y 4J5
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Photo Credit
Dave West

Town of Collingwood Weekly Town Page



Thursday, May 28, 2020

Notice

Town of Collingwood Schedule 'C' Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion NOTICE OF PUBLIC INFORMATION CENTRE

Public Information Centre

The Public Information Centre (PIC) previously scheduled for March 24 2020, will now be held through digital engagement. The PIC presentation and engagement material can be accessed using the Engage Collingwood Platform at <https://engage.collingwood.ca/> starting on **April, 24, 2020**. Through this platform, interested parties will be prompted to register using the survey tool. Once registered the PIC presentation can be viewed followed by a comment page. The digital PIC has been created to provide an opportunity for all interested parties to review the alternatives developed for the Water Treatment Plant expansion and discuss the project with the study team.

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.

The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.



Intended Project Scope (Recommended Solution)

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Comments

Public engagement and input is an integral part of the Class EA process. Comments on the information presented will be received until **Monday, June 1st, 2020**. To obtain additional information or to provide input, please contact either of the following members of the study team:

Ken Kaden, P. Eng.
Project Coordinator, Environmental Services
Town of Collingwood
43 Stewart Road
Collingwood, ON L9Y 4M7
Tel: (705) 445-1581
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP Project Manager
Ainley Group
280 Pretty River Parkway
Collingwood, ON L9Y 4J5
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Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

April 20, 2020

File No. 119013

Re: **Town of Collingwood**
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Public Information Centre

Dear Sir or/and Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant (WTP). The Town has created a digital platform for conducting a Public Information Centre (PIC) to provide an opportunity for interested parties to review the alternatives developed for the WTP expansion. Please refer to the attached Notice of PIC for further details.

Should you have any questions or concerns, please contact the undersigned or Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

Mike Ainley, P. Eng., PMP
Project Manager
ainley.m@ainleygroup.com

**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Provincial & Federal Agencies										
Mr.	Rob	Dobos	Manager, Environmental Assessment Section	Environment Canada - Environmental Protection Operations Division - Ontario Region	867 Lakeshore Road	P.O. Box 5050	Burlington, ON	L7R 4A6	905-336-4953	rob.dobos@canada.ca
Ms.	Chunmei	Liu	Environmental Resource Planner & EA Coordinator - Air, Pesticides and Environmental Planner (<i>Barrie, Orillia & County of Simcoe</i>)	Central Region Ministry of Environment, Conservation and Parks	5775 Yonge Street	8th Floor	North York, ON	M2M 4J1	416-326-4886	chunmei.liu@ontario.ca
Ms.	Cindy	Hood	District Manager	Barrie District Office Ministry of Environment, Conservation and Parks	54 Cedar Point Drive	Unit 1201	Barrie, ON	L4N 5R7	705-739-6436	cindy.hood@ontario.ca
Hon.	Jeff	Yurek	Minister	Ministry of the Environment, Conservation and Parks	77 Wellesley Street West	11th Floor	Toronto, ON	M7A 2T5		minister.mecp@ontario.ca
			Director, Environmental Assessment and Permissions Branch	Ministry of the Environment, Conservation and Parks	135 St. Clair Avenue West	1st Floor	Toronto, ON	M4V 1P5		moeccpermissions@ontario.ca
Mr.	Dan	Thompson	Acting - District Manager	Midhurst District Ministry of Natural Resources and Forestry	2284 Nursery Road		Midhurst, ON	L0L 1N8	705-725-7561	dan.l.thompson@ontario.ca
Ms.	Karla	Barboza	Team Lead, Heritage	Ministry of Tourism, Culture & Sport	401 Bay Street	Suite 1700	Toronto, ON	M7A 0A7	416-314-7120	karla.barboza@ontario.ca
Ms.	Kimberly	Livingstone		Ministry of Tourism, Culture & Sport	402 Bay Street	Suite 1701	Toronto, ON	M7A 0A8		Kimberly.Livingstone@ontario.ca
Ms.	Annelies	Eckert	Rural Planner	Ontario Ministry of Agriculture, Food and Rural Affairs	6484 Wellington Rd. 7	Unit 10	Elora, ON	N0B 1S0	519-827-6040	Anneleis.eckert@ontario.ca
Mr.	Peter	Dorton	Senior Project Manager	Ministry of Transportation, Corridor Management Section	159 Sir William Hearst Avenue	Bldg. D, 7th Floor	Toronto, ON	M3M 0B7	416-235-4280	peter.dorton@ontario.ca
Mr.	Michael	Lindsay	Manager Major Projects, Roads & Transit	Infrastructure Ontario	777 Bay Street	6th Floor, Suite 602	Toronto, ON	M5G 2C8	416-327-8037	michael.lindsay@infrastructureontario.ca
Mr.	Tim	Haldenby	Municipal Planning Advisor - Team Lead Central Ontario	Ministry of Municipal Affairs and Housing	777 Bay Street	13th Floor	Toronto, ON	M5G 2E5	416-585-6559	tim.haldenby@ontario.ca
			Fish Habitat Biologist	Department of Fisheries and Ocean	867 Lakeshore Road		Burlington, ON	L7S 1A1	905-336-4999	info@dfo-mpo.gc.ca
Ms.	Karen	Lorente		Ontario Clean Water Agency	30 Woodland Drive		Wasaga Beach, ON	L9Z 2V4		
Local Government, Adjacent Municipalities & Other Agencies										
Mr.	Christian	Meile	Director, Transportation Construction & Maintenance	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	christian.meile@simcoe.ca
Mr.	Dave	Parks	Director, Planning, Development & Tourism	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	dave.parks@simcoe.ca
Ms.	Cathy	Clark	Manager of Emergency Planning	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		cathy.clark@simcoe.ca
Mr.	Mark	Aitken	CAO	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		mark.aitken@simcoe.ca
Mr.	Allan	Greenwood	Director, Corporate Communications	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		allan.greenwood@simcoe.ca
Ms.	MaryAnn	Hunt	Planner III, Planning Department	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		maryann.hunt@simcoe.ca
Mr.	Fareed	Amin	CAO	Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	cao@collingwood.ca
Mr.	Adam	Farr	Director, Planning Services	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	afarr@collingwood.ca
Mr.	Dean	Collver	Director, Parks, Recreation & Culture	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	dcollver@collingwood.ca
Mr.	Chris	Hibberd	Director, Watershed Management Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0	705-424-1479	c.hibberd@nvca.on.ca

**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Ms.	Lee	Bull	Manager, Planning Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0		lbull@nvca.on.ca
Mr.	Steve	Sage	CAO	Township of Clearview	217 Gideon Street	Box 200	Stayner, ON	L0M 1S0	705-428-6230 ext. 228	ssage@clearview.ca
Mr.	Shawn	Everitt	CAO	Town of the Blue Mountains	32 Mill Street	P.O. Box 310	Thornbury, ON	N0H 2P0	519-599-3131 ext. 234	tspeck@thebluemountains.ca
Mr.	George	Vadeboncoeur	CAO	Town of Wasaga Beach	30 Lewis Street		Wasaga Beach, ON	L9Z 1A1		
Ms.	Colleen	Healey-Dowdall	CAO	Township of Essa	5786 County Road 12		Utopia, ON	L0M 1T0		
Mr.	Blaine	Parkin	CAO	Town of New Tecumseth	10 Wellington Street East		Alliston, ON	L9R 1A1	705-435-3900	
Mr.	Jason	Reynar	CAO	Town of Innisfil	2101 Innisfil Beach Road		Innisfil, ON	L9S 1A1	705-436-3740 Ext. 1202	kshea@innisfil.ca
Mr.	Geoff	McKnight	CAO	Town of Bradford West Gwillimbury	100 Dissette Street	Unit 7&8, P.O. Box 100	Bradford, ON	L3Z 2A7	905-775-5366 ext. 1201	gmcknight@townofbwg.com
Ms.	Barb	Fox	Planning Officer	Simcoe Muskoka Catholic District School Board	46 Alliance Blvd.		Barrie, ON	L4M 5K3	705-722-3559 ext. 250	
Ms.	Holly	Spacek	Planning Officer	Simcoe County District School Board	1170 Highway 26		Midhurst, ON	L9X 1N6	705-728-7570 ext. 11311	
Mr.	Miguel	Ladouceur	Director of Building, Maintenance and Planning	Conseil Scolaire Viamonde	116 Cornelius Parkway		Toronto, ON	M6L 2K5	1-416-614-5917	ladouceurm@csviamonde.ca
Ms.	Nathalie	Huard	Transportation Technician, Service de Transport Francobus	Association Franco-Ontarienne Des Conseils Scolaires Catholiques	138 rue Main Est	Bureau 205	Welland, ON	L3B 3W6	1-800-749-0002	huardn@francobus.ca
Mr.	Earl	Elliott	President	Simcoe County Historical Association		P.O. Box 144	Barrie, ON	L4M 4S9	705-796-7649	earl.elliott@rogers.com
Ms.	Bonnie	Branch	Transportation Coordinator	Simcoe County Student Transportation Consortium	64 Cedar Pointe Drive	Unit 1403	Barrie, ON	L4N 5R7	705-733-8965, ext. 107	transportation@scstc.ca
Ms.	Sara	Almas	Clerk	Accessibility Advisory Committee Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	salmas@collingwood.ca
				Simcoe Muskoka District Health Unit	280 Pretty River Parkway		Collingwood, ON	L9Y 4J5	705-445-6498	
Mr.	George	Powell		Blue Mountain Watershed Trust Foundation		P.O. Box 605	Collingwood, ON	L9Y 4E8		
Emergency Services										
Mr.	JC	Gilbert	Deputy Chief Operations	County of Simcoe Paramedic Services	1110 Highway 26		Midhurst, ON	L9X 1N6	705-726-9300	jc.gilbert@simcoe.ca
Mr.	Ross	Parr	Fire Chief	Town of Collingwood Fire Department	45 High Street		Collingwood, ON	L9Y 4V4	705-445-3920 ext. 7502	rparr@collingwood.ca
Mr.	Colin	Shewell	Fire Chief	Township of Clearview Fire Department	217 Gideon Street		Stayner, ON	L0M 1S0	705-428-6230 ext. 403	cshewell@clearview.ca
Ms.	Mary	Shannon	Inspector	Ontario Provincial Police Collingwood and the Blue Mountains	201 Ontario Street		Collingwood, ON	L9Y 4M4	705-445-4321	mary.shannon@opp.ca
Ms.	Paula	Brown	Operational Policy & Strategic Planning	Ontario Provincial Police	777 Memorial Ave., 2nd Floor		Orillia, ON	L3V 7V3		
Member of Parliament										
Mr.	Jim	Wilson	Member of Provincial Parliament	Collingwood Constituency Office	50 Hume Street		Collingwood, ON	L9Y 1V2	1-800-268-7542	
Ms.	Kellie	Leitch	Member of Parliament - Simcoe-Grey	Collingwood Constituency Office	50 Hume Street	#4	Collingwood, ON	L9Y 4H8	705-445-5557	kellie.leitch@parl.gc.ca
Interest Groups										
Ms.	Trish	Irwin	GM/CEO	Collingwood Chamber of Commerce	115 Hurontario Street	Suite 102	Collingwood, ON	L9Y 2L9	705-445-0221	tirwin@collingwoodchamber.com
Ms.	Kandas	Bondarchuk	Planner - Technician	Collingwood Heritage Committee	55 Ste. Marie Street	Unit 302	Collingwood, ON	L9Y 0W6	705-445-1290 ext. 3275	kbondarchuk@collingwood.ca
Mr.	Jamie	Forsythe		Blue Mountain & Collingwood Snowdrifters Snowmobile Club	453 Oak Street		Collingwood, ON	L9Y 4N1	705-446-1848 705-606-1453	bluemountainsnowdrifters@gmail.com
Mr.	Ben	McNabb		Collingwood Cycling Club	47 Sherwood Street		Collingwood, ON	L9Y0C5		info@collingwoodcyclingclub.ca
Mr.	Murray	Knowles		Black Ash Trail Committee	32 Westwind Drive		Collingwood, ON	L9Y 5J1		knowles.murray@gmail.com
Aboriginal Consultation										
Att: Consultation Unit				Ministry of Indigenous Affairs	160 Bloor St. East	4th Floor	Toronto, ON	M7A 2E6	416-326-4740	

**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
(CIRNAC (formerly INAC) <u>not</u> contacted for this project as project is not on Aboriginal lands)				Crown-Indigenous Relations and Northern Affairs Canada (formerly Indigenous & Northern Affairs Canada Consultation Unit)	25 St. Clair Avenue East	8th Floor	Toronto, ON	M4T 1M2	1-800-567-9604	
Mr.	Doran	Ritchie	Infrastructure and Resource Manager	Saugeen Ojibway Nation Environment Office	25 Maadookii Subdivision		Neyaashiinigmiing, ON	N0H 2T0	519-534-5507	d.ritchie@saugeenojibwaynation.ca & cc executive assistant Juanita Meekins juanita.meekins@saugeenojibwaynation.ca
First Nation Communities (as per MECP letter dated October 24, 2019)										
Chief	Guy	Monague		Beausoleil First Nation	General Delivery		Cedar Point, ON	L0K 1C0	705-247-2051	bfchief@chimnissing.ca
Chief	Donna	Big Canoe		Chippewas of Georgina Island First Nation	R.R. #2	P.O. Box 13	Sutton West, ON	L0E 1R0	705-437-1337	donna.bigcanoe@georginaisland.com
Chief	Greg	Nadjiwon		Chippewas of Nawash First Nation	135 Lakeshore Blvd.		Neyaashiinigmiing, ON	N0H 2T0	519-534-1689	cnadministrator@nawash.ca
	Sharday	James	Community Consultation Worker, Communications	Chippewas of Rama First Nation	5884-Rama Road	Suite 200	Rama, ON	L3V 6H6	705-325-3611	shardayj@ramafirstnation.ca
Chief	Lester	Anoquot		Chippewas of Saugeen First Nation	6493 Highway 21	R.R.#1	Southampton, ON	N0H 2L0	519-797-2781	sfn@saugeen.org
		Family Chief	Grand Chef Konrad H. Sioui	Nation Huronne-Wendat	255 Place Michel Laveau		Wendake, QC	G0A 4V0		
President	Margaret	Froh		Métis Nation of Ontario	66 Slater Street	Suite 1100	Ottawa, ON	K1P 5H1		
Mr.	Greg	Garratt	President	Georgian Bay Métis Council	355 Cranston Crescent	P.O. Box 4	Midland, ON	L4R 4K6		greggarratt63@gmail.com
Utilities										
Mr.	Ted	Burrell		EPCOR	43 Stewart Road		Collingwood, ON	L9Y 4M7	705-443-1868	tburrell@epcor.com
Ms.	Carol	O'Brien		Bell Canada	136 Bayfield Street	2nd Floor	Barrie, ON	L4M 3B1	705-722-2405	carol.obrien@bell.ca
Mr.	Tony	Dominguez		Rogers	1 Sperling Drive		Barrie, ON	L4N 6B8	705-737-4660 xt 6907	tony.dominguez@rci.rogers.com
Mr.	Tom	Jedemann		Enbridge Gas	101 Honda Blvd		Markham, ON	L6C 0M6	905-927-3184	tom.jedemann@enbridge.com
				Enbridge Gas						municipalnotices@enbridge.com
Land Use Planning										
				Plan Well Associates	40 Connor Avenue		Collingwood, ON	L9Y 5K6	705-444-5812	[REDACTED]
				Georgian Planning Solutions					705-446-0530	[REDACTED]
				R. J. Burnside and Associates Limited	3 Ronell Crescent		Collingwood, ON	L9Y 4J6		[REDACTED]
				C.C. Tatham & Associates Ltd.	115 Sandford Fleming Drive	Suite 200	Collingwood, ON	L9Y 5A6	705-444-2565	[REDACTED]
Attn:	Manager			Greenland	120 Hume Street		Collingwood, ON	L9Y 1V5	705-444-5482	[REDACTED]
				C.F Crozier & Associates Consulting Engineers	40 Huron Street	Suite 301	Collingwood, ON	L9Y 4R3	705.446.3510	[REDACTED]
				Travis and Associates	275 First Street	Unit 7	Collingwood, ON	L9Y 1A8	705-446-9917	[REDACTED]
				Loft Planning Inc.	308 Hurontario Street		Collingwood, ON	L9Y 2M4	705-446-1168	[REDACTED]

Public Information Centre Presentation Material

**Town of Collingwood, Raymond A. Barker Water Treatment Plant Expansion
Schedule 'C' Municipal Class Environmental Assessment**



Public Information Centre – April 30, 2020



COMMENT SHEET



Please print all responses. Use back of page if necessary.

Please submit this Comment Sheet by **June 1st, 2020** to either:

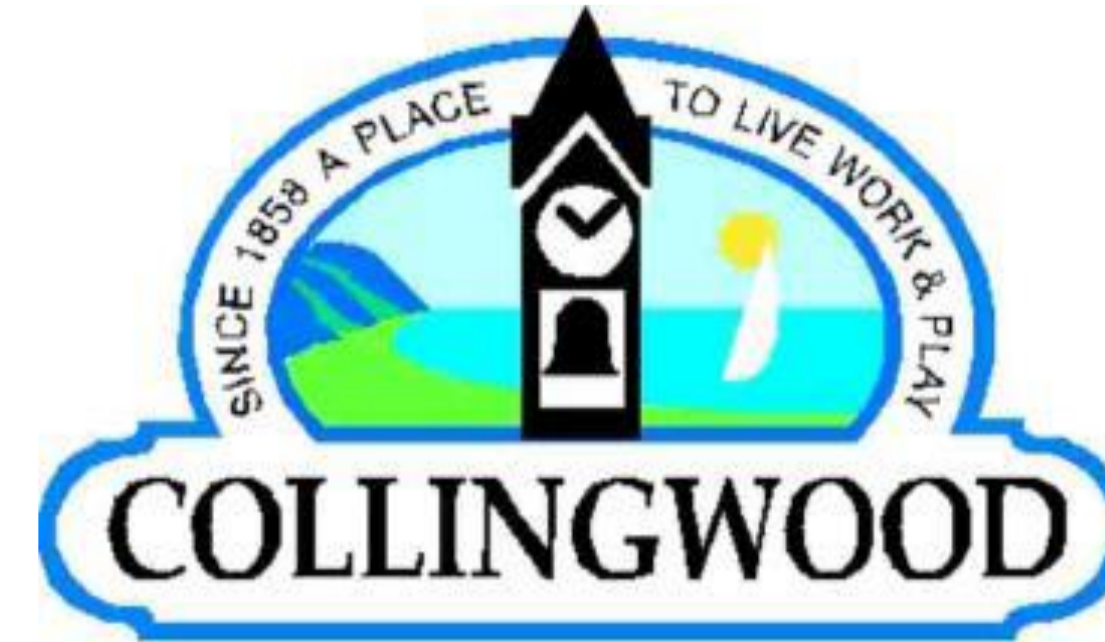
Ken Kaden, P. Eng.
Project Engineer, Environmental Services
Town of Collingwood
Tel: (705) 445-1581
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
Ainley Group
Tel: 705-444-4466
ainley.m@ainleygroup.com

Name _____

Mailing Address _____

Telephone # _____ E-mail Address _____



TOWN OF COLLINGWOOD

Raymond A. Barker Water Treatment Plant Expansion Schedule 'C' Class Environmental Assessment

PUBLIC INFORMATION CENTRE (PIC)

Posted: Friday April 24, 2020



WELCOME

This public information centre will present information on the project background, the Municipal Class Environmental Assessment process, alternative designs under consideration, evaluation of proposed alternatives, and the next steps in the planning process.

- A downloadable copy of the PIC material is available on this website.
- Following this presentation we invite you to provide any comments by completing and submitting the on-line Additional Comment Sheet.

Your Input is Appreciated!

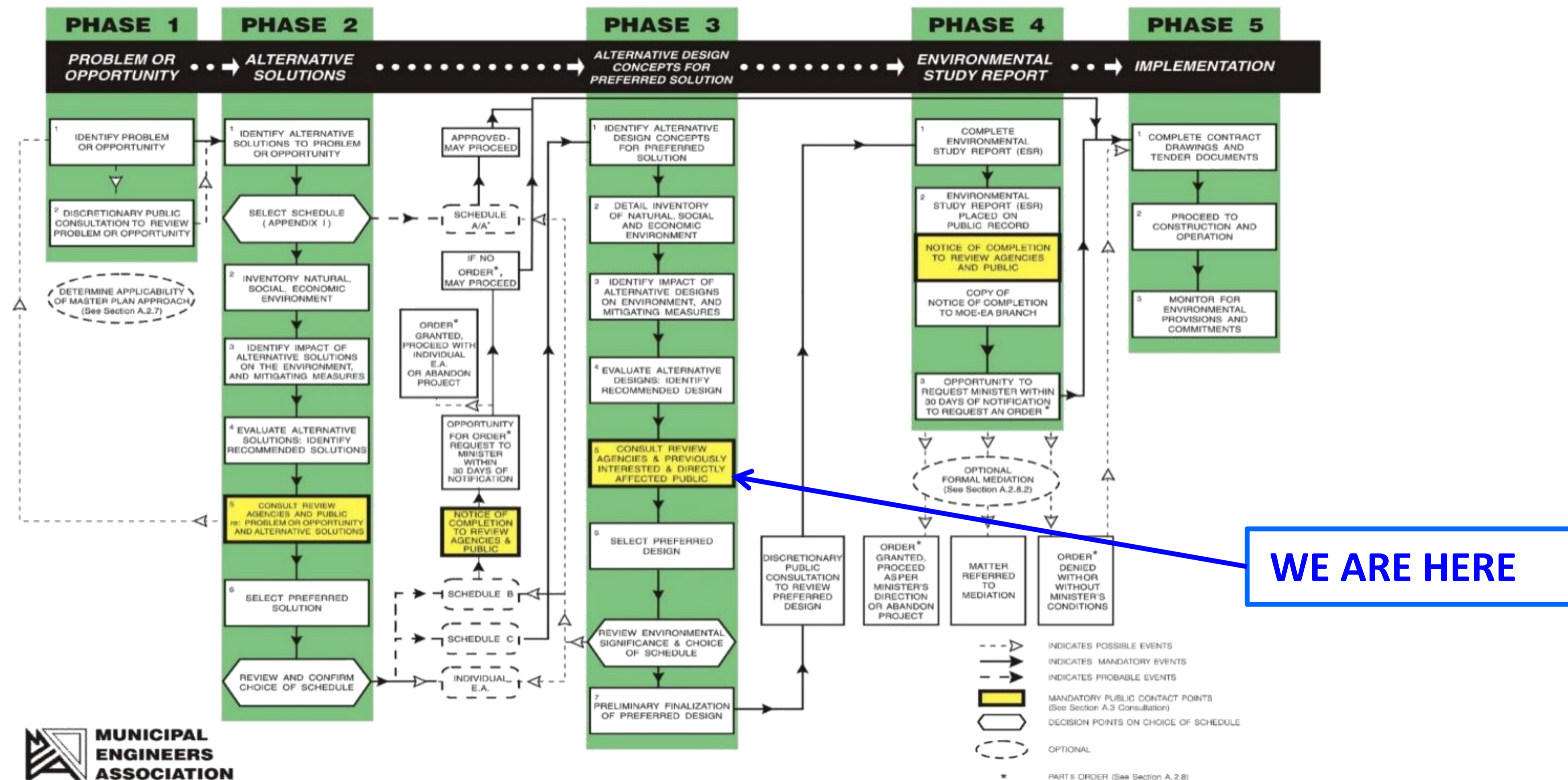
MUNICIPAL FREEDOM OF INFORMATION & PROTECTION OF PRIVACY ACT

All comments received will be maintained on file for use during the project and may be included in study documentation. Information collected will be used in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

BACKGROUND INFORMATION

- Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing (filed December 2019), the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity.
- The MSP followed Approach No.1 under the Municipal Class Environmental Assessment (MCEA) process and involved the preparation of a Master Plan document.
- The Town held a Public Information Centre (PIC) in March 2019, which identified the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities (New Tecumseth, Township of Clearview, and Town of the Blue Mountains).
- The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class Environmental Assessment (Class EA) in accordance with the MCEA document (Oct. 2000, as amended 2007, 2011 & 2015).

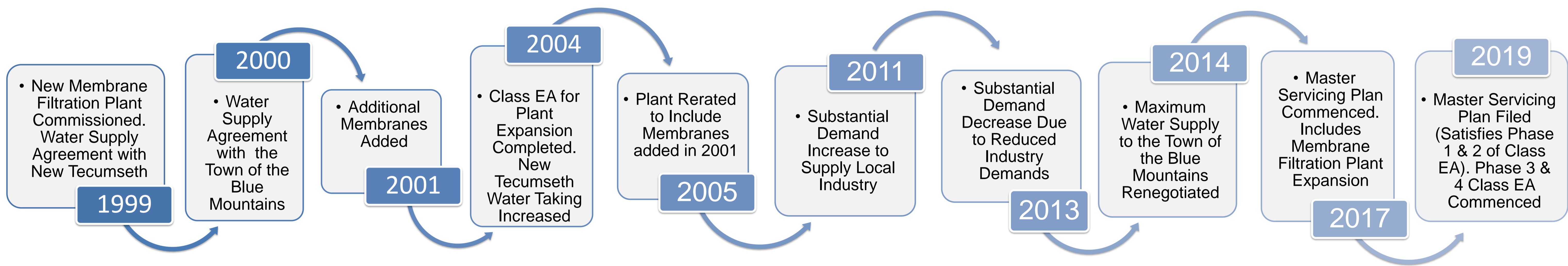
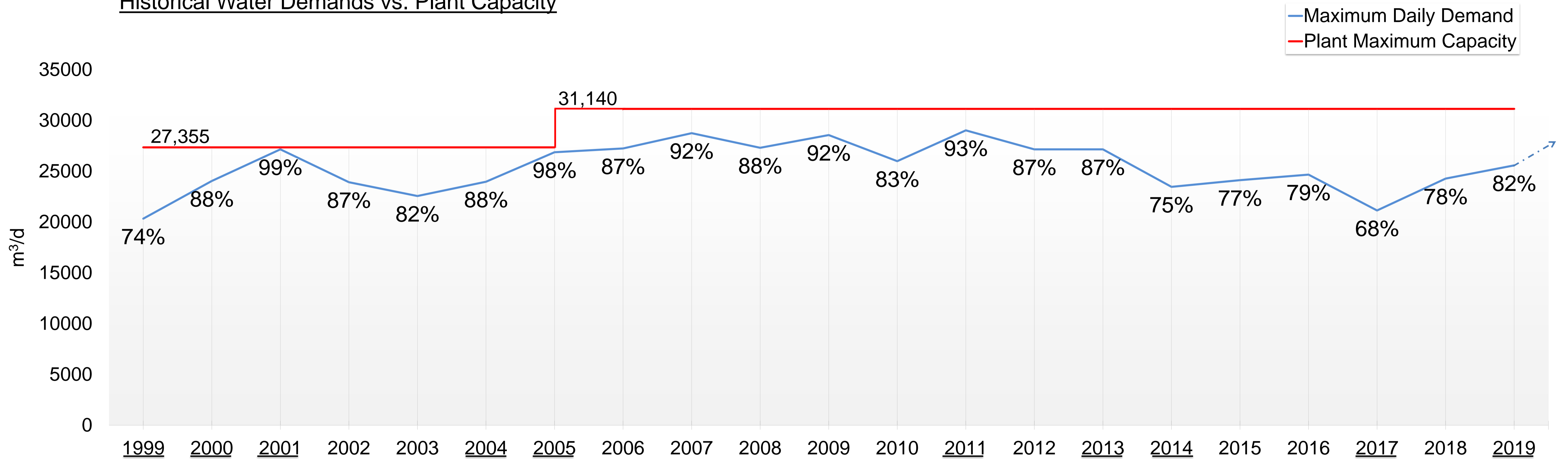
MUNICIPAL CLASS EA PROCESS



- Based on the scope (increased water treatment capacity), this project constitutes a Schedule 'C' project in accordance with the MCEA document. Schedule 'C' projects require completion of Phases 1 to 4 with implementation during Phase 5. The MSP will be used in support of Phases 3 and 4 as it addresses Phases 1 and 2 of the Class EA process.
- The WTP Expansion Class EA Phase 3 will determine the preferred design option for expansion and an Environmental Study Report (ESR) will be published for public and review agency comment as part of Phase 4.

PROJECT HISTORY

Historical Water Demands vs. Plant Capacity



MSP SUMMARY

- As part of the MSP, an analysis was conducted that calculated demands on water supply for existing water taking rates, future phases of development in the Town of Collingwood, and requests from nearby municipalities.
- The MSP analysis determined that it would be necessary to increase the ultimate plant capacity to 101,069 m³/d for current full build boundary projections and maximum future supply requests by other municipalities.
- It is suggested that the expansion in the capacity of the WTP be undertaken in phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The proposed Phase 1 expansion will increase the WTP capacity to **51,871 m³/d**.

EXISTING CONDITIONS

As part of Phase 3 of this Class EA, various field studies have been completed to determine existing environmental conditions as well as to identify any potential impacts the alternatives pose to the environment. The term “environment” is broadly defined and includes the built, natural, socio-economic and cultural environments. The following assessments have been completed at the existing WTP:

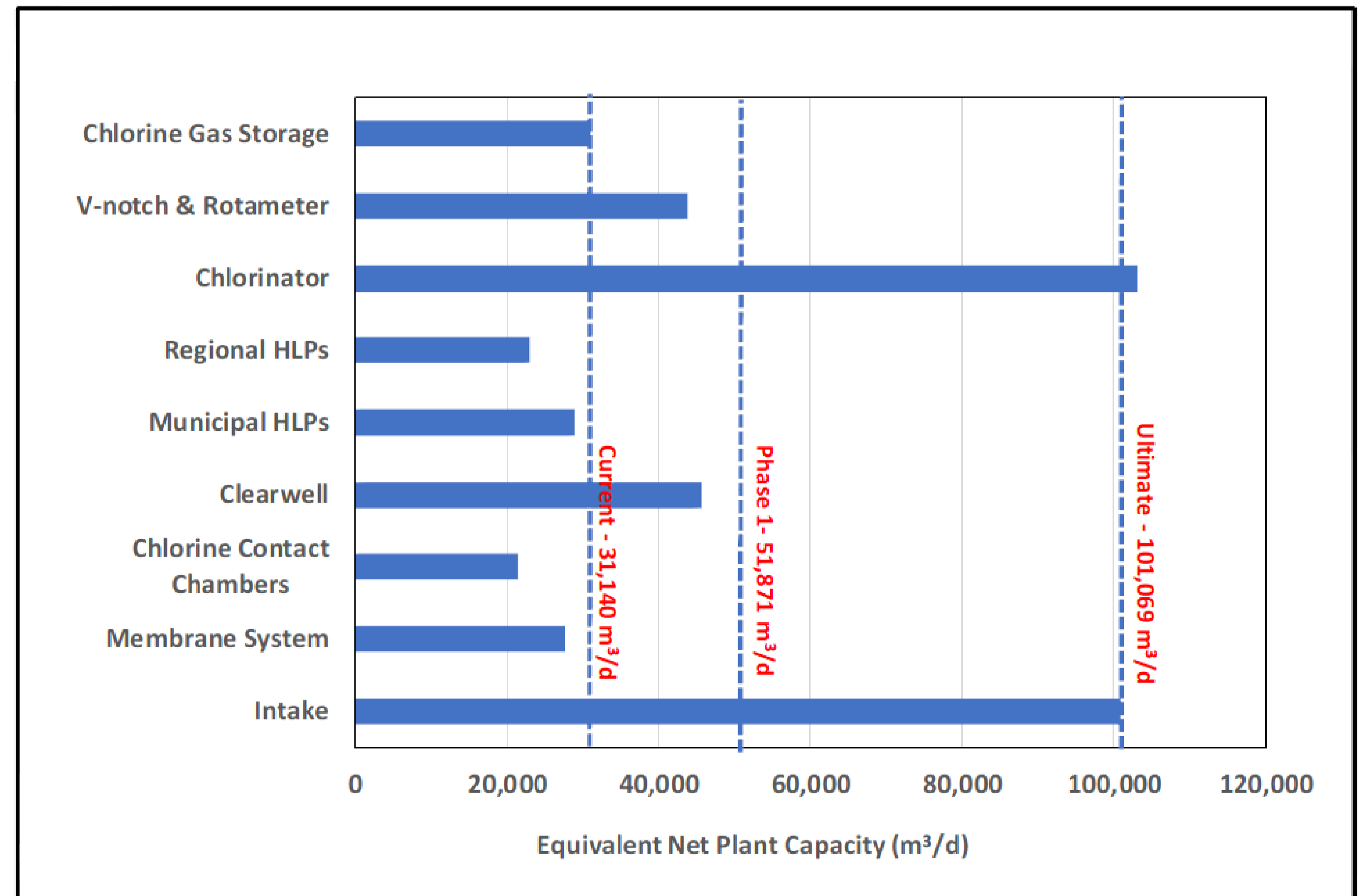
Existing Plant Performance/Capacity

Assessment:

- The treatment processes meet quality requirements.
- Capacity shortfalls exist in multiple areas (as illustrated by graph).

Condition Assessments:

- Architectural and structural condition assessments, limited to visual inspection of exposed components from ground level, were conducted.
- Recommendations are presented in the report along with an opinion of costs for immediate and future recommended upgrades.



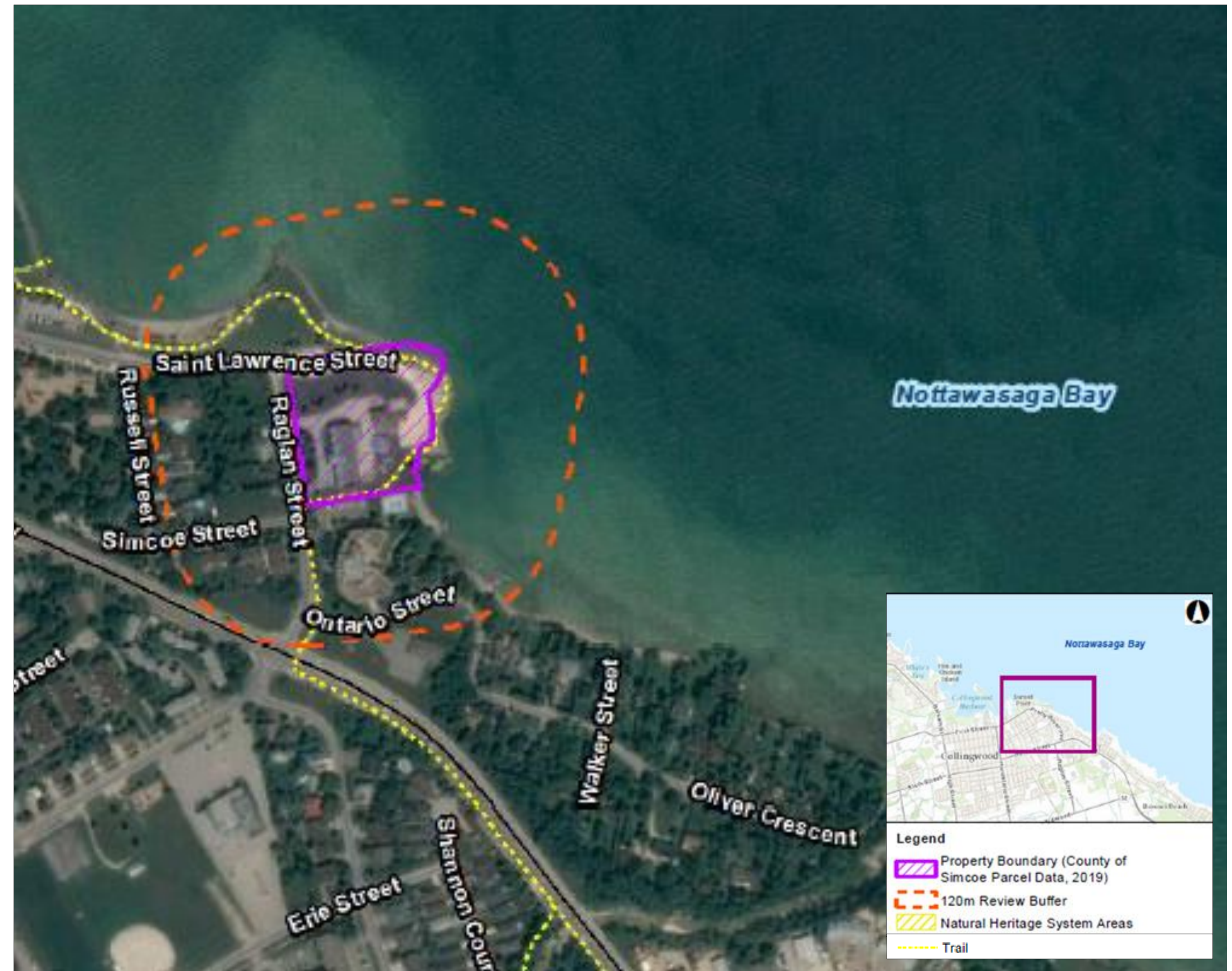
EXISTING CONDITIONS CON'T

Natural Environment Assessment:

- Field investigations and background review were completed.
- Information was obtained on known natural environment features and species records.
- The Ministry of Natural Resources and Forestry (MNR) was consulted.
- The conclusion was that there are no designated natural environment features or areas (e.g., significant wetlands, etc.) or ecological communities within the study area.
- Potential impacts to noted species at risk or their habitat are considered low with implementation of proper mitigation measures.

Stage 1 Archaeological Assessment:

- Extensive previous construction and underground utilities installations have been completed on the site.
- As a result, there is no potential for the recovery of archaeological resources.
- Therefore, no further archaeological work is required.



SCREENING CRITERIA OF ALTERNATIVES

Preliminary Screening Criteria

Screening Criteria	Description
Compliance	<ul style="list-style-type: none"> Ability to continuously meet or exceed the proposed treatment objectives
Technical Feasibility	<ul style="list-style-type: none"> Adequate space exists for the given location. Compatibility with existing infrastructure (potential impact on overall construction requirements). Compatibility with existing processes (operating risk, system reliability, maintenance and monitoring requirements). Is a common technology used in water treatment facilities in North America.
Capacity	<ul style="list-style-type: none"> Ability to meet the required water demands
Financial	<ul style="list-style-type: none"> Is known not to have a high financial and/or operating cost.

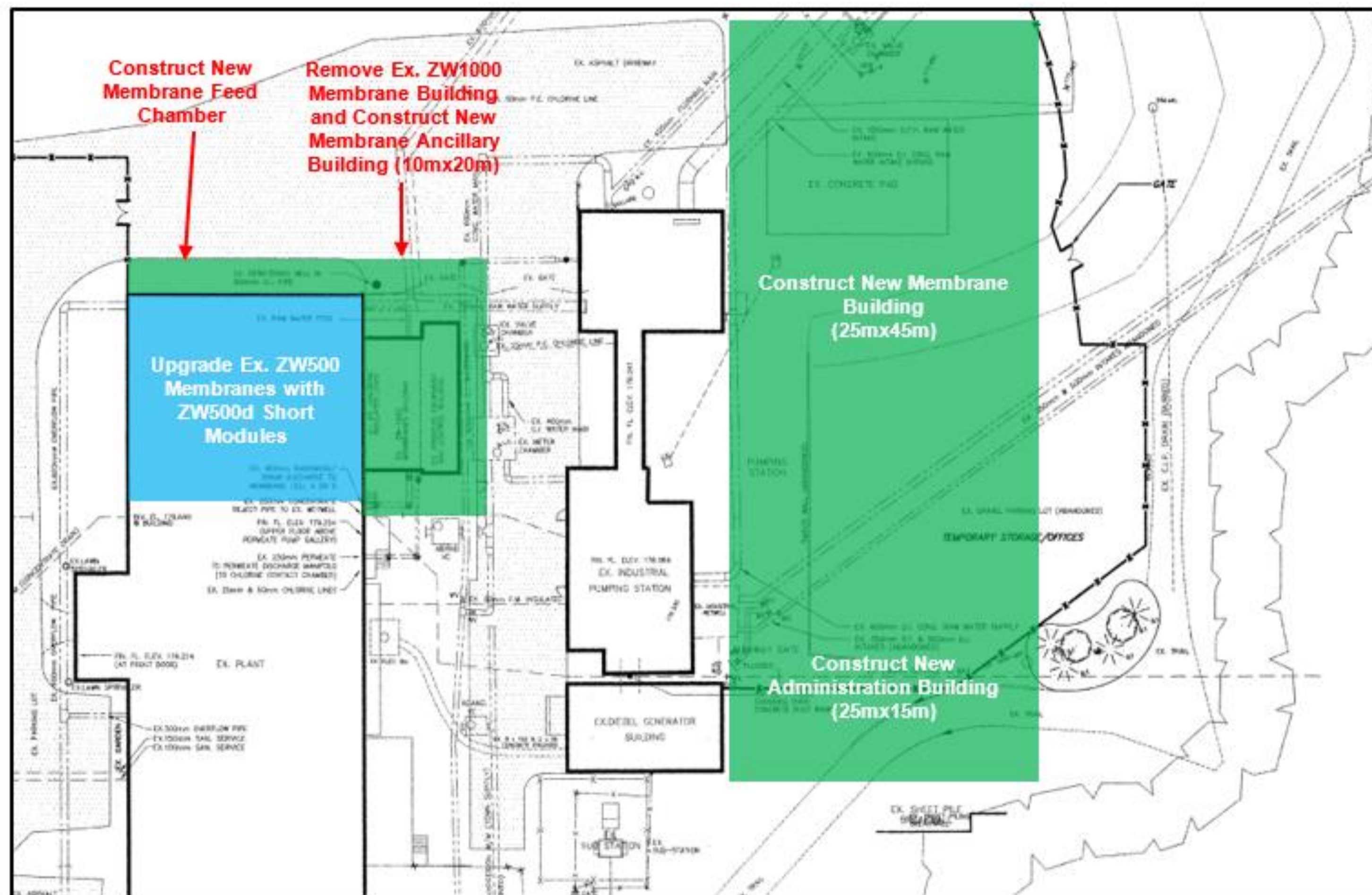
MEMBRANE ALTERNATIVES

The following membrane alternatives were identified:

- **Option 1:** Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit and Construct New Membrane Building
- **Option 2.1:** Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains
- **Option 2.2:** Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains
- **Option 3:** Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building
- **Option 4:** Construct a New Membrane Building for Phase 1 flows and in the Future Retrofit the Existing Membrane Building for Balance of Flows
- **Option 5:** Construct a New Membrane Building Combined With Operating the Existing Membrane Building to Its End of Life (Reducing New Membranes Initially Required)

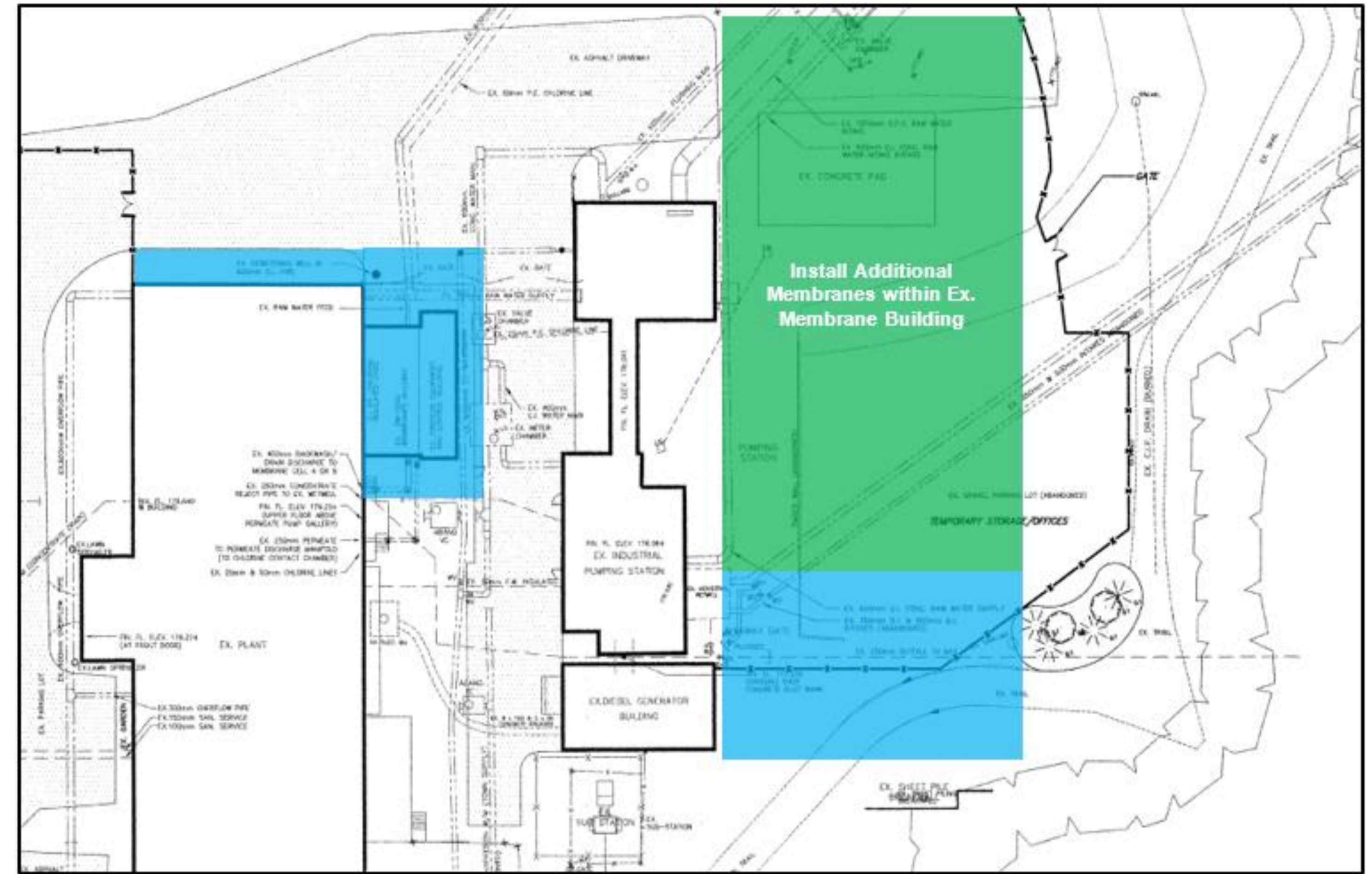
MEMBRANE OPTION 1 CONCEPT

Option 1: Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit and Construct New Membrane Building (New Infrastructure Shown as Green)



Option 1A – Phase 1

Net capacity provided = 51,871 m³/d

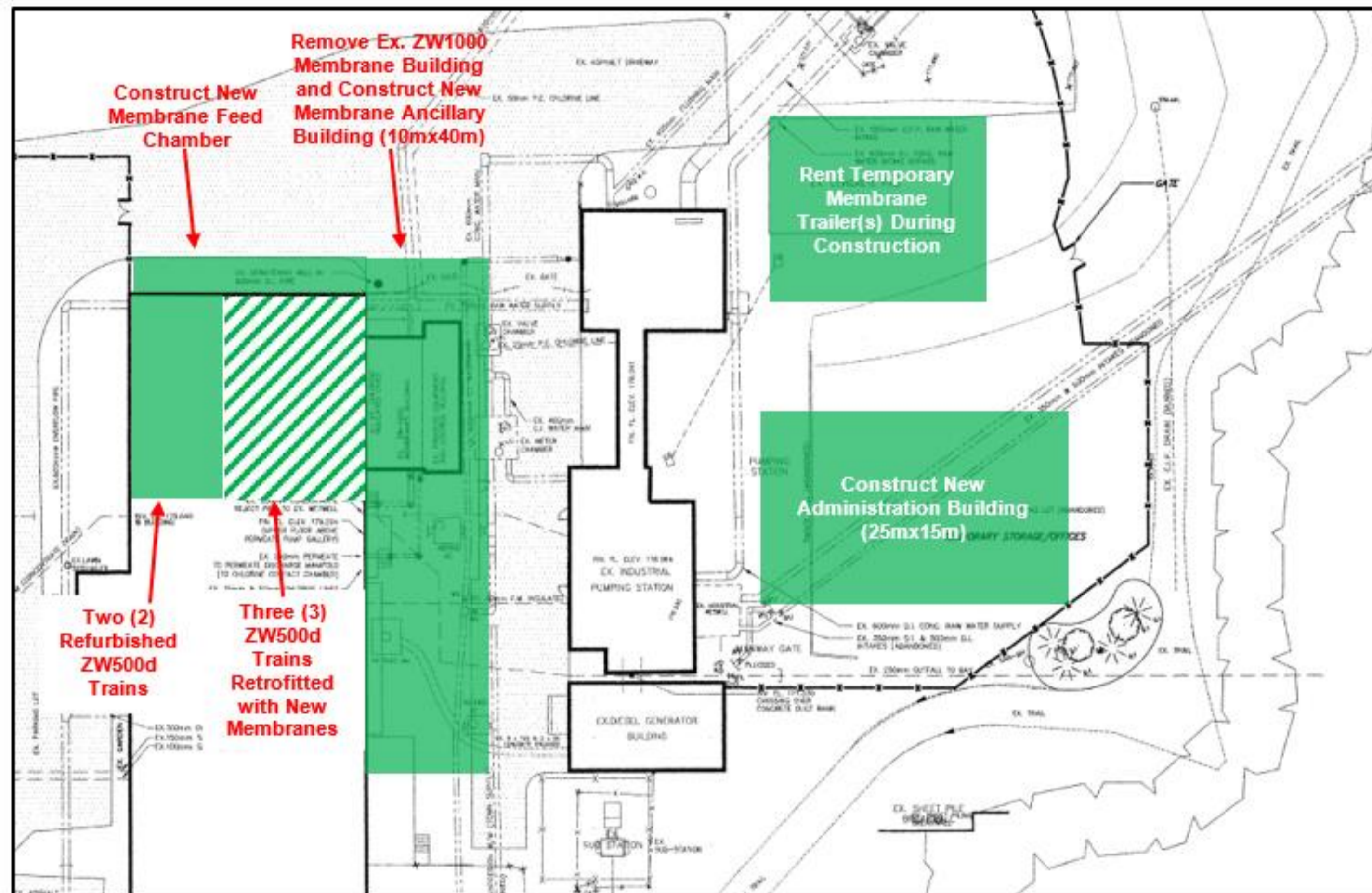


Option 1B – Ultimate Phase

Net capacity provided = 101, 069 m³/d
(Additional 49,198 m³/d)

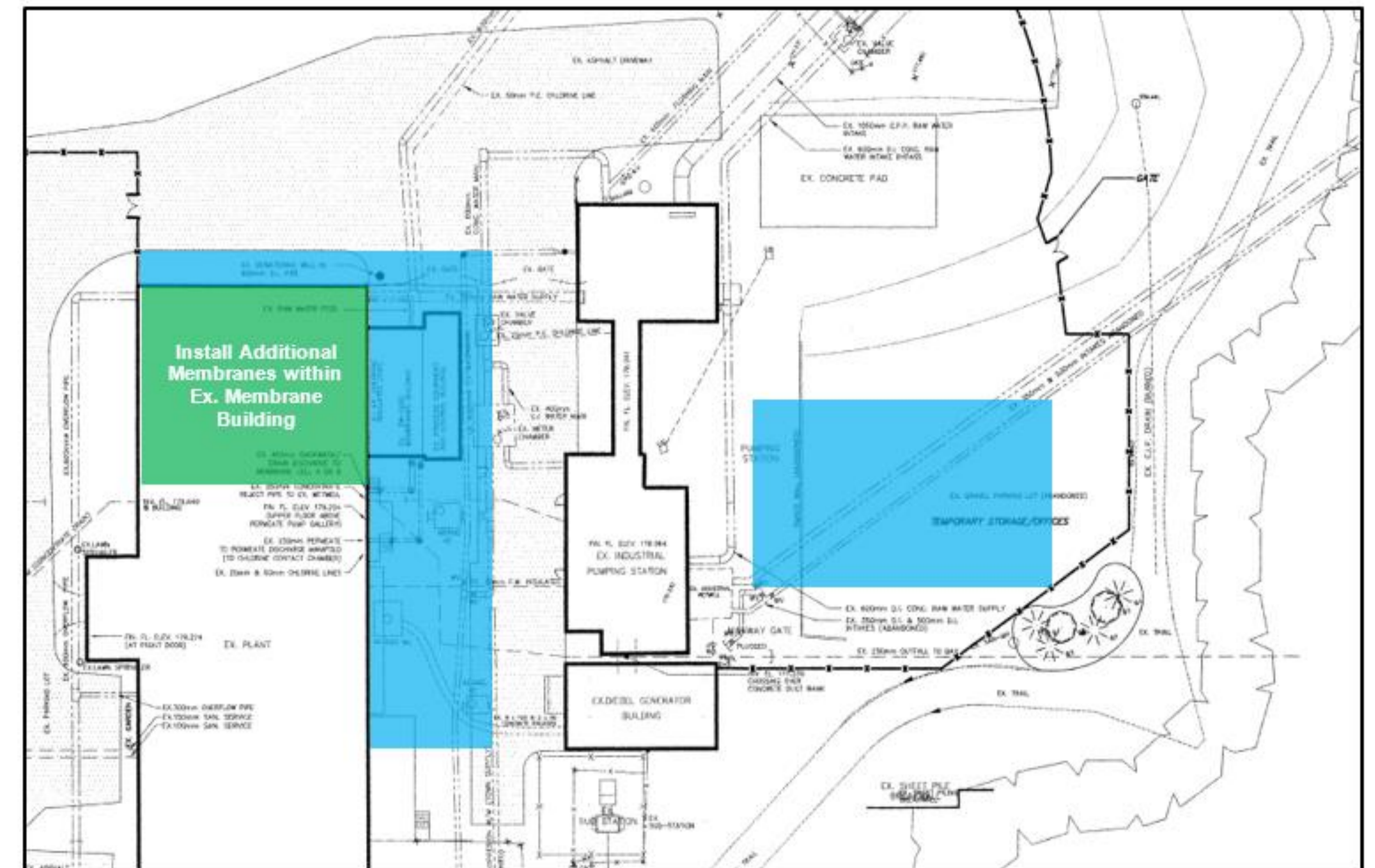
MEMBRANE OPTION 2.1 CONCEPT

Option 2.1: Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains (New Infrastructure Shown as Green)



Option 2.1A – Phase 1

Net capacity provided = 51,871 m³/d

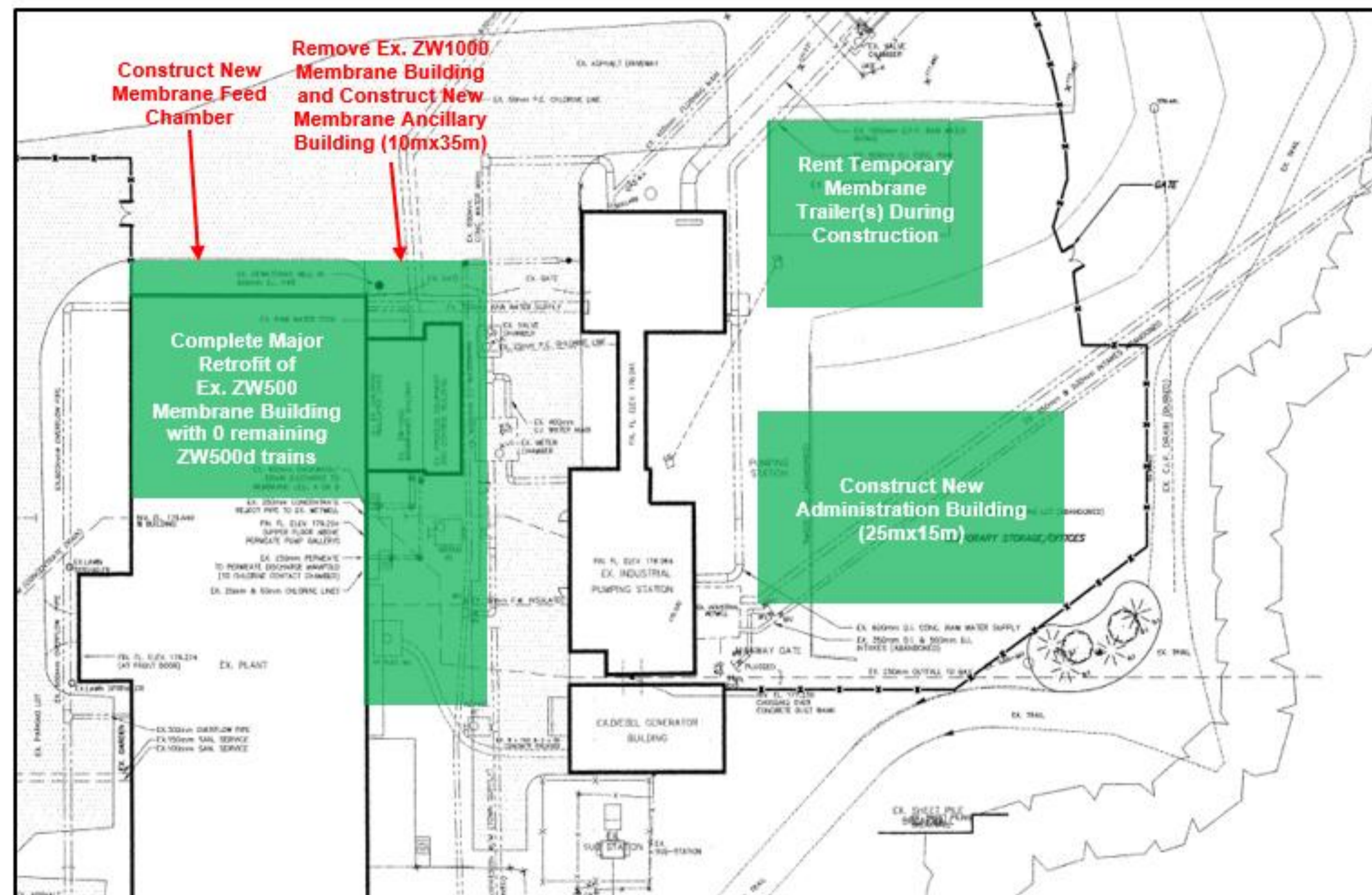


Option 2.1B – Ultimate Phase

Net capacity provided = 101, 069 m³/d
(Additional 49,198 m³/d)

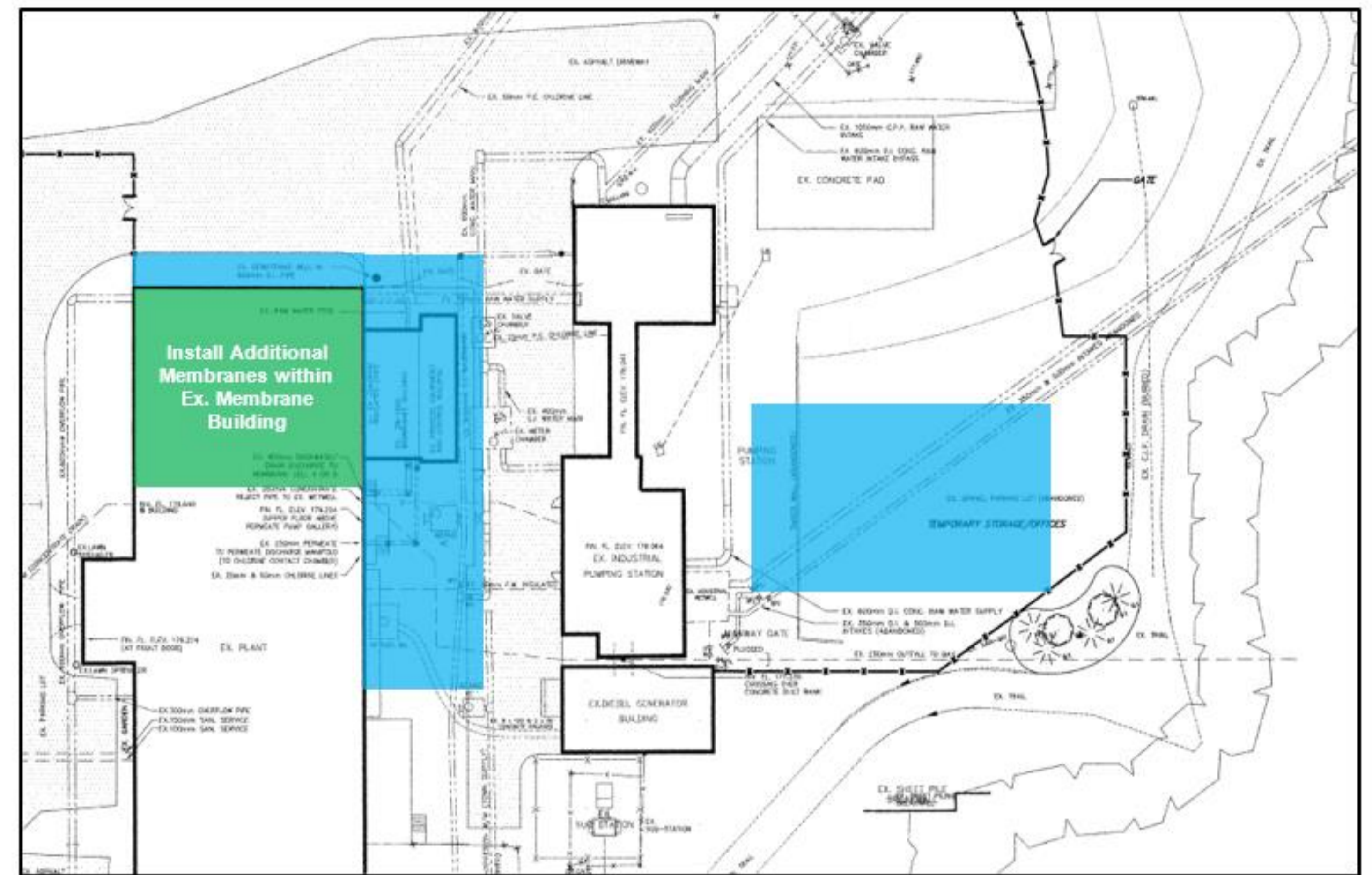
MEMBRANE OPTION 2.2 CONCEPT

Option 2.2: Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains (New Infrastructure Shown as Green)



Option 2.2A – Phase 1

Net capacity provided = 51,871 m³/d

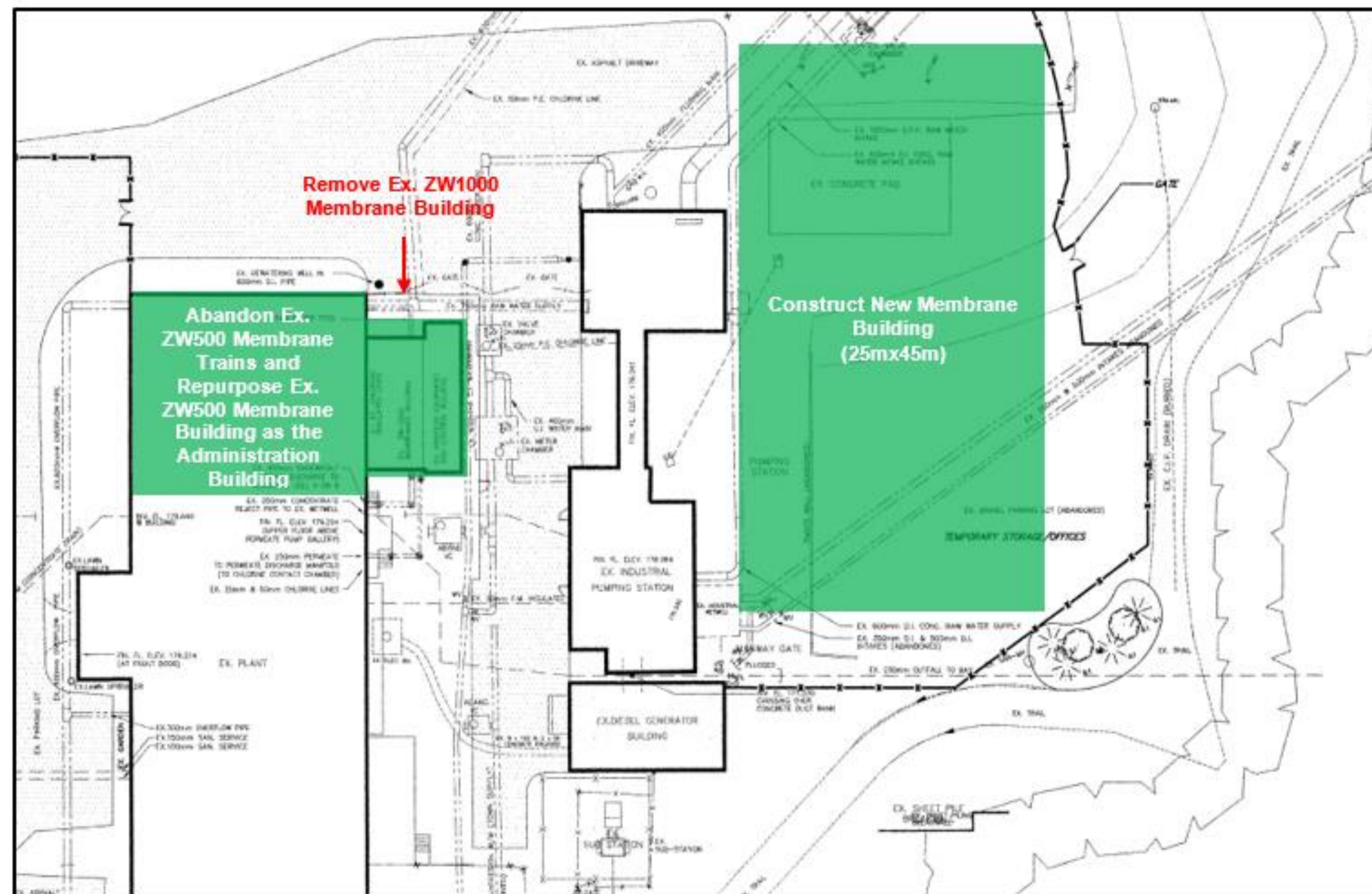


Option 2.2B – Ultimate Phase

Net capacity provided = 101, 069 m³/d
(Additional 49,198 m³/d)

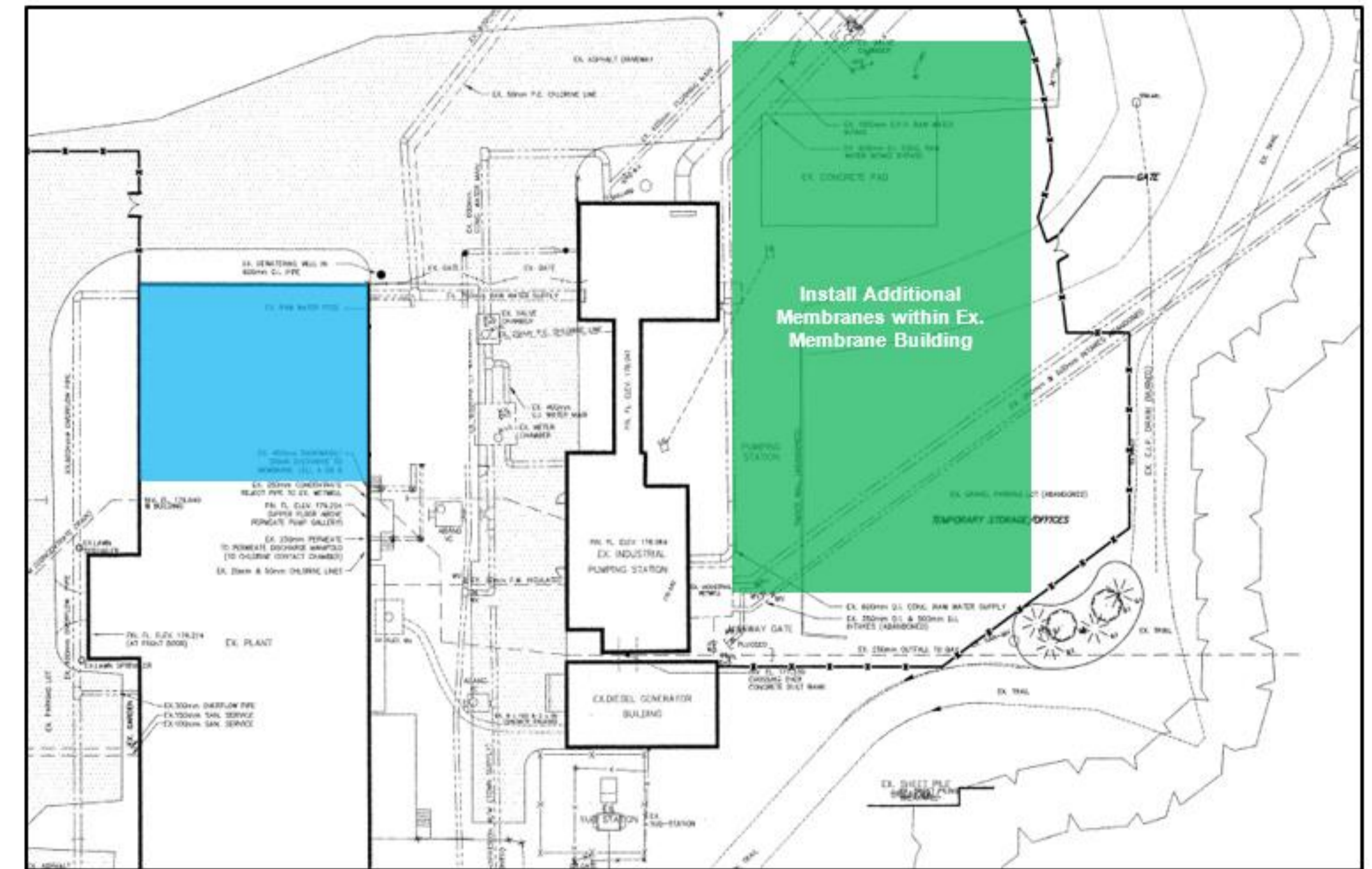
MEMBRANE OPTION 3 CONCEPT

Option 3: Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building (New Infrastructure Shown as Green)



Option 3A – Phase 1

Net capacity provided = 51,871 m³/d



Option 3B – Ultimate Phase

Net capacity provided = 101, 069 m³/d
(Additional 49,198 m³/d)

MEMBRANE ALTERNATIVES NOT CARRIED FORWARD

The following options passed the initial screening criteria but were **not carried forward** for the reasons noted.

Option 4: Construction of a New Membrane Building for Phase 1 flows and Future Retrofit of the Existing Membrane Building for Balance of Flows

- Higher capital cost than Option 1 since the existing membrane building would require major modifications (not just retrofits) that would greatly exceed the savings from a smaller new membrane building with no compensating additional benefit.
- Once a new membrane building is constructed for Phase 1 (and potentially higher) flows, the existing membrane building would remain unused for potentially up to 10 years or more.

Option 5: Construction of a New Membrane Building Combined With Operating the Existing Membrane Building to Its End of Life (Reducing New Membranes Initially Required)

- Could be adopted as an ancillary option to defer capital costs by reducing the new membranes required in the short-term (not a sustainable long-term solution).
- Although this option would allow the existing plant to be completely repurposed in the long-term, in the short-term, repurposing of the membrane treatment components of the plant would have to be deferred while the membranes are still in use.

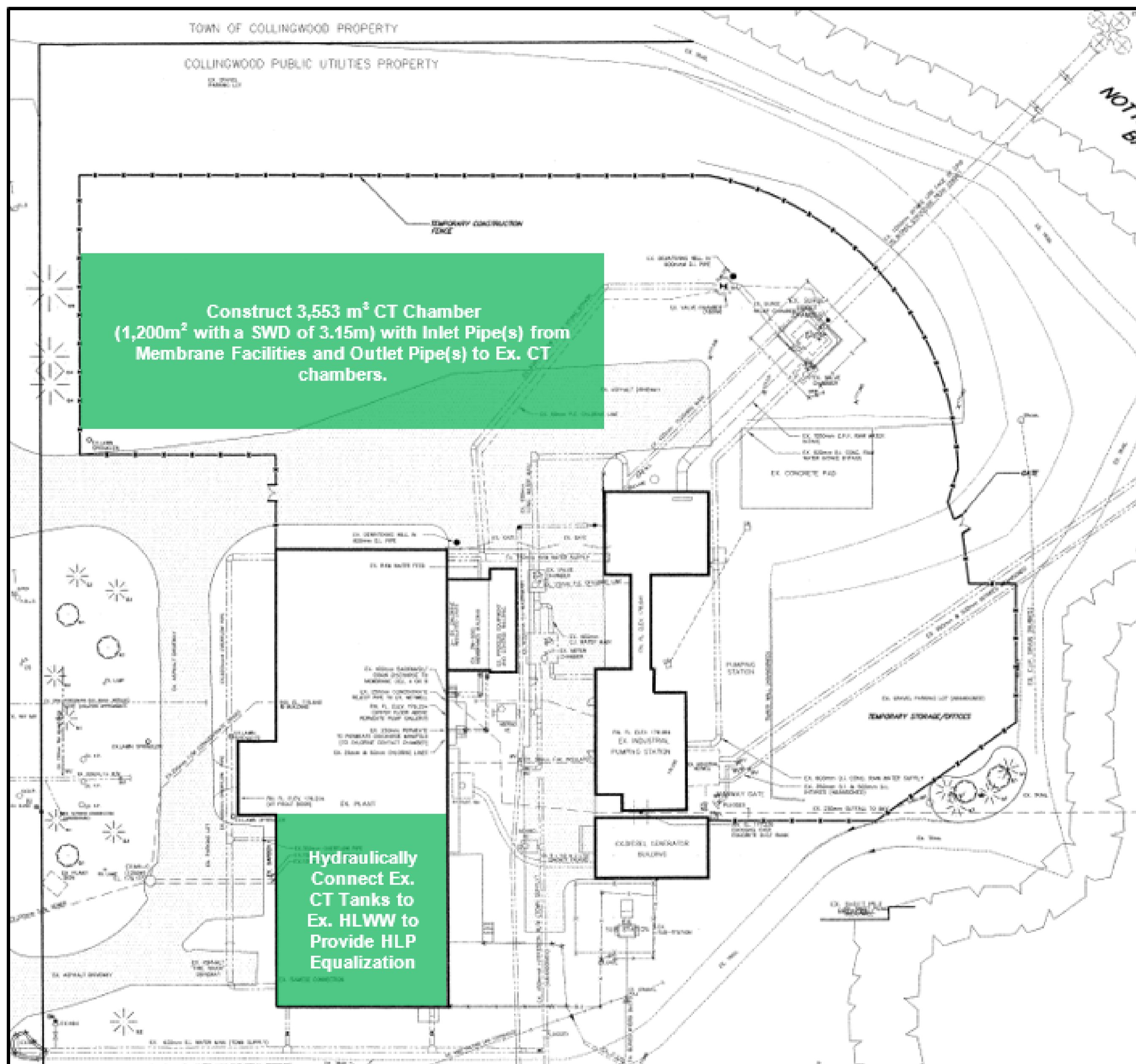
DISINFECTION ALTERNATIVES

The following disinfection alternatives were identified:

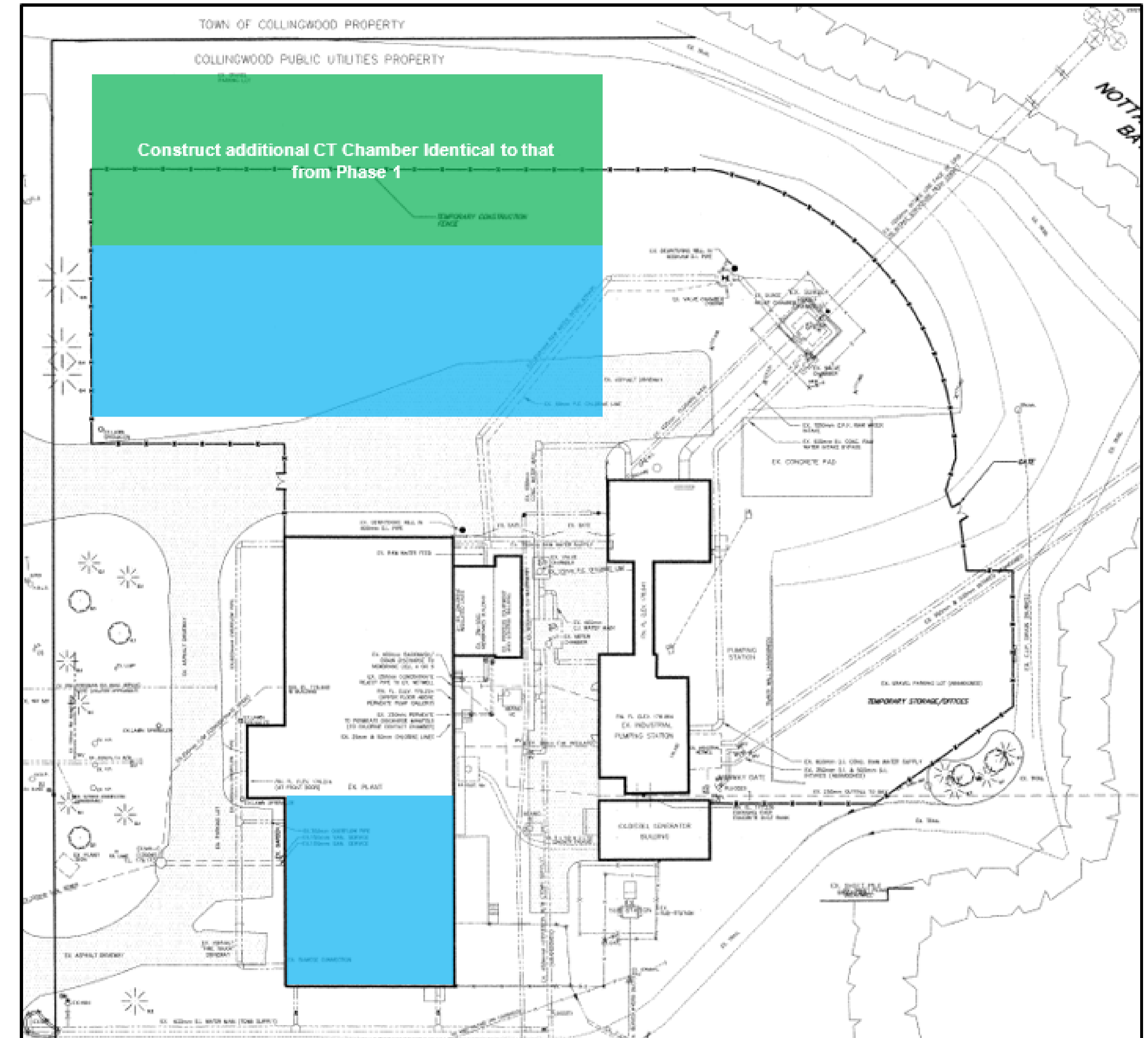
- **Option 1:** Chlorinate Year Round in Intake and Chlorine Contact (CT) Chambers
- **Option 2:** Superchlorinate and Dechlorinate in Existing CT Chambers
- **Option 3:** Practice pH Adjustment in Existing CT Chambers
- **Option 4:** Chlorinate in New CT Chambers
- **Option 5:** Practice UV Disinfection in New Building and Chlorinate in New CT Chambers

DISINFECTION OPTION 4 CONCEPT

Option 4: Chlorinate in New CT Chambers (New Infrastructure Shown as Green)



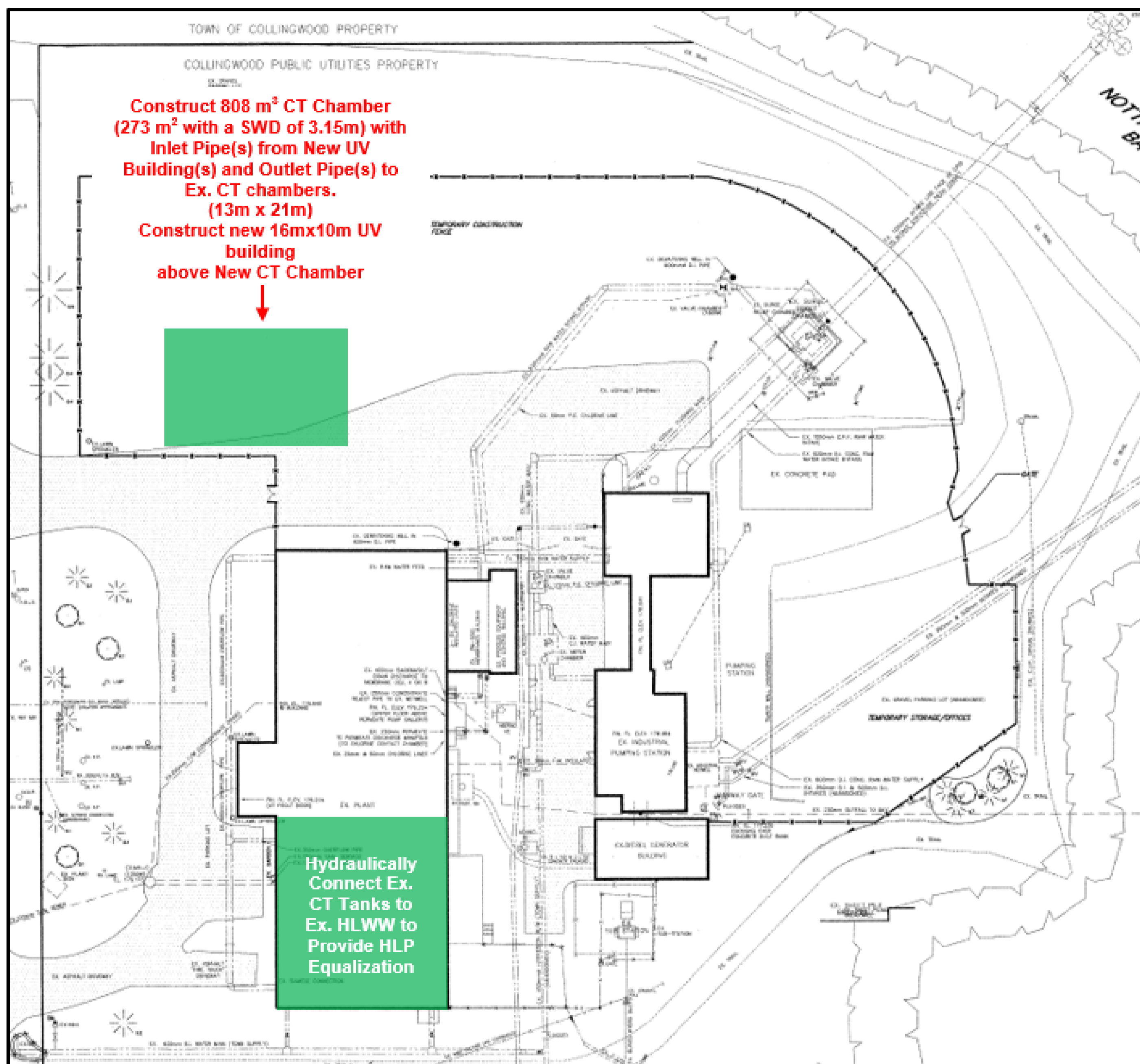
Option 4A – Phase 1



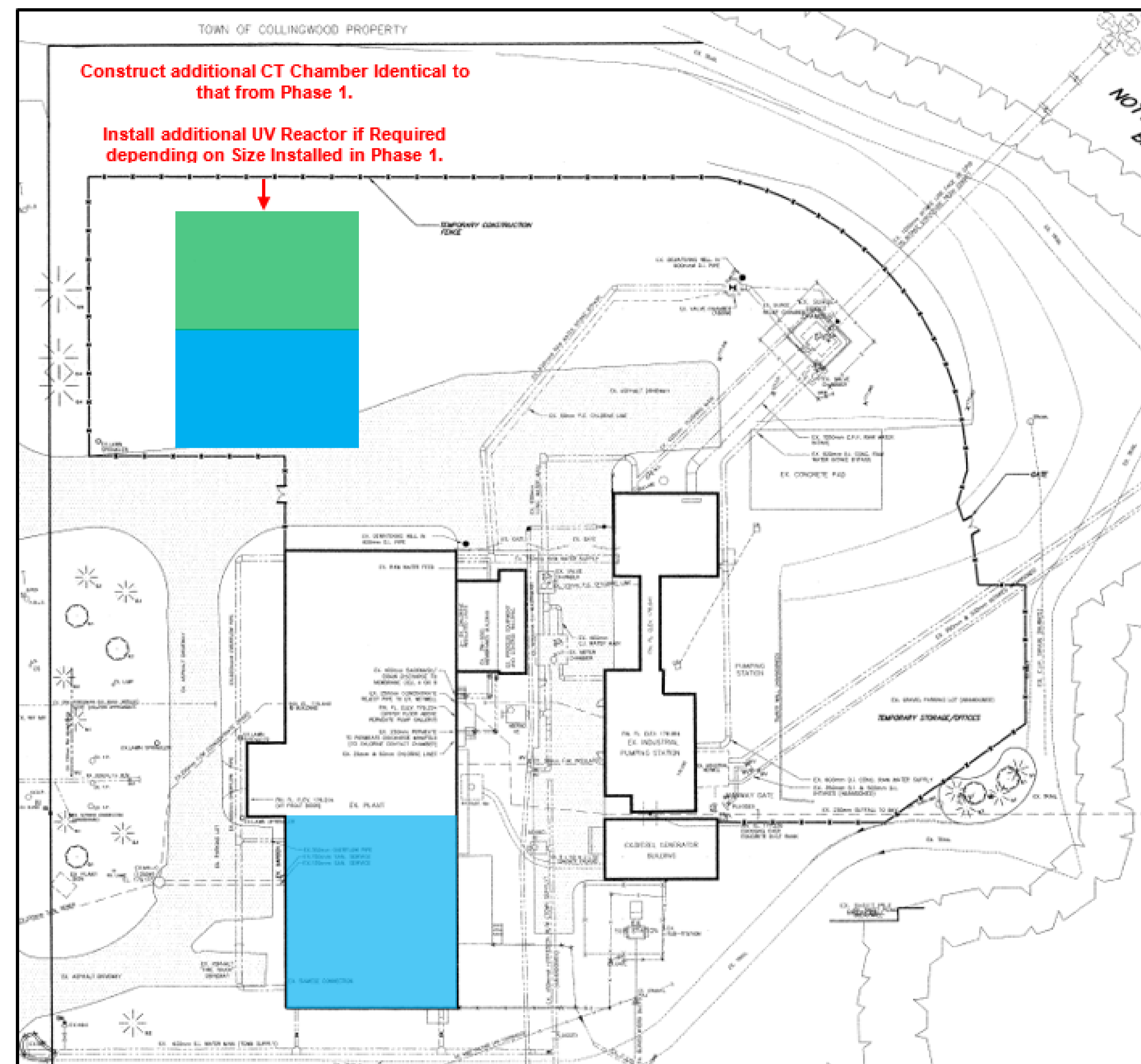
Option 4B – Ultimate Phase

DISINFECTION OPTION 5 CONCEPT

Option 5: Practice UV Disinfection and Chlorinate in New CT Chambers (New Infrastructure Shown as Green)



Option 5A – Phase 1



Option 5B – Ultimate Phase

DISINFECTION ALTERNATIVES NOT CARRIED FORWARD

The following options were **not carried forward** for the reasons noted.

Option 1: Chlorinate Year Round in Intake and CT Chambers.

- Raw water in the intake has solids that can shield pathogens from the chlorine, thus not guaranteeing inactivation of the pathogens.
- Chlorination year round within the intake is not preferred by the MECP.
- A higher chlorine dosage than normal is required, increasing the potential for disinfection by-products and decreasing the pH of the water making the water more corrosive, exceeding the water quality objectives.
- Additional dechlorination will be required.
- At ultimate flows, this option does not provide sufficient disinfection.

Option 2: Superchlorinate and Dechlorinate in Existing CT Chambers

- Increased potential for disinfection by-product formation exceeding the water quality objectives.
- Increased potential for a decrease in the pH of the water making the water more corrosive, exceeding the water quality objectives.
- Increased potential for an adverse exceedance of 4.0 mg/L free chlorine residual in the distribution system, exceeding the water quality objectives.
- A substantial amount of additional chlorine containers will need to be transported to and then stored on-site.
- Additional dechlorination will be required.

Option 3: Practice pH Adjustment in Existing CT Chambers

- Potential for increasing the corrosivity of the water, exceeding the water quality objectives.
- New chemical systems (acid and base) will need to be installed on-site requiring additional transportation, storage and handling of chemicals on-site.

DETAILS OF ASSOCIATED UPGRADES REQUIRED FOR ALL EXPANSION OPTIONS

The following associated plant approvals and upgrades will also be required:

- Application for an increase in the water taking capacity (Permit To Take Water) for the ultimate expansion phase.
- Construction of a new low-lift pumping station with micro-screening.
- Relocation of the industrial water pumping station with micro-screening added.
- Conversion of the existing chlorine contact chambers to high-lift wet wells.
- Phased replacement of high-lift pumps.
- Upgrades to the chlorination equipment and increased gas cylinder storage.
- Consolidation of all chemicals into a single chemical building.
- Construction of equalization tanks for residue management.
- Sanitary sewage drainage systems in each new building, discharging to the sanitary sewer.
- Electrical supply, standby power and SCADA upgrades.
- Existing building and site services upgrades.

ALTERNATIVES FOR FURTHER EVALUATION

The following alternatives were shortlisted, assessed relative to each other and evaluated against a set of pertinent criteria and factors.

Alternatives for Further Evaluation

Option	Alternative
Membrane Alternatives	
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building
Disinfection Alternatives	
4	Chlorinate in New CT Chambers
5	Practice UV Disinfection and Chlorinate in New CT Chambers

The proposed evaluation criteria are based on three primary criteria typically used in the water industry for the selection of alternatives as part of a Cost-Benefit analysis:

- Water Quality
- Technical Considerations
- Social Considerations

TECHNICAL EVALUATION CRITERIA

The proposed evaluation criteria and weighting factors, grouped by primary categories, are shown in the Tables below for the membrane alternatives and the disinfection alternatives. Water quality is not included for the membrane alternatives because water quality will be the same for all alternatives.

Evaluation Criteria and Weighting Membrane Alternatives

Primary Criteria	Weight	Secondary Criteria	Relative Weight	Absolute Weight
Technical Considerations	80	Operation and maintenance requirements, including process complexity	50	40
		Ease of implementation (construction schedule)	30	24
		Process robustness	20	16
Maximum Sub-total Score – Technical Considerations				80
Social Considerations	20	Minimize footprint and site impacts/architectural aesthetics (plant appearance)	70	14
		Minimize truck traffic (during construction and operation)	30	6
Maximum Sub-total Score – Social Considerations				20
Total Overall Maximum Score				100

Evaluation Criteria and Weighting Disinfection Alternatives

Primary Criteria	Weight	Secondary Criteria	Relative Weight	Absolute Weight
Water Quality	35	Pathogen control	100.0	35
Maximum Sub-total Score – Water Quality				35
Technical Considerations	50	Operation and maintenance requirements, including process complexity	50.0	25
		Ease of implementation (construction schedule)	30.0	15
		Process robustness	20.0	10
Maximum Sub-total Score – Technical Considerations				50
Social Considerations	15	Minimize footprint and site impacts/architectural aesthetics (plant appearance)	66.7	10
		Minimize truck traffic (during construction and operation)	33.3	5
Maximum Sub-total Score – Social Considerations				15
Total Overall Maximum Score				100

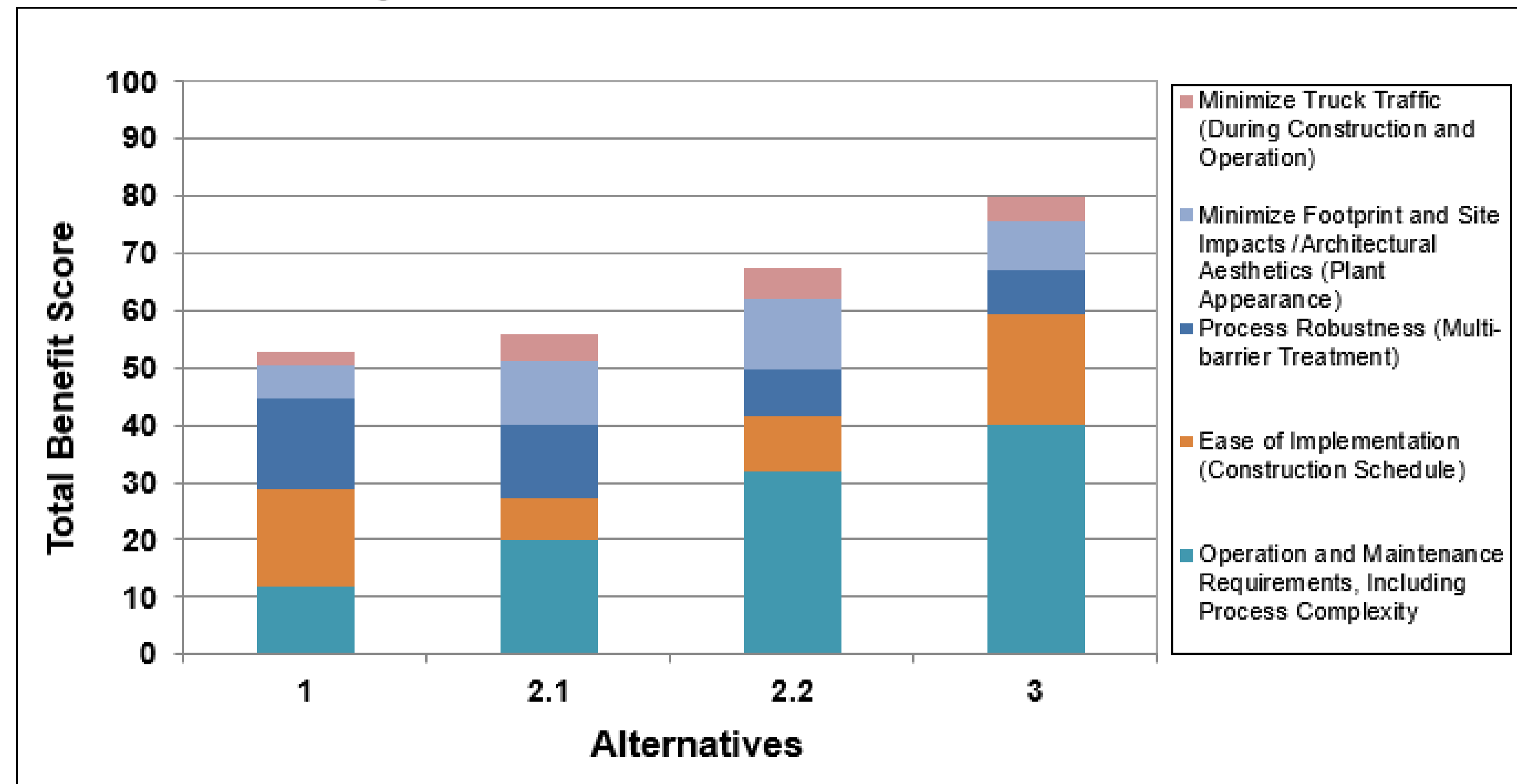
The primary criteria listed below were also considered for evaluation purposes, however they were not included for the following reasons:

- **Regulatory risk:** Each of the short-listed alternatives is expected to receive approval from the Ministry of Environment, Conservation and Parks (MECP).
- **Natural Environmental Considerations:** There is negligible difference between the short-listed alternatives for this criteria.

A sensitivity analysis was completed to test the results of the evaluation criteria. Results confirmed ranking.

MEMBRANE RESULTS - TECHNICAL

Technical Scoring Results for *Membrane Alternatives*

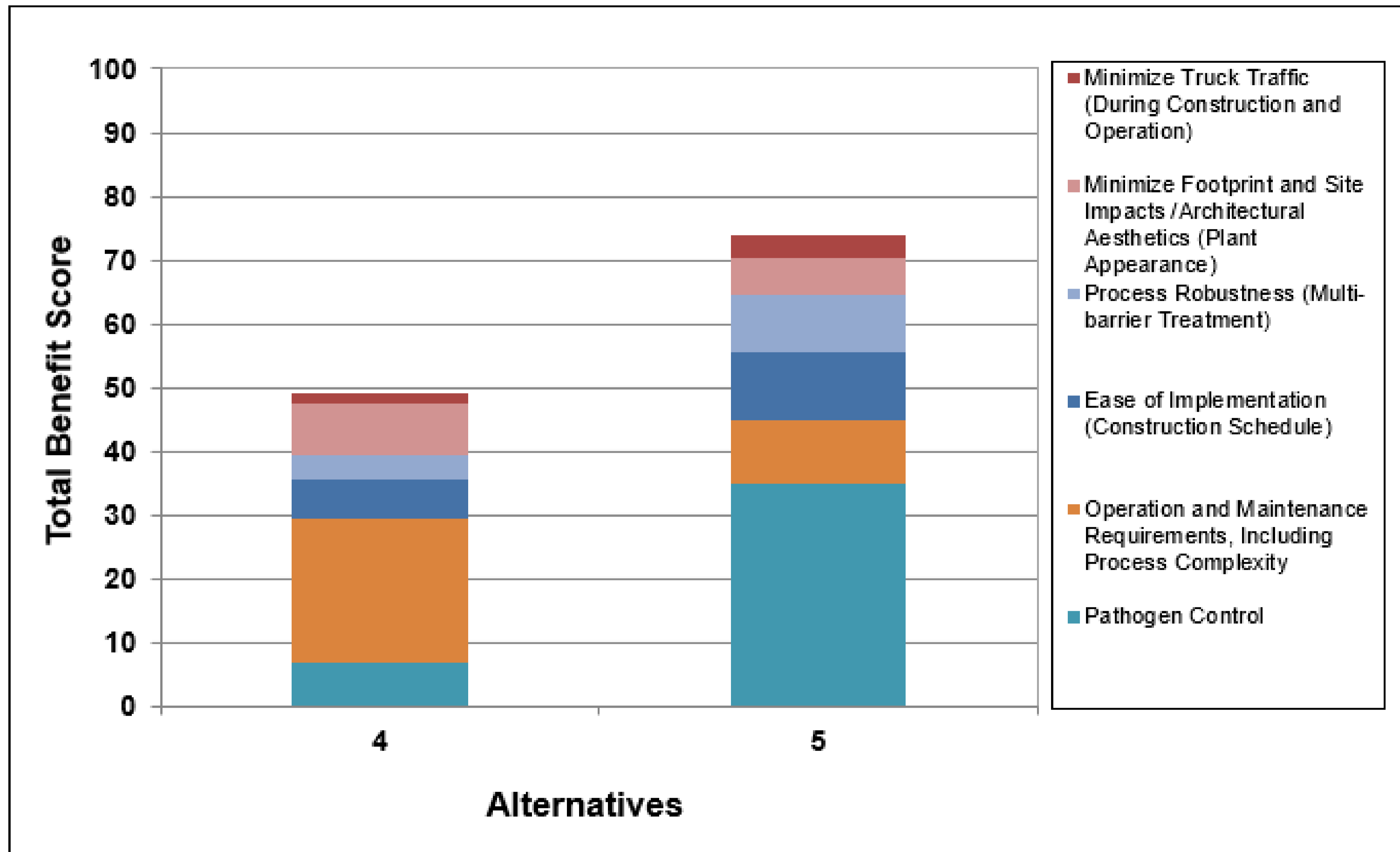


Summary of Technical Scores for *Membrane Alternatives*

Option	Alternative Description	Total Technical Score	Technical Ranking
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	52.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	56.0	3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	67.6	2
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	79.8	1

DISINFECTION RESULTS - TECHNICAL

Technical Evaluation Scoring Results for *Disinfection* Alternatives



Summary of Technical Scores for Disinfection Alternatives

Option	Alternative Description	Total Technical Score	Technical Ranking
4	Chlorinate in New CT Chambers	49.0	2
5	Practice UV Disinfection and Chlorinate in New CT Chambers	74.0	1

RELATIVE COST COMPARISONS OF ALTERNATIVES

The tables below summarize the capital and operating cost estimates and net present value for the short-listed *membrane* and *disinfection* alternatives. Note that these are relative cost comparisons for membrane treatment and disinfection only, excluding costs of associated upgrades on Slide 20 that are common to all alternatives, but including costs for Phase 1 and Ultimate buildout with inflation and interest considered from 2020.

Capital and Operating Cost Estimates and NPV for Short-Listed - *Membrane* Alternatives

Option	Alternative Description	Capital Costs (\$million)	Operating Costs (\$million)	Net Present Value (\$million)
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	\$55.1	\$22.6	\$77.6
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	\$46.6	\$14.7	\$61.3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	\$40.7	\$10.8	\$51.6
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	\$39.1	\$9.6	\$48.6

Capital and Operating Cost Estimates and NPV for Short-Listed - *Disinfection* Alternatives

Option	Alternative Description	Capital Costs (\$million)	Operating Costs (\$million)	Net Present Value (\$million)
4	Chlorinate in New CT Chambers	\$9.2	\$0.06	\$9.3
5	Practice UV Disinfection and Chlorinate in New CT Chambers	\$6.1	\$0.86	\$7.0

COST-BENEFIT ANALYSIS

The Cost-Benefit analysis is a value analysis tool that provides an alternative means to include costs in the evaluation process. The Cost-Benefit analysis was carried out as follows:

- Total technical score obtained for each short-listed alternative was carried forward and given a weighting of 70%.
- The calculated net present value (NPV) for each short-listed alternative was prepared and given a weighting of 30%.
- The cost score was added to the technical score to result in a *Total Score* with the highest score being the preferred alternative.

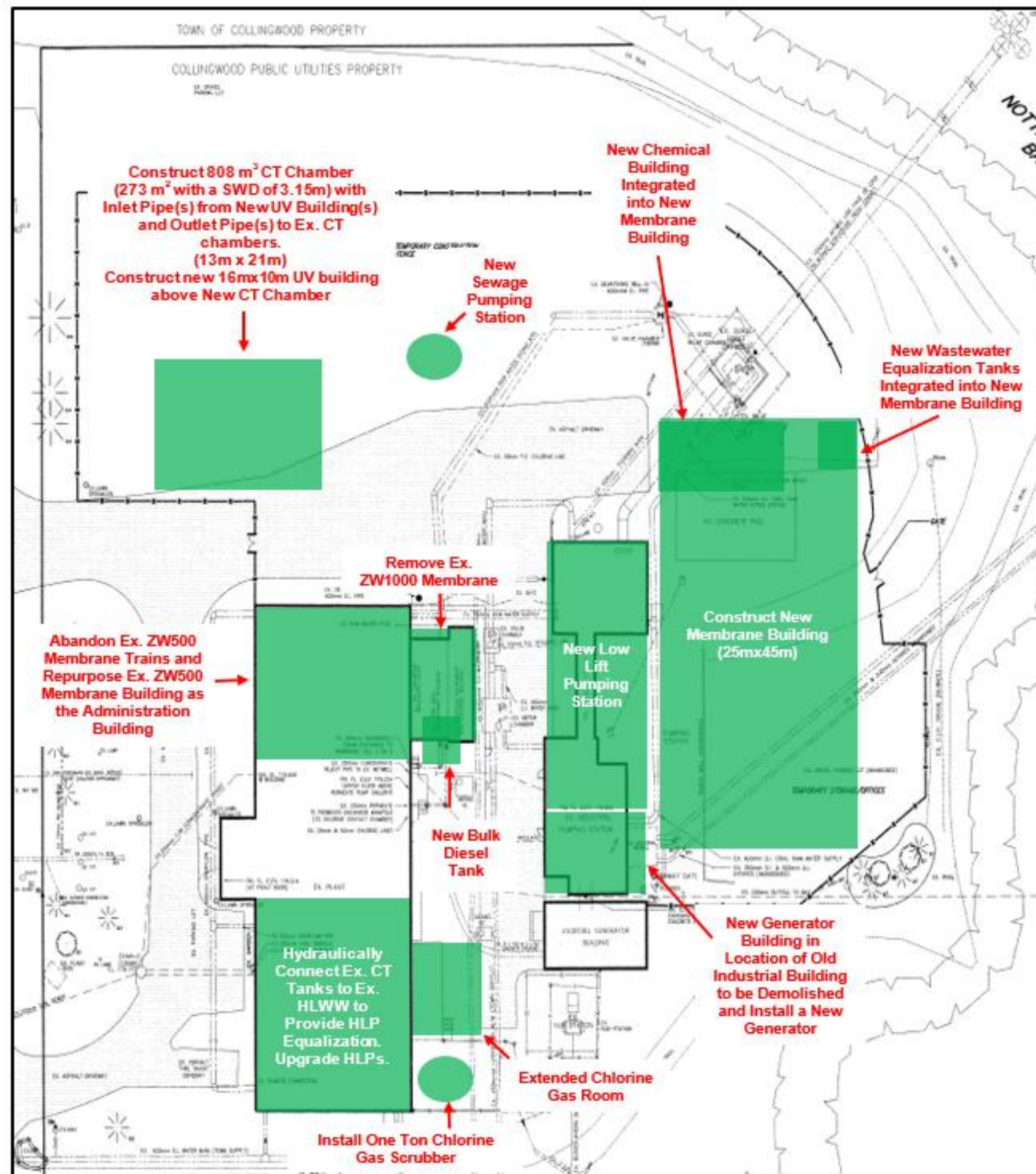
The highest scoring membrane and disinfection alternatives have been highlighted in green.

Cost-Benefit Analysis

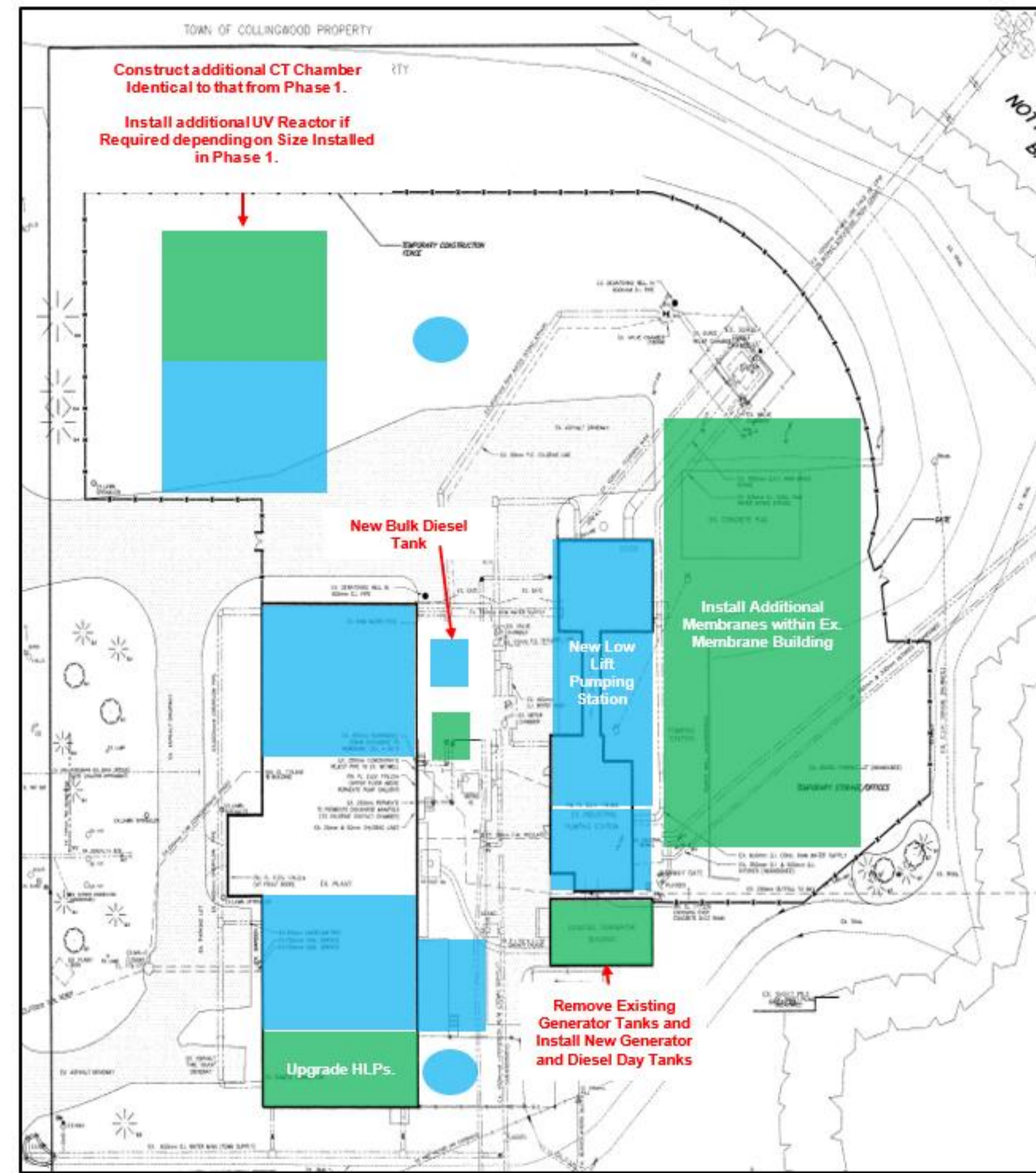
Option	Description	Net Present Value (\$million)	Costs Score (Points out of 100)	Technical Score (Points out of 100)	Total Score	Overall Ranking
Membrane Alternatives						
1	Maintain Existing ZW500 Membrane Building Capacity with Minor Retrofit of ZW500d Trains and Construct New Membrane Building	\$77.6	62.7	52.8	55.8	4
2.1	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 2 Remaining ZW500d Trains	\$61.3	79.4	56.0	63.0	3
2.2	Complete Major Retrofit with New Membranes within Existing ZW500 Membrane Building - With 0 Remaining ZW500d Trains	\$51.6	94.4	67.6	75.6	2
3	Repurpose Existing ZW500 Membrane Building and Construct New Membrane Building	\$48.6	100.0	79.8	85.9	1
Disinfection Alternatives						
4	Chlorinate in New CT Chambers	\$9.3	75.2	49.0	56.9	2
5	Practice UV Disinfection and Chlorinate in New CT Chambers	\$7.0	100.0	74.0	81.8	1

RECOMMENDED SOLUTION CONCEPT

Given the results of the Technical Evaluation and the Cost-Benefit analysis it is recommended that **Option 3 under the membrane alternatives and Option 5 under the disinfection alternatives be selected as the Recommended Solution.** Along with these alternatives are a number of associated upgrades. The drawings illustrate the preferred alternatives and required upgrades to meet Phase 1 and ultimate demands. During detailed design, there will be opportunities to optimize the layout for both phases.



Phase 1



Ultimate

RECOMMENDED SOLUTION PROFILE

North Aerial View of the Existing Infrastructure and Optional Concept to Achieve Ultimate Flows



Existing



Optional Concept

RECOMMENDED SOLUTION PROFILE

Raglan Street View of the Existing Infrastructure and Optional Concept to Achieve Ultimate Flows



Existing



Optional Concept

RECOMMENDED SOLUTION PROFILE

Condo Top Floor View of the Existing Infrastructure and Optional Concept to Achieve Ultimate flows



Existing



Optional Concept

FINANCIAL STATEMENT

The opinion of capital costs of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements. The opinion of capital costs includes engineering and the associated upgrades on Slide 20, as well as the membrane and disinfection costs. It separates the costs for the Phase 1 and Ultimate expansion and provides the costs in 2020 dollars (thus excluding inflation or interest considerations until the actual construction year).

Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and the establishment of Water Agreements with other municipalities.

Opinion of Cost

Parameter	Opinion of Cost	
	Phase 1 Upgrades	Ultimate Upgrades
Total Excluding HST (2020\$)	\$65 million	\$19 million

WHAT'S NEXT?

- An Environment Study Report (ESR) will be prepared to document the Class EA process and made available for a 30 day public review period.
- A Notice of Completion will be issued that will identify the final Preferred Design, the start of the 30 day review period and the online links available to review the ESR document. The notice will also provide instructions for submitting a Part II Order request.
- Once the 30 day public review period ends and if there are no objections or requests for a Part II Order, the Class EA process is considered complete. The project can then move forward to Phase 5 involving the completion of detailed design and construction at a future date.



COMMENTS

- A downloadable copy of the PIC material is available on this website.
- Following the presentation we invite you to provide any comments by completing and submitting the on-line Additional Comment Sheet.
- All comments are to be submitted **by Monday June 1, 2020.**
- Questions can be directed to either of the following members of the Project Team:

Ken Kaden, P. Eng.
Project Coordinator, Environmental Services
Town of Collingwood
Tel: (705) 445-1581
kkaden@collingwood.ca

Mike Ainley, P. Eng., PMP
Project Manager
Ainley Group
Tel: 705-445-3451
ainley.m@ainleygroup.com

Thank you for visiting the Public Information Centre!
We appreciate your participation.

MUNICIPAL FREEDOM OF INFORMATION & PROTECTION OF PRIVACY ACT

All comments received will be maintained on file for use during the project and may be included in study documentation. Information collected will be used in accordance with the Municipal Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

Summary Report

29 April 2019 - 01 June 2020

Engage Collingwood

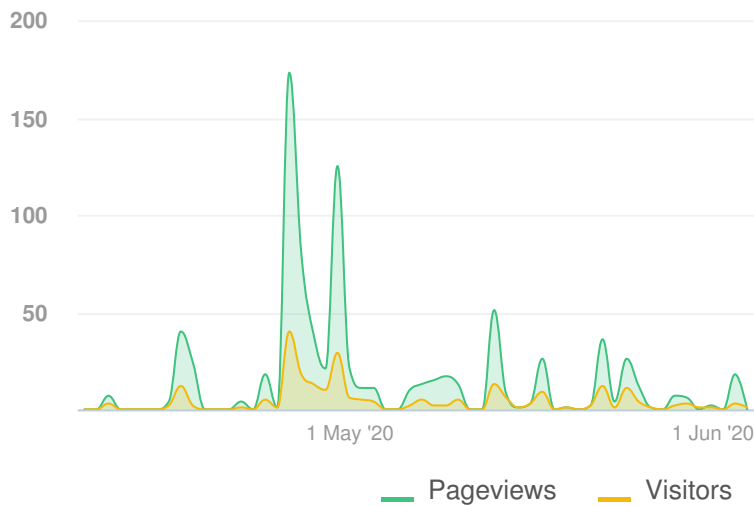
PROJECTS SELECTED: 1

Water Treatment Plant Class EA PIC

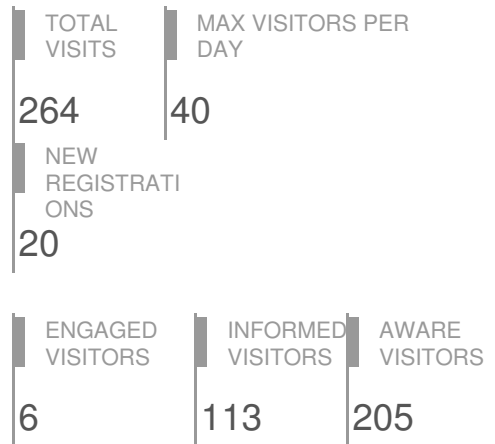
FULL LIST AT THE END OF THE REPORT



Visitors Summary



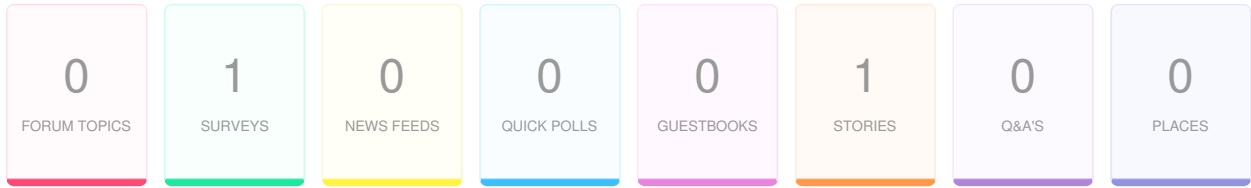
Highlights



PARTICIPANT SUMMARY

ENGAGED	6 ENGAGED PARTICIPANTS			(%)
INFORMED	Registered	Unverified	Anonymous	
	Contributed on Forums	0	0	0
INFORMED	Participated in Surveys	6	0	0
	Contributed to Newsfeeds	0	0	0
AWARE	Participated in Quick Polls	0	0	0
	Posted on Guestbooks	0	0	0
	Contributed to Stories	0	0	0
	Asked Questions	0	0	0
	Placed Pins on Places	0	0	0
	Contributed to Ideas	0	0	0
	<i>* A single engaged participant can perform multiple actions</i>			* Calculated as a percentage of total visits to the Project
				Water Treatment Plant Class... 6 (2.9%)
ENGAGED	113 INFORMED PARTICIPANTS			(%)
INFORMED	Participants			
	Viewed a video	0		
INFORMED	Viewed a photo	43		
	Downloaded a document	15		
AWARE	Visited the Key Dates page	1		
	Visited an FAQ list Page	5		
	Visited Instagram Page	0		
	Visited Multiple Project Pages	107		
	Contributed to a tool (engaged)	6		
	<i>* A single informed participant can perform multiple actions</i>			* Calculated as a percentage of total visits to the Project
				Water Treatment Plant Class... 113 (55.1%)
ENGAGED	205 AWARE PARTICIPANTS			
INFORMED	Participants			
	Visited at least one Page	205		
AWARE				205
	<i>* Aware user could have also performed an Informed or Engaged Action</i>			* Total list of unique visitors to the project
				Water Treatment Plant Class... 205

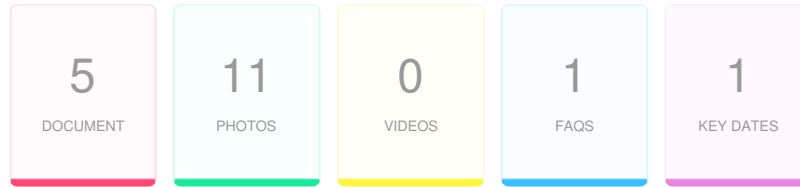
ENGAGEMENT TOOLS SUMMARY



SURVEYS SUMMARY	
1	Surveys
6	Contributors
7	Submissions

TOP 3 SURVEYS BASED ON CONTRIBUTORS
6 Contributors to Presentation and feedback

INFORMATION WIDGET SUMMARY



DOCUMENTS	
5	Documents
15	Visitors
30	Downloads

TOP 3 DOCUMENTS BASED ON DOWNLOADS		
8 Downloads	9 Downloads	6 Downloads
Notice of Digital PIC	Comment Sheet	deleted_document

PHOTOS	
11	Photos
43	Visitors
182	Views

TOP 3 PHOTOS BASED ON VIEWS		
37 Views	27 Views	25 Views
Existing vs. Proposed_Page1.jpg	Existing vs. Proposed_Page2.jpg	Existing vs. Proposed_Page3.jpg

FAQS	
1	Faqs
5	Visitors
5	Views

TOP 3 FAQS BASED ON VIEWS
5 Views
Water Treatment Plant Class EA PIC

KEY DATES	
1	Key Dates
1	Visitors
1	Views

TOP 3 KEY DATES BASED ON VIEWS
1 Views
Water Treatment Plant Class EA PIC

TRAFFIC SOURCES OVERVIEW

REFERRER URL	Visits
m.facebook.com	31
t.co	21
www.collingwood.ca	15
www.google.com	11
www.facebook.com	10
www.google.ca	4
l.facebook.com	2
www.collingwoodtoday.ca	1

SELECTED PROJECTS - FULL LIST

PROJECT TITLE	AWARE	INFORMED	ENGAGED
Water Treatment Plant Class EA PIC	205	113	6

Meeting Notes

March 17, 2020 Meeting with New Tecumseth

To: File

File: 119013

From: Mike Ainley

Date: March 17, 2020

Ref: Town of Collingwood Raymond A. Barker WTP Expansion Class EA

As part of agency consultation of the Class EA process, a virtual meeting was held with the Town of New Tecumseth on March 17, 2020 in order to provide New Tecumseth with a preview of the recommended solution and opinion of cost. This memo is intended as a summary of the meeting's discussion.

Those in attendance at this meeting were:

Peggy Slama (Town of Collingwood)
Ken Kaden (Town of Collingwood)
Mike Ainley (Ainley Group)
Brian Sahely (AECOM)

Blaine Parkin (Town of New Tecumseth)
Lori Bedford (Town of New Tecumseth)
Rick Vatri (Town of New Tecumseth)
Bruce Hoppe (Town of New Tecumseth)
Chad Horan (Town of New Tecumseth)
John Henry (Town of New Tecumseth)

The meeting included a summary of the existing plant processes, upgrade requirements, Phase 1 and Ultimate planning requirements, recommended expansion elements and Phase 1 opinion of cost. (The information provided was the same as the information presented to the public and all agencies and indigenous communities in the virtual PIC which was available online from April 24 – June 1, 2020).

New Tecumseth noted that it would require 23,500 m³/d water supply from the plant sooner than identified in Collingwood's Water and Wastewater Master Servicing Plan (by 2032 instead of 2044). Collingwood indicated that this requirement could be accommodated in the Phase 1 expansion, subject to finalization of the Water Supply Agreement between the Towns.

New Tecumseth noted that their need for additional water supply was urgent and asked how early the Phase 1 expansion could be completed. Collingwood indicated that the earliest the plant could be commissioned would be 2024.

Table 8: Summary of Comments and Responses

NO.	RESPONDENT INFORMATION	COMMENTS RECEIVED	DRAFT RESPONSE / ACTION REQUIRED
AGENCY COMMENTS			
Notice of Commencement – August 15, 2019			
1.	Karla Barboza <i>Team Lead, Heritage</i> Ministry of Tourism, Culture and Sport (416) 314-7120 karla.barboza@ontario.ca	<u>Comment received via email August 15, 2019:</u> “Thanks for sending the notice of commencement for the Collingwood Water Treatment Plant to the Ministry of Tourism, Culture and Sport (MTCS) – Culture Division. Kimberly Livingstone, MTCS Heritage Planner, is assigned to this file [MTCS File 0011264]. She will review the documentation and provide preliminary comments/advice. Please continue to send any notices and information about this project to both Kim and I. In the meantime, we would appreciate if you could send us a digital (electronic) copy of the 2014 (sic) ESR and point us to any information (or website page) about the Master Servicing Plan. These will assist us in formulating our preliminary advice.”	<u>Response provided by Ainley Group on behalf of Town on September 19, 2019:</u> We respectfully advised that the validity of the previous Class EA had expired and as such, the 2004 Report was no longer pertinent; and offered to base any reviews of the project on the most recent Class EA documentation as it became available.
2.	Peter Dorton <i>Senior Project Manager</i> MTO Central Region 159 Sir William Hearst Ave. 7th Floor Toronto, ON M3M 0B7 (416) 235-4280 peter.dorton@ontario.ca	<u>Comment received via email August 21, 2019:</u> “As the R. A. Barker Water Treatment Plant on Raglan St. is beyond MTO permit control area, MTO review / approvals of proposals on this site are not required. Should future works be proposed to supply treated water in proximity to a provincial highway then MTO review and approvals may be required.”	No response required.
3.	Chunmei Liu <i>Regional Environmental Assessment Coordinator</i> Ministry of Environment Conservation and Parks 5775 Yonge Street, 9th Floor North York, ON M2M 4J1 Chunmei.Liu@ontario.ca	<u>Delegating Letter received via email October 24, 2019:</u> The MECP provided a letter that acknowledged the study is following the approved environmental planning process for a Schedule C project under the Municipal Class Environmental Assessment (Class EA). The attached “Areas of Interest” document provided guidance regarding the Ministry’s interests with respect to the Class EA process. The MECP provided a list of Indigenous communities based on information provided to date and the Crown’s preliminary assessment the proponent is required to consult with as potentially affected by the proposed project.	No response required.
4.	Ms. Lee J. Bull <i>Manager, Planning Services</i> Nottawasaga Valley Conservation Authority 8195 8th Line Utopia, ON L0M 1T0 (705) 424-1479 ext. 231 lbull@nvca.on.ca	<u>Comment received via email October 24, 2019:</u> “Nottawasaga Valley Conservation Authority [NVCA] is in receipt of a “Notice of Study Commencement” of a Class Environmental Assessment associated with the Raymond A. Barker Water Treatment Plant Expansion. General Comments: The water treatment plant property is partially regulated by the NVCA for Shoreline Hazards associated with Georgian Bay. In accordance with Ontario Regulation 172/06 (our Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation), a permit will be required from the NVCA prior to any of the following: <ul style="list-style-type: none"> • Construction of any building or structure within the shoreline flood hazard; • Placing fill within an area Regulated by the NVCA; • Straightening, changing, diverting or interfering in any way of the existing channel of a river, creek, stream or watercourse; • Interference with a wetland. General Design Objectives Engineering <ol style="list-style-type: none"> 1. The project should include quality and quantity control measures to treat stormwater runoff from the site in accordance with MECP and NVCA Guidelines. Typically we request that the proponent provide treatment for all new proposed impervious areas and where possible existing road surfaces. Low Impact Development measures are encouraged. 2. All proposed structures (i.e. elevated storage tanks, booster pumping station, etc.) should be planned, and constructed outside of the hazard limits. 3. Water quality treatment (to the enhanced level) should be applied to all new and existing road improvements. Consideration should be given to implementing a treatment train approach. 4. During the detailed design period of this project, all proposed methods to control sedimentation during construction and potential erosion following the completion of the project should be included.” 	A meeting to discuss the NVCA comments and the Class EA in further detail was held December 4, 2019 (see Minutes of Meeting in Appendix H).

		<p>The email continued to provide comments related to hydrogeology and new amendments to the <i>Safe Drinking Water Act, 2002</i> and the <i>Clean Water Act, 2006</i>. These amendments ensure that source protection planning is incorporated early in the municipal residential drinking water supply process.</p> <p>The full email can be found in Appendix I.</p>	
5.	<p>Mr. Ryan Post Manager, Watershed Science Nottawasaga Valley Conservation Authority 8195 8th Line Utopia, ON L0M 1T0 705-424-1479 ext. 249 rpost@nvca.on.ca</p>	<p><u>Comment received via email November 18, 2019:</u></p> <p>“I understand that the Town of Collingwood is undergoing a Class EA regarding the water treatment plant expansion (see attached). Do you happen to know the timelines for the Class EA completion and status for this endeavor? Further, since the notice has already identified the increase in the maximum taking, has any work been completed to update the PTTW?</p> <p>The reason I ask is that depending on the volume change, there may need to be some updating/work under O. Reg 205/18- see attached in order to be in compliance with the clean water act.”</p>	<p><u>Response provided by the Town of Collingwood via email November 21, 2019:</u></p> <p>In response to your inquiry regarding the EA currently underway for the Town of Collingwood’s water treatment plant. As you have noted the EA is underway, we are hoping to have it completed in late spring/early summer of 2020 such that we could have a design engineer retained by the fall of 2020 to undertake the design of phase 1 of the upgrades we will need at our treatment plant.</p> <p>While the EA does identify the need for increase water taking, this is part of the ultimate design and will not be part of the Phase 1 work. Our PTTW is up for renewal in January 2021 and the current plan is to renew it at the same taking limits as this will satisfy our projected needs for the next 10 years. No new surface water intake or alterations to the existing intake pipe are proposed under Phase 1.</p>
Notice of Public Information Centre (PIC) – March/April 2020			
6.	<p>Peter Dorton Senior Project Manager MTO Central Region</p>	<p><u>Comment received via email April 23, 2020:</u></p> <p>“MTO has no concerns. Permits are not required from us.”</p>	<p>No response required.</p>
7.	<p>Rick Vatri, CET Director of Engineering and Development Engineering Department Tel: 705-435-3900 Ext: 1253 RVatri@newtecumseth.ca</p>	<p><u>Comment received via email May 28, 2020:</u></p> <p>“Further to the email below, I have reviewed the PIC boards for the Raymond A Baker WTP expansion and note that the proposed Phase 1 expansion remains at 51,871 m³/day. Could you please confirm that the supply for New Tecumseth as noted below is being accommodated in the Phase 1 expansion.”</p>	<p><u>Response provided by the Town of Collingwood via email May 29, 2020:</u></p> <p>Thank you for your inquiry. We will review and address this as part of our responses to questions and comments received during the EA consultation period. By copy of this email we are making our consultant on the EA project aware of your email below.</p> <p><u>Response provided by Ainley Group on behalf of the Town July 2020:</u></p> <p>As referred to in your comment, the Town of Collingwood held a virtual meeting with the Town of New Tecumseth on March 17, 2020 in order to provide New Tecumseth with a preview of the recommended solution. The requirement noted by the Town of New Tecumseth during this meeting; that an increase to 23,500 m³/d water supply from the plant is needed sooner than identified in Collingwood’s Water and Wastewater Master Servicing Plan; has been documented in the Draft Environmental Study Report for this Class Environmental Assessment. The Town of Collingwood acknowledges that the timing for an increase to 23,500 m³/d for the Town of New Tecumseth in 2032 differs from that in the Master Servicing Plan (2044) and the Town of Collingwood will accommodate the earlier provision of the additional capacity, subject to finalization of the Water Supply Agreement between the two Towns.</p>
8.	<p>Ms. Lee J. Bull Manager, Planning Services Nottawasaga Valley Conservation Authority 8195 8th Line Utopia, ON L0M 1T0 (705) 424-1479 ext. 231 lbull@nvca.on.ca</p>	<p><u>Comment received via email June 18, 2020:</u></p> <p>Upon completion of the NVCA’s review of the PIC Presentation material posted to the Collingwood Engage website, they offered the following comment(s):</p> <p>“1. The existing Water Treatment Plant (WTP) is located at the far northern end of Raglan Street on the shore of Georgian Bay. The site is within the “shoreline hazard limit” and the proposed future expansion of the facility, as indicated in the PIC material, includes construction of a building in close proximity to the shoreline. It is recommended that a qualified coastal engineer be retained during the detailed design process to assess and mitigate the risk of shoreline erosion to the facility.</p>	<p><u>Response provided by Ainley Group on behalf of the Town July 2020:</u></p> <p>The Town of Collingwood will consider the recommendation to retain a Coastal Engineer during final design.</p>

		2. Based on review of the above noted PIC presentation, we have no natural heritage related comments to offer at this stage.”	
Notice of Completion – July 13, 2020			
9.	Ms. Lee J. Bull <i>Manager, Planning Services</i> Nottawasaga Valley Conservation Authority	<u>Comment received via email August 17, 2020:</u> “Upon completion of our review, we offer the following comments: 1. At the present time, there are no Clean Water Act implications. 2. The identification of Significant Drinking Water Threats is the responsibility of the Town of Collingwood Risk Management Official who is internally staffed at the Town. 3. We offer no engineering comments on the ESR. 4. NVCA staff offer no natural heritage related comments or concerns with the proposed works, provided that all mitigation measures discussed in Section 5 of the Natural Environment Technical Report are implemented.” The full and complete email can be found in Appendix J of the ESR.	<u>Response provided by Ainley Group on behalf of the Town on August 24, 2020 via email:</u> We are responding on behalf of the Town of Collingwood to your email dated August 17, 2020. We thank you for your input and we have included your email in the Final ESR for documentation purposes. We acknowledge the requirement of source water protection authority approval before the owner can apply for a drinking water works permit/license. This requirement was included in Section 3.2 of the Draft ESR under the heading of Clean Water Act 2006. We acknowledge that the NVCA has determined that there are no Clean Water Act implications associated with the Project and that the identification of threats to the drinking water source is the responsibility of the Town. We also acknowledge that there are no engineering comments from NVCA at this time and that the NVCA has no natural heritage related comments or concerns provided that mitigation measures outlined in Section 5 of the Natural Environment Technical Report (AECOM) are implemented.
10.	Joseph Harvey Ministry of Heritage, Sport, Tourism and Culture Industries <i>On behalf of</i> Kimberly Livingstone Heritage Planner (A) Heritage Planning Unit Kimberly.Livingstone@ontario.ca	<u>Comment received via email August 17, 2020:</u> The Ministry recommended that the screening checklist for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes be completed as part of the project file. The Ministry’s comments are summarized below: “Given that cultural heritage is one aspect of the environment, a section must be included in the Environmental Study Report to illustrate that this has been addressed in a formal and methodical manner. The purpose of this section is to document the existing conditions and indicate that due diligence has been undertaken for cultural heritage.” “The assessment indicates that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with previous construction and underground utilities at the site. Based on these findings, no further archaeological work is required. MHSTCI confirms that the Stage 1 archaeological assessment has been reviewed and entered into the Ontario Public Register of Archaeological Reports. We recommend that the MHSTCI letter indicating that the report has been entered into the Register be included in the Appendix.” The full and complete letter can be found in Appendix J of the ESR.	<u>Response provided by Ainley Group on behalf of the Town on September 10, 2020 via email:</u> We are responding on behalf of the Town of Collingwood to your email with attached letter dated August 17, 2020. We thank you for your input and we have addressed your comments in the Final ESR. After completing the screening checklist, it was determined that the Project will have a low potential for negative impact to built heritage resources and cultural heritage landscapes. Although there are some structures and buildings that are more than 40 years old, they are strictly utilitarian for water conveyance and have no cultural heritage value or interest. A new Section has been added to the ESR and the completed checklist is included in Appendix F. A copy of the checklist is attached for your information. We also wish to confirm that a copy of the MHSTCI letter dated July 7, 2020 re: confirmation that the Stage 1 Archaeological Assessment (AECOM) has been entered into the Ontario Public Register for Archaeological Reports is also included in Appendix F.
INDIGENOUS COMMUNITY COMMENTS			
Notice of Commencement – August 15, 2019			
1.	Sharday James <i>Community Consultation Worker, Communications</i> Chippewas of Rama First Nation (705) 325-3611, ex. 1633 shardayj@ramafirstnation.ca	<u>Comment received via email August 16, 2019:</u> “My name is Sharday James and I am the Community Consultation Worker for the Chippewas of Rama First Nation. I am sending this email in regards to a notice we received from you dated August 15 th about the commencement of an EA for the expansion of the Raymond A. Barker Water Treatment Plant in Collingwood. I wanted to thank you for contacting us. At this time we have no comments but we ask that you keep us informed moving forward. I also wanted to let you know that I should be the one who is contacted on any future updates.”	No response required. Contact List was updated.
2.	Juanita Meekins <i>Executive Assistant of Resources and Infrastructure</i> Saugeen Ojibway Nation	<u>Comment received via email August 20, 2019:</u> “The Saugeen Ojibway Nation Environment Office would like further information regarding the September 2004 Environmental Study Report for the expansion of the Raymond A. Barker Water Treatment Plant. We would like information as to the scope of the project and timelines. You can email this information to Doran Ritchie and myself, I will be the contact for this project. I look forward to this information and if you have any questions or concerns my	<u>Response provided by Ainley Group on behalf of the Town on September 19, 2019:</u> We respectfully advised that the validity of the previous Class EA had expired and as such, the 2004 Report was no longer pertinent; and offered to base any reviews of the project on the most recent Class EA documentation as it became

	<p>Environment Office 25 Maadokii Subdivision Neyaashiinigmiing, Ontario NOH 2T0 (519) 534-5507 juanita.meekins@saugeenojibwaynation.ca</p>	<p>contact information is below.”</p> <p><u>Received via email February 11, 2020:</u></p> <p>“Below is a Letter of Agreement between the Saugeen Ojibway Nation (“SON”) Environment Office and The Town of Collingwood. (“the Proponent”) with respect to our mutual goal to set out a framework for consultation and accommodation with SON regarding the Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion SON’s traditional territory. This agreement is intended to support SON’s participation in and provision of input into the technical assessments being undertaken as part of the Class Environmental Assessment process. More specifically, this agreement will allow SON and the Proponent to identify a plan for addressing any potential impacts of the Raymond A. Barker Water Treatment Plant Expansion on SON’s land claims and rights. This will enable a process that ensures appropriate and meaningful consultation and accommodation of SON throughout the life of the Proponent’s proposed operation.”</p> <p>The full and complete letter can be found in Appendix I</p>	<p>available.</p> <p>Saugeen Ojibway Nation Environment Office replied on the same day acknowledging they look forward to reviewing the EA once it was available.</p> <p><u>Response provided by the Town on March 16, 2020:</u></p> <p>“Thank you for providing a Letter of Agreement attached to your email of February 7, 2020 to support SON’s participation in and provision of input into the technical assessments being undertaken as part of the Class EA for the Barker Water Treatment Plant Expansion (“Project”). More specifically, the Letter of Agreement is intended to identify a plan for addressing any potential impacts of the Project.”</p> <p>The letter offered to meet with Ms. Meekins and technical advisors to review any relevant documentation and studies as well as review the existing operations and the Towns plans over the next 5 – 15 years.</p> <p>The full and complete letter can be found in Appendix I</p>
Notice of Public Information Centre (PIC) – March/April 2020			
3.	<p>Maxime Picard <i>Project Coordinator</i> Huron Wendat Nation 255 Place Chef Michel – Laveau Wendake, QC G0A 4V0 Maxime.picard@cnhw.qc.ca</p>	<p><u>Comment received via email March 16, 2020:</u></p> <p>“This is to acknowledge reception of the attached letter on the Raymond A. Barker Water Treatment Plant Expansion Project. Could you please let us know if there is any archaeological assessment anticipated as part of the EA process?”</p>	<p><u>Response provided by the Town of Collingwood via email March 26, 2020:</u></p> <p>“Thank you for your interest in this project. A Stage 1 Archaeological Assessment was completed as part of the Class EA process. The result of the assessment is that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with previous construction and underground utilities at the site. Based on these findings, no further archaeological work is required. A copy of the Archaeological Assessment will be included in the Environmental Study Report.”</p> <p>Huron Wendat Nation replied on the same day acknowledging response and requested to be kept updated in the event that any further archaeological assessment becomes necessary in the future project phases.</p>
4.	<p>Juanita Meekins <i>Executive Assistant of Resources and Infrastructure</i> Saugeen Ojibway Nation Environment Office 25 Maadokii Subdivision Neyaashiinigmiing, Ontario NOH 2T0 (519) 534-5507 juanita.meekins@saugeenojibwaynation.ca</p>	<p><u>Comment received via email June 10, 2020:</u></p> <p>“Attached are the Saugeen Ojibway Nation review comments for the Raymond A. Baker Water Treatment Plant - Class EA. The main objective of this process is to ensure the Town of Collingwood Municipal Class Environmental Assessment (Class EA) Study for the Raymond A. Barker Water Treatment Plant (WTP) Expansion Work, which proposes to increase approximately three times the water intake and water supply, as well as potentially increase wastewater discharges from this expanded WTP to the open water, will not create potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, the Traditional Way of Live of First Nations Communities - commercial fishery and cultural aspects, environmental/ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Georgian Bay).”</p> <p>The letter continues to provide information related to the SON Consultation Process encompasses reviews and the development of the review comments/concerns associated with the Town Class EA Study for the Raymond A. Barker WTP Expansion and typically consists of 3 Stages, (further detailed in the letter).</p> <p>The full and complete letter can be found in Appendix I.</p>	<p><u>A teleconference meeting was held with Saugeen Ojibway Nation on June 12, 2020</u> to discuss technical studies and the stages of consultation. The meeting minutes from this discussion can be found in Appendix I.</p> <p>A response letter was provided to SON from Ainley on behalf of the Town dated June 15, 2020. A full copy of the letter can be found in Appendix I.</p> <p><u>A follow up letter was sent to SON from Ainley on behalf of the Town on July 13, 2020:</u></p> <p>“We trust you are keeping well and safe in these difficult times. Attached is confirmation from the Ministry of Heritage, Sports, Tourism and Culture Industries that the Stage 1 Archaeological Report pertaining to the expansion of the Collingwood WTP has been entered into the Ontario Public Register of Archaeological Reports.</p> <p>Please note that, as discussed at our June 15, 2020 meeting, the Town will be posting the Notice of Completion of the project on July 16, 2020. We recognize that SON has had limited time to review the Draft ESR to date; and we acknowledge that the SON June 8, 2020 letter stipulates that the ESR cannot be finalized (filed with MECP) prior to obtaining SON’s approval. We look forward to receiving your comments following your review of the Draft ESR and supporting documents.”</p>
Notice of Completion – July 13, 2020			
	<p>Doran Ritchie</p>	<p><u>Comment received July 22, 2020:</u></p>	<p><u>Response provided by Ainley Group on behalf of the Town on September 10,</u></p>

5.	<p><i>Manager of Resources and Infrastructure</i></p> <p>Saugeen Ojibway Nation Environment Office</p> <p>25 Maadokii Subdivision Neyaashiinigmiing, Ontario</p> <p>NOH 2T0</p>	<p>"SON appreciates that in the response letter from Ainley, they acknowledged the SON Consultation Process requirements and expressed a willingness to work together with SON toward achieving an acceptable preferred servicing solution for the Raymond A. Barker WTP Expansion Class EA proposed work and to ensure that any potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, commercial fishery, environmental/ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Bay) will be minimized or completely eliminated. SON reviewed the response letter dated June 15, 2020, and all the above-noted information and reports provided by Ainley on the behalf of the Town of Collingwood."</p> <p>The letter continues to provide a review of the Environmental Study Report (ESR) and associated comments. The full and complete letter can be found in Appendix J of the ESR.</p>	<p>2020 via email:</p> <p>"The Town will work collaboratively with SON to protect SON's Fishery Rights and preserve, maintain and enhance the ecological and environmental health of water quality and water resources functions and features of Georgian Bay to comply with the Aboriginal Treaty Rights."</p> <p>The letter continues to provide responses to each concern or comments and describes commitments for this project. The full and complete letter can be found in Appendix J of the ESR.</p>
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PUBLIC COMMENTS

Notice of Commencement – August 15, 2019

1.	<p>[REDACTED]</p> <p>Tatham Engineering Limited</p> <p>[REDACTED]</p>	<p><u>Comment received via email August 15, 2019:</u></p> <p>"Thank you for including us on your mailing list. Please send any further notifications to me directly."</p>	<p>The Agency Contact List was updated.</p>
2.	<p>[REDACTED]</p> <p>Owner</p> <p>Plan Wells Associates</p>	<p><u>Comment received via email August 22, 2019:</u></p> <p>"Thank you for forwarding this Notice. My email address is [REDACTED] for future notices and the office telephone number is [REDACTED] for your records."</p>	<p>The Agency Contact List was updated.</p>
3.	<p>[REDACTED]</p> <p>Tatham Engineering Limited</p> <p>115 Sandford Fleming Drive Suite 200 Collingwood Ontario L9Y 5A6</p> <p>[REDACTED]</p>	<p><u>Comment received via email August 23, 2019:</u></p> <p>"Thank you for circulating us on the Notice of Study Commencement for the Raymond A. Barker Water Treatment Plant Expansion. On behalf of our Client, [REDACTED], we'd like some clarification on the area that will be serviced by this expansion. The documentation provided indicates "the capacity will be increased from 74.6 MLD to 101.1 MLD for current full build boundary projections and maximum future supply requests by other municipalities". We assume there's a typo and that should refer to the 'built' boundary projections.</p> <p>Our Clients property [REDACTED] is located outside of the built boundary. We have applied for Draft Plan Approval (this site has been previously Draft Plan Approved for many years) and expect the application to go to council shortly. Will the expansion service their development and other 'greenfield' developments? Please advise. We look forward to receiving future information regarding this Class EA process."</p>	<p><u>Response provided by the Town of Collingwood via email September 4, 2019:</u></p> <p>You are correct, this development was included in the MSP as a potential development and therefore will be included in future water demands to be accounted for in the WTP expansion.</p>
4.	<p>[REDACTED]</p> <p>C.F. Crozier & Associates Consulting Engineers</p> <p>40 Huron Street, Suite 301 Collingwood, ON L9Y 4R3</p> <p>[REDACTED]</p>	<p><u>Comment received via email January 6, 2020:</u></p> <p>"Can you please add me to the mailing list for any updates, progress information on the ongoing Class Environmental Assessment - Raymond A. Barker Water Treatment Plant Expansion."</p>	<p>Contact List was updated.</p>

Notice of Public Information Centre (PIC) – March/April 2020

5.	<p>[REDACTED]</p> <p>[REDACTED]</p>	<p><u>Comment received via email March 12, 2020:</u></p> <p>"Hello, As per our telephone conversation, my address is [REDACTED]"</p>	<p>Contact List was updated.</p>
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6.	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p><u>Comment received via email March 17, 2020:</u></p> <p>"I refer to your notice about the March 24 Water Treatment Plan info centre. I assume it has been cancelled. I am very interested and may have comment. Please advise me of the date if it is rescheduled."</p>	<p><u>Response provided by the Town of Collingwood via email March 17, 2020:</u></p> <p>"Thank you for your interest in this project. Yes, unfortunately due to the current circumstances of COVID-19 safety protocols, the Public Information Centre has been postponed. An ad is scheduled to be published in this week's paper indicating that the PIC will be postponed until further notice and that notification will be published when a new date is confirmed. In the meantime, we will add you to our communication list to ensure that you are notified when we are able to reschedule."</p>
7.	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	<p><u>Comment received via email October March 25, 2020:</u></p> <p>"We have received two pieces of mail from Ainley & Associates regarding the Town of Collingwood Class Environmental Assessment of the Raymond Barker Water Treatment Plant Expansion, which have gone to the wrong address. We own a condominium in [REDACTED], however we live elsewhere in Collingwood. The address that the mail has been sent to is our old address in [REDACTED]. The tax department and the property management company have our current Collingwood address on file, so I am not sure why your records still have our old [REDACTED] address. Henceforth, please ensure that all mail regarding this project is sent to our current address at: [REDACTED]"</p>	<p>Contact List was updated.</p>
8.	<p>[REDACTED]</p> <p>Pro Guard Property Management 391 First Street, Suite 301 Collingwood, Ontario L9Y 1B3</p> <p>[REDACTED]</p>	<p><u>Comment received via email April 28, 2020:</u></p> <p>"I was just made aware that the proposed water plant extension may severely impact the views from [REDACTED]. Can you please pass along a timeline, contacts and any other critical information that I can share with the board of [REDACTED]?"</p>	<p><u>Response provided by the Town of Collingwood via email April 28, 2020:</u></p> <p>"Thank you for your interest in the Water Treatment Plant Expansion. It is an important project for the Town.</p> <p>Notices have been published in the paper and sent to neighbouring residents and stakeholders. Initially there was a plan to have a public meeting were people would be able to view information on what is being proposed and be given the opportunity to ask questions and provide comments either in writing or directly to the staff and our consultants that would be in attendance. Given the current situation with COVID-19 we have had to modify these notices and move this process on line.</p> <p>We are using the Engage Collingwood platform to allow the public to review and comment on the proposed expansion. You can access this site directly at the link below;</p> <p>https://engage.collingwood.ca/water-treatment-plan-class-ea-pic</p> <p>We invite you to review the materials presented, ask questions and provide feedback. Please feel free to follow up with me directly if you have further questions about the process or the project."</p>
9.	<p>Judy Lake judylake48@gmail.com</p>	<p><u>Comment received via email April 27, 2020:</u></p> <p>"You are asking for comments re the expansion of the Water Treatment Plant but the letter I just received from you doesn't provide any information to comment on - ie. size or location of the expansion...what kind of comments are you looking for? I live [REDACTED] so would be interested to know your plans in detail."</p>	<p><u>Response provided by the Town of Collingwood via email April 28, 2020:</u></p> <p>"Thank you for your interest in the Water Treatment Plant Expansion. It is an important project for the Town.</p> <p>Originally the intent of the notices published in the paper and sent out directly to neighbouring residents and stakeholders such as yourself was to make you aware of the project and invite you to a public meeting. There you would be able to view information on what is being proposed and be given the opportunity to ask questions and provide comments either in writing or directly to the staff and our consultants that would be in attendance. Given the current situation with COVID-19 we have had to modify these notices and move this process on line.</p> <p>We are using the Engage Collingwood platform to allow the public to review and comment on the proposed expansion. You can access this site directly at the link below;</p> <p>https://engage.collingwood.ca/water-treatment-plan-class-ea-pic</p>

			We invite you to review the materials presented, ask questions and provide feedback. Please feel free to follow up with me directly if you have further questions about the process or the project.”
10.	Mr. Porter	<p><u>Comment received by voicemail April 27, 2020 (Town’s note to file documenting phone call):</u></p> <p>“I spoke with [REDACTED] this morning. He was having difficulty accessing the Engage web site on Friday but had no trouble today. He had typical questions about schedule and limits of construction which I answered with information that is included in the slides available on line. He had concerns about who was paying for this and who was benefitting but understands the need for the project. He was there when they built the original plant. He thanked me for the call back and I encouraged him to submit any formal questions or comments using the Engage site or by email to me.”</p>	
Notice of Completion – July 13, 2020			
11.	[REDACTED]	<p><u>Comment received via email August 16, 2020:</u></p> <p>“I am sending this email to formally register my concerns regarding the water treatment plant expansion. I own a [REDACTED] Collingwood. The proposed expansion of the water treatment plant will negatively impact the enjoyment of my property. Specifically, the new building will block my view from Sunset Cove.</p> <p>Also, I am skeptical of the contents of the report that states there will be no increased noise level. I expect that with the expanded operation, there indeed will be increased noise from the plant. Even the current level is not satisfactory in my opinion. When sitting outside on [REDACTED] property the noise from the existing operation interferes with the enjoyment of my property.</p> <p>I therefore request the following accommodation. Plant trees between Sunset Cove and the water treatment plant. Tall coniferous trees will provide a more pleasant view than having to look at the building. The trees will also act as a sound barrier and mitigate the noise coming from the water treatment plant.”</p>	<p><u>Response provided by Ainley Group on behalf of the Town on August 24, 2020 via email:</u></p> <p>“We are responding on behalf of the Town of Collingwood to your email dated August 16, 2020. We thank you for your input and we have included your email in the Final ESR for documentation purposes. During the final design of the proposed expansion of the plant, a landscaping plan will be developed for Town approval. Your request for a mature tree screening between the WTP property and the Sunset Cove Condominium will be considered at that time.”</p>

Comments Received



CHIEFS AND COUNCILS SAUGEEN OJIBWAY NATION

Chippewas of Saugeen, RR 1, Southampton ON N0H 2L0 519-797-2781
Chippewas of Nawash, 135 Lakeshore Blvd, Neyaashiinigmiing ON N0H 2T0 519-534-1689

February 7, 2020

SENT VIA EMAIL

Ken Kaden P. Eng. Project Engineering Environmental Services

Re: Notification to SON: Town of Collingwood Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion

Below is a Letter of Agreement between the Saugeen Ojibway Nation (“SON”) Environment Office and The Town of Collingwood. (“the Proponent”) with respect to our mutual goal to set out a framework for consultation and accommodation with SON regarding the Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion SON’s traditional territory. This agreement is intended to support SON’s participation in and provision of input into the technical assessments being undertaken as part of the *Class Environmental Assessment* process. More specifically, this agreement will allow SON and the Proponent to identify a plan for addressing any potential impacts of the Raymond A. Barker Water Treatment Plant Expansion on SON’s land claims and rights. This will enable a process that ensures appropriate and meaningful consultation and accommodation of SON throughout the life of the Proponent’s proposed operation.

LETTER OF AGREEMENT BETWEEN SON AND TOWN OF COLLINGWOOD

This Letter of Agreement (“Agreement”) is made between the Saugeen Ojibway Nation (“SON”) and The Town of Collingwood (“the Proponent”) and their agents to address Aboriginal consultation concerns regarding the potential impact of the proposed Raymond A. Barker Water Treatment Plant Expansion (“The Project”) on SON’s Aboriginal rights and claims.

The Project is Raymond A. Barker Water Treatment Plant Expansion.

The Project is located on lands within SON’s Traditional Territory that are subject to Treaty 45 ½ and may include sensitive species and natural heritage features of specific cultural value to SON. SON may exercise its constitutionally protected rights, both asserted and proven, throughout its Traditional Territory.

The Proponent has notified SON that they are in the beginning of the process to complete technical reviews as required by the Class Environmental Assessment SON has experts in the fields of archaeology, hydrogeology, natural heritage, engineering and the law, to provide expert opinion to the

Project. Technical studies will be peer reviewed by SON experts, then sent to the Proponent (“the Parties”) to properly identify the scope of the Project’s potential impacts on SON’s rights and interests and address those impacts where appropriate.

The Proponent has made available to SON copies of any and all relevant information including studies, reports and any other documents and records.

This Agreement ensures that the Proponent funds SON’s costs for SON’s required involvement in the project. The anticipated costs for SONs involvement are detailed in Schedule 1.

By way of this Agreement, the Proponent agrees to pay SON up to \$5,533.00 and SON agrees to use this payment specifically for the costs detailed in Schedule 1.

SON agrees to provide, to the Proponent, a summary report on the technical review and expenditure of the funds paid under this Agreement within 60 days of receiving the signed agreement or by such other date mutually agreed upon by the Parties.

Please be advised that this Agreement and the provision of funding by the Proponent review *does not* imply that the duty to consult with SON has been satisfied. Once the technical review is complete, we will then determine a consultation and/or environmental protection plan, specific to this Project.

If you agree, please sign and date this Agreement on the lines provided below and email a scanned copy to Juanita Meekins, Assistant to Manager of Resources and Infrastructure, SON Environment Office juanita.meekins@saugeenojibwaynation.ca

Respectfully,



Saugeen Ojibway Nation Environment Office,
Manager of Resources and Infrastructure

I, _____, hereby agree to the terms of the letter of Agreement and its Schedules.

DATE

SIGNATURE

SCHEDULE 1



Saugeen Ojibway Nation – Environment Office

Step 1 Technical Engagement Budget: The Town of Collingwood

Category	Estimated Cost	Notes
Water/Waste Water Engineering Berta Krichker	\$4,650.00	3.1-days review \$1,500.00 per day
SON Disbursements		
Mileage and Travel	\$380.00	
Subtotal	\$5,030.00	
Administration Fee (10%)	\$503.00	
Estimated Total	\$5,533.00	

Jody Marks

From: Dorton, Peter (MTO) <Peter.Dorton@ontario.ca>
Sent: Monday, March 09, 2020 1:49 PM
To: Jody Marks
Subject: RE: Town of Collingwood WTP Expansion Class EA - Notice of PIC

Hi Jody.

MTO has no concerns.
Permits are not required from us.

Thanks,
Peter Dorton
Senior Project Manager
Highway Corridor Management Section – Central Region
Ministry of Transportation
159 Sir William Hearst Avenue, 7th Floor
Toronto, ON M3M 0B7
Tel. (416) 235 - 4280
E-Mail: peter.dorton@ontario.ca
Web: www.mto.gov.on.ca/english/engineering/management/corridor

From: Jody Marks <marks@ainleygroup.com>
Sent: March 9, 2020 1:43 PM
Subject: Town of Collingwood WTP Expansion Class EA - Notice of PIC

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Dear Sir and/or Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant (WTP). The Town has scheduled an upcoming Public Information Centre (PIC) to provide an opportunity for interested parties to review the alternatives developed for the WTP expansion. Please refer to the attached Notice of PIC for further details.

Thank you.

Best Regards,

Jody Marks
Environmental Planner



www.ainleygroup.com

Tel: (705) 726-3371 Ext. 227

CAUTION: The information contained in and/or attached to this transmission is solely for the use of the intended recipient. Any copying, distribution or use by others, without the express written consent of the Ainley Group, is strictly prohibited. The recipient is responsible for confirming the accuracy and completeness of the information with the originator. Please advise the sender if you believe this message has been received by you in error.

From: [Maxime Picard](#)
To: [kkaden](#)
Cc: [Reid Mitchell](#); [Mike Ainley](#); [Jody Marks](#)
Subject: Re: Raymond A. Barker Water Treatment Plant Expansion
Date: Thursday, March 26, 2020 8:53:50 AM
Attachments: [image001.jpg](#)

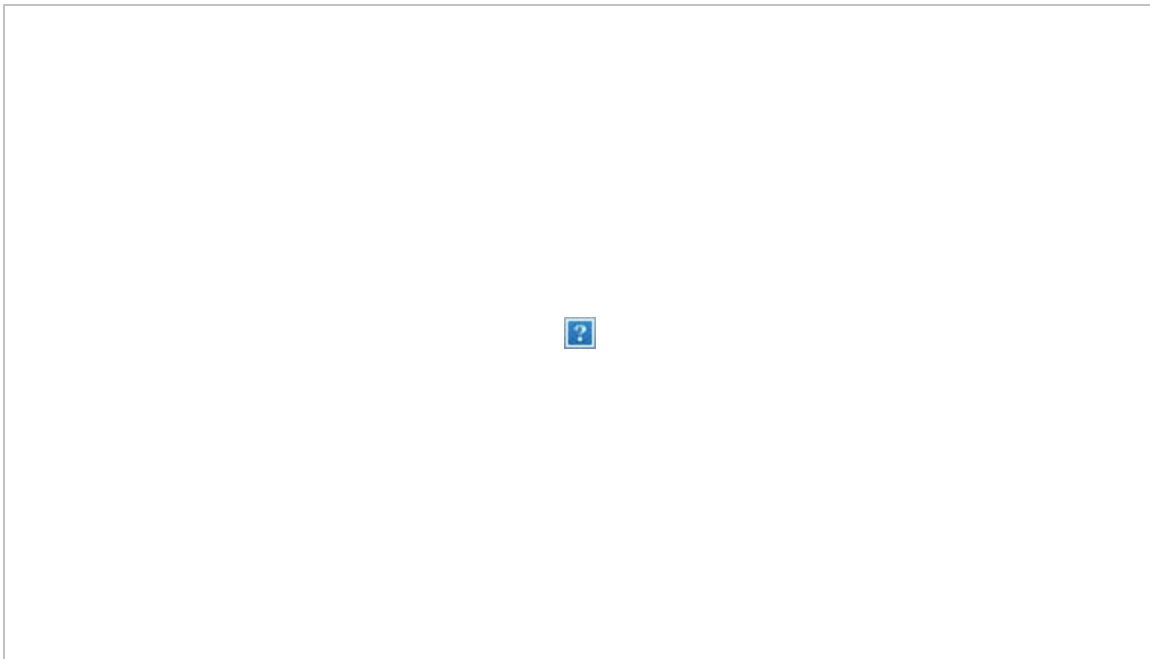
Good morning Ken,

Thanks for following-up quickly.

Please keep the Huron-Wendat Nation updated in the event that any further archaeological assessment become necessary in the future project phases.

Best regards,

Maxime Picard



De: "kkaden" <kkaden@collingwood.ca>
À: "Maxime Picard" <maxime.picard@cnhw.qc.ca>
Cc: "Reid Mitchell" <mitchell@ainleygroup.com>, "ainley m" <ainley.m@ainleygroup.com>, "Jody Marks" <marks@ainleygroup.com>
Envoyé: Jeudi 26 Mars 2020 06:47:49
Objet: RE: Raymond A. Barker Water Treatment Plant Expansion

Maxime,

Thank you for your interest in this project.

A Stage 1 Archaeological Assessment was completed as part of the Class EA process. The result of the assessment is that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with previous construction and underground utilities at the site. Based on these findings, no further archaeological work is required. A copy of the Archaeological Assessment will be included in the Environmental Study Report.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: Maxime Picard [mailto:maxime.picard@cnhw.qc.ca]
Sent: March-16-20 4:09 PM
To: Ken Kaden <kkaden@collingwood.ca>
Subject: Raymond A. Barker Water Treatment Plant Expansion

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Good afternoon Ken,

This is to acknowledge reception of the attached letter on the Raymond A. Barker Water Treatment Plant Expansion Project.

Could you please let us know if there is any archaeological assessment anticipated as part of the EA process ?

Thanks and best regards,

Maxime Picard

Jody Marks

From: [REDACTED] >
Sent: Monday, March 09, 2020 3:02 PM
To: Jody Marks
Subject: RE: Town of Collingwood WTP Expansion Class EA - Notice of PIC

Thank Jody for keeping us in the loop
[REDACTED]

From: Jody Marks <marks@ainleygroup.com>
Sent: Monday, March 9, 2020 1:43 PM
Subject: Town of Collingwood WTP Expansion Class EA - Notice of PIC

Dear Sir and/or Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant (WTP). The Town has scheduled an upcoming Public Information Centre (PIC) to provide an opportunity for interested parties to review the alternatives developed for the WTP expansion. Please refer to the attached Notice of PIC for further details.

Thank you.

Best Regards,

Jody Marks
Environmental Planner



www.ainleygroup.com

Tel: (705) 726-3371 Ext. 227

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Jody Marks

From: Reid Mitchell <mitchell@ainleygroup.com>
Sent: Thursday, March 12, 2020 2:19 PM
To: 'Ken Kaden'; Jody Marks
Cc: Mike Ainley
Subject: RE: Address correction - WTP EA correspondence

Will do.

Reid Mitchell
Engineering Technologist

www.ainleygroup.com

Tel: (705) 445-3451 Ext. 135

Cell: (705) 444-4837

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-----Original Message-----

From: Ken Kaden [<mailto:kkaden@collingwood.ca>]
Sent: Thursday, March 12, 2020 11:16 AM
To: Reid Mitchell; Jody Marks
Cc: Mike Ainley
Subject: FW: Address correction - WTP EA correspondence

Reid,

We were contacted by the owner of [REDACTED] Street to be advised that any future correspondence should be mailed to his permanent residence. See email below. Please update his address for future correspondence.

Thanks

Ken Kaden P.Eng.
Project Coordinator, Environmental Services P 705-445-1581 Ext. 3303 | M 705-351-2133 kkaden@collingwood.ca

-----Original Message-----

From: Harry Ducker [<mailto:harry@hillsidepark.com>]
Sent: March 12, 2020 10:25 AM
To: Tricia Bray
Subject: Address correction

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Hello

As per our telephone conversation

My address is

[REDACTED]

Thanks for your time

[REDACTED]

Sent from my iPhone

Jody Marks

From: Chief Donna Big Canoe <donna.bigcanoe@georginaisland.com>
Sent: Tuesday, March 17, 2020 4:02 PM
To: Jody Marks
Subject: Automatic reply: Town of Collingwood WTP Expansion Class EA - Notice of PIC, Postponed

Please be advised that Chief Donna Big Canoe is out of the office for an extended period of time. All emails will be forwarded to Councillor William McCue until further notice.

Miigwetch,
Chippewas of Georgina Island

From: [Doran Ritchie](#)
To: [Jody Marks](#)
Subject: Out of office Re: Town of Collingwood WTP Expansion Class EA - Notice of PIC, Postponed
Date: Tuesday, March 17, 2020 3:47:28 PM

Thank you for contacting the Saugeen Ojibway Nation Environment Office. I am on leave until further notice but in the meantime, please contact the following staff.

Juanita Meekins, juanita.meekins@saugeenojibwaynation.ca for inquiries related to: **Parks Canada, Aggregates, Municipal Infrastructure and Archeology**

Geewadin Elliot, geewadin.elliott@saugeenojibwaynation.ca for inquiries related to: **Burials and Conservation Easements**

Cindy Ashkewe, execassistant@saugeenojibwaynation.ca for inquires relating to: **Planning Applications and Invoicing**

Please contact Kathleen Ryan, kathleen.ryan@saugeenojibwaynation.ca **for all other inquiries**

Chi-Miigwetch,
Doran

--

Doran Ritchie | Manager of Resources and Infrastructure
Saugeen Ojibway Nation Environment Office
25 Maadookii Subdivision, Neyaashiinigmiing, ON, N0H 2T0
Cell: 519-374-9210 | Office: 519-534-5507 | Fax: 519-534- 5525

From: [Sharday James](#)
To: [Jody Marks](#)
Subject: RE: Town of Collingwood WTP Expansion Class EA - Notice of PIC, Postponed
Date: Tuesday, March 17, 2020 4:17:33 PM
Attachments: [image001.jpg](#)

Thanks for letting me know.

Sharday James

Community Consultation Worker, Communications

Chippewas of Rama First Nation

(ph) 705-325-3611,1633

(cell)

(fax)

(url) www.ramafirstnation.ca

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By submitting your or another individual's personal information to Chippewas of Rama First Nation, its service providers and agents, you agree and confirm your authority from such other individual, to our collection, use and disclosure of such personal information in accordance with our privacy policy.

 *Please consider the environment before printing this e-mail.*

From: Jody Marks <marks@ainleygroup.com>

Sent: March 17, 2020 3:46 PM

To: Sharday James <shardayj@ramafirstnation.ca>

Subject: Town of Collingwood WTP Expansion Class EA - Notice of PIC, Postponed

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Dear Sharday James,

The attached letter is a follow-up to the previous Notice of Public Information Centre (PIC) that was mailed to you on March 9, 2020. The scheduled PIC has been postponed until further notice.

In an effort to provided adequate notice, please accept this email correspondence.

Thank you.

Best Regards,

Jody Marks
Environmental Planner



www.ainleygroup.com

Tel: (705) 726-3371 Ext. 227

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Wednesday, March 25, 2020 12:06 PM
To: [REDACTED]; Mike Ainley
Cc: Jody Marks; Reid Mitchell
Subject: RE: Wrong Mailing Address

[REDACTED],

My apologies. We will update your address as noted below for any further correspondence related to the Class EA for the water treatment plant.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: [REDACTED]
Sent: March-25-20 11:07 AM
To: Ken Kaden <kkaden@collingwood.ca>; ainley.m@ainleygroup.com
Subject: Wrong Mailing Address

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Dear Ken and Mike -

We have received two pieces of mail from Ainley & Associates regarding the Town of Collingwood Class Environmental Assessment of the Raymond Barker Water Treatment Plant Expansion, which have gone to the wrong address. We own a condominium in [REDACTED], however we live elsewhere in Collingwood. The address that the mail has been sent to is our old address [REDACTED]. The tax department and the property management company have our current Collingwood address on file, so I am not sure why your records still have our old [REDACTED].

Henceforth, please ensure that all mail regarding this project is sent to our current address at:

[REDACTED]

Thank you,

[REDACTED]

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Tuesday, March 17, 2020 10:39 AM
To: [REDACTED]
Cc: Reid Mitchell; Mike Ainley; Jody Marks
Subject: RE: Water Treatment Plant Information Centre

Good morning [REDACTED],

Thank you for your interest in this project. Yes unfortunately due to the current circumstances of COVID-19 safety protocols, the Public Information Centre has been postponed.

An ad is scheduled to be published in this weeks paper indicating that the PIC will be postponed until further notice and that notification will be published when a new date is confirmed.

In the meantime we will add you to our communication list to ensure that you are notified when we are able to reschedule.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: [REDACTED]
Sent: March-17-20 9:59 AM
To: Ken Kaden <kkaden@collingwood.ca>
Subject: Water Treatment Plant Information Centre

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

I refer to your notice about the March 24 Water Treatment Plan info centre. I assume it has been cancelled. I am very interested and may have comment. Please advise me of the date if it is rescheduled.

[REDACTED]

[REDACTED]

Jody Marks

From: Dorton, Peter (MTO) <Peter.Dorton@ontario.ca>
Sent: Thursday, April 23, 2020 3:11 PM
To: Jody Marks
Subject: Re: Town of Collingwood WTP Expansion Class EA - Notice of Digital PIC

Hi Jody.

MTO has no concerns.
Permits are not required from us.

Thanks,
Peter Dorton
Senior Project Manager
Highway Corridor Management Section – Central Region
Ministry of Transportation
159 Sir William Hearst Avenue, 7th Floor
Toronto, ON M3M 0B7
Tel. (416) 235 - 4280
E-Mail: peter.dorton@ontario.ca
Web: www.mto.gov.on.ca/english/engineering/management/corridor

From: Jody Marks <marks@ainleygroup.com>
Sent: April 23, 2020 2:59 PM
Subject: Town of Collingwood WTP Expansion Class EA - Notice of Digital PIC

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Dear Sir and/or Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant. The Public Information Centre (PIC) previously scheduled for March 24 2020, will now be held through digital engagement. Please refer to the attached Notice of PIC for further details.

Thank you.

Best Regards,

Jody Marks
Environmental Planner



www.ainleygroup.com

Tel: (705) 726-3371 Ext. 227

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Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Thursday, June 18, 2020 7:50 AM
To: Lee Bull; Mike Ainley
Cc: Morgen Wilson; Reid Mitchell; Jody Marks; Heather McGinnity
Subject: RE: Raymond A. Barker Water Treatment Plant Expansion Schedule C Class Environmental Assessment - NVCA ID # 37757

Lee,

Thank you for these comments we will address these as part of our ESR.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: Lee Bull [<mailto:lbull@nvca.on.ca>]
Sent: June-18-20 7:40 AM
To: Ken Kaden <kkaden@collingwood.ca>; ainley.m@ainleygroup.com
Cc: Morgen Wilson <mwilson@nvca.on.ca>
Subject: Raymond A. Barker Water Treatment Plant Expansion Schedule C Class Environmental Assessment - NVCA ID # 37757

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Good morning Ken

Nottawasaga Valley Conservation Authority [NVCA] staff appreciates the opportunity to provide further input on the above noted Environmental Assessment.

NVCA staff has reviewed the following:

- "Town of Collingwood – Raymond A. Barker Water Treatment Plant Expansion Schedule C Class Environmental Assessment – Public Information Centre", AECOM & Ainley, Posted Friday April 24 2020.

Upon completion of our review, we offer the following comment(s):

Engineering

1. The existing Water Treatment Plant (WTP) is located at the far northern end of Raglan Street on the shore of Georgian Bay. The site is within the “shoreline hazard limit” and the proposed future expansion of the facility, as indicated in the PIC material, includes construction of a building in close proximity to the shoreline. It is recommended that a qualified coastal engineer be retained during the detailed design process to assess and mitigate the risk of shoreline erosion to the facility.

Ecology

2. Based on review of the above noted PIC presentation, we have no natural heritage related comments to offer at this stage.

We trust the foregoing is of assistance to you. Please feel free to contact the undersigned should you wish to discuss these comments.

Sincerely,

Lee J. Bull, MCIP, RPP | Manager, Planning Services

Nottawasaga Valley Conservation Authority

8195 8th Line, Utopia, ON L0M 1T0

T 705-424-1479 ext. 231 | F 705-424-2115

lbull@nvca.on.ca | nvca.on.ca

I am currently working remotely as the Nottawasaga Valley Conservation Authority is taking preventative measures to limit the spread of COVID-19. You may experience some delays or disruptions as we follow recommendations of health professionals to slow the virus from spreading.

This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original message.

From: [Ken Kaden](#)
To: [Rick Vatri](#); [Peggy Slama](#)
Cc: [Blaine Parkin](#); [Bruce Hoppe](#); [Lori Bedford](#); [John Henry](#); [Mike Ainley](#); [Reid Mitchell](#); [Jody Marks](#)
Subject: RE: Collingwood Water Supply
Date: Friday, May 29, 2020 12:51:57 PM
Attachments: [image001.gif](#)

Rick,

Thank you for your inquiry. We will review and address this as part of our responses to questions and comments received during the EA consultation period.

By copy of this email we are making our consultant on the EA project aware of your email below.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: Rick Vatri [<mailto:RVatri@newtecumseth.ca>]
Sent: May-28-20 2:07 PM
To: Peggy Slama <pslama@collingwood.ca>; Ken Kaden <kkaden@collingwood.ca>
Cc: Blaine Parkin <bparkin@newtecumseth.ca>; Bruce Hoppe <bhoppe@newtecumseth.ca>; Lori Bedford <lbedford@newtecumseth.ca>; John Henry <jhenry@newtecumseth.ca>
Subject: RE: Collingwood Water Supply

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Hi Peggy and Ken,

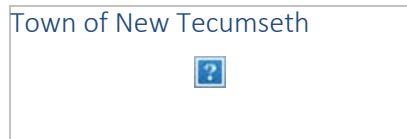
Further to the email below, I have reviewed the PIC boards for the Raymond A Baker WTP expansion and note that the proposed Phase 1 expansion remains at 51,871 m³/day. Could you please confirm that the supply for New Tecumseth as noted below is being accommodated in the Phase 1 expansion.

Regards,

Rick Vatri, CET

Director of Engineering and Development
Engineering Department

Tel: 705-435-3900 Ext: 1253
Web: www.newtecumseth.ca



From: Rick Vatri
Sent: March 20, 2020 4:11 PM
To: Peggy Slama <pslama@collingwood.ca>; Ken Kaden <kkaden@collingwood.ca>
Cc: Blaine Parkin (bparkin@newtecumseth.ca) <bparkin@newtecumseth.ca>; Bruce Hoppe (bhoppe@newtecumseth.ca) <bhoppe@newtecumseth.ca>; Lori Bedford <lbedford@newtecumseth.ca>; John Henry <jhenry@newtecumseth.ca>
Subject: Collingwood Water Supply

Hi Peggy and Ken,

Further to our WebEx this past Tuesday, March 17, 2020, it was noted in the AECOM Technical Memorandum, Rev 4, that Table 4 identifies New Tecumseth as receiving 18,250 m³/day from the WTP by 2038. During the meeting it was acknowledged that the Town had been asking for a flow of 23,500 m³/day. It was requested that New Tecumseth provide a chart of their anticipated flows and associated timeline. Please see below:

Projected Water Supply from Collingwood	
Year	m ³ /day
2020	9,500
2023	13,440
2028	20,500
2031	20,500
2032	23,500
2038	23,500

Please let me know if you have any questions.

Regards,

Rick Vatri, CET

Director of Engineering and Development
Engineering Department
Tel: 705-435-3900 Ext: 1253
Web: www.newtecumseth.ca

June 8, 2020

Ken Kaden, P.Eng
Project Engineer,
Environmental Services
The Town of Collingwood
43 Steward Road
Collingwood, ON L9Y 4N7

Dear Mr Kaden:

**Re: Saugeen Ojibway Nation Preliminary Review Comments for
Town of Collingwood Municipal Class Environmental Assessment Study
Raymond A. Barker Water Treatment Plant Expansion
In Accordance with SON Consultation Process**

The Saugeen Ojibway Nation (SON) acknowledges receiving on August 23, 2019, a letter from the Town of Collingwood's Consultant, Ainley and Associates Limited/AECOM, together with a Notice of Study Commencement for the Town of Collingwood Municipal Class Environmental Assessment Study for the Raymond A. Barker Water Treatment Plant Expansion.

In March of 2020, SON was working on developing the preliminary review comments for this Class EA presented below that we intended to forward to the Town of Collingwood (the Town) and the Town Consultants Ainley/AECOM by the end of March 2020. However, due to COVID-19 requirements and work restrictions, the SON comments were delayed and only now have been finalized.

SON CONSULTATION PROCESS

The main objective of this process is to ensure the Town of Collingwood Municipal Class Environmental Assessment (Class EA) Study for the Raymond A. Barker Water Treatment Plant (WTP) Expansion Work, which proposes to increase approximately three times the water intake and water supply, as well as potentially increase wastewater discharges from this expanded WTP to the open water, will not create potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, the Traditional Way of Live of First Nations Communities - commercial fishery and cultural aspects, environmental/ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Georgian Bay).

The SON Consultation Process encompasses reviews and the development of the review comments/concerns associated with the Town Class EA Study for the Raymond A. Barker WTP Expansion and typically consists of 3 Stages as follows:

- **STAGE 1** - undertake preliminary/conceptual reviews and comments of all provided support information/documentation and reports that may include, but not be limited to, planning, archaeological, environmental, technical, cultural, natural heritage-terrestrial/aquatic, environmental, ecological, hydrogeological, water resources, geotechnical and legal reports, which sometimes includes a legal review of the potential impacts of the project on rights and land claims (reviews completed prior to finalizing reviews);

- **STAGE 2** - final review by SON Environment Office staff and SON's technical experts of all provided support information, reports and clarifications associated with the proposed projects, permits, policies, recommendations/solutions and OP Amendments Waste Management Policies provided changes/recommendations and reports to SON leadership regarding all critical planning, technical/environmental, economic and land use aspects of the project; SON will determine reasonable, suitable consultation, the required economical accommodation, may undertake all necessary discussions with the proponent/municipality and SON leadership and/or if it is necessary, an (environmental) protection agreement, short or long-term, shall be developed.
- **STAGE 3** - the implementation and monitoring work review details (if it is required), agreements which arise from the SON leadership discussion (upon acceptance of the proposed OP Amendments-Waste Management Polices and provided changes/recommendations by SON).

SON PRELIMINARY REVIEW – COMMENTS AND CONCERNS

'The Duty to Consult' with First Nations: The Town of Collingwood is required to fulfill 'the duty to consult' obligations with First Nations under the EAA to meet its legal obligations under the Aboriginal Rights Law.

The First Nations Consultation Process is an independent consultation process for EA projects under Aboriginal Rights Law and is required to be undertaken by proponents. This responsibility has been delegated to proponents by the Crown/the Province of Ontario.

This First Nations EA consultation process must include the participation of First Nation communities for EA projects. First Nation communities require being part of EA discussions, consultations, decision making and economic agreements and benefits.

'The duty to consult' with First Nations represents one of the major requirements of the review process, and Aboriginal consultation is a legal requirement that goes beyond "stakeholders engagement". Any federal and provincial funding for the project, if any matching federal and provincial funds are being used, and under the common law applying to Aboriginal right contexts. General 'stakeholders' information is not sufficient for Aboriginal consultation processes.

The consultation process, and specifically the First Nations consultation process, is considered the most important requirement for the Municipal Class EA Process under the Environmental Assessment Act (EAA).

Saugeen Ojibway Nation Objectives: To ensure that the Class EA recommended, preferred solution/option will not have any substantial adverse impacts on water volume and quality, aquatic and fishery life, the environmental/ecological health of the water resources system of Georgian Bay. Specifically, no adverse impacts on SON's commercial fishery, aquatic life and the environmental ecological health and conditions of the water resources and the shore land that is essential to SON communities. In order to protect SON's Fishery Rights, it is critical to preserve, maintain and enhance the ecological and environmental health of water quality and water resources functions and features of Georgian Bay to comply with the Aboriginal Treaty Rights.

It should be noted that the preliminary comments presented in this correspondence are based on the previously limited information provided to SON by the Town's Consultants that included: the Ainley/AECOM project introducing letter and the Notice of Commencement of this Class EA WTP Expansion. It should be also noted that the Ministry of Environment Conservation and Parks (MECP) identifies that First Nation's consultation required by the Class EA process under the Environmental Assessment Act (EEA) must ensure that sufficient information is provided to First Nations to enable the First Nation to identify what rights and interests may be impacted by the proposal; to identify and evaluate impacts; and to determine what accommodations may be necessary.

SON is committed to work with the Town of Collingwood and its Consultants to successfully complete this Class EA to all parties mutual satisfaction and to proceed with the implementation and construction of the proposed work in accordance with the Class EA finalized recommended preferred option-solution accepted by SON.

At the present time, the proponent/consultant has not provided SON with the important detailed information such as: an evaluation of the existing and future Municipal Water Supply Class EA water demands; evaluations/completed studies of existing environmental/ecological and water resources conditions; evaluations of existing geotechnical, hydrogeological, existing environmental/ecological conditions and the water balance assessments; the proposed consideration for the required mitigation works associated with the above-noted issues and the proposed intake and discharges increases associated to the WTP Expansion proposed works.

Therefore, we wish to identify SON's preliminary concerns/comments associated with potential adverse impacts by the proposed project and ask for the following additional information:

- identify the conceptual technical information associated with the proposed increase of the water demand/intake and all potential works modifications associated with the intake system works in the open water (the potential modifications to the location, the type of the intake system and its components, existing and future hydraulic conditions);
- identify considerations and conceptual mitigation measures to preserve, maintain and improve the surface water quality and ensure that the above-noted water quality will not be adversely impacted by the proposed WTP Expansion work under the construction and/or under the post-construction work stages;
- confirm and provide justifications that the proposed WTP Expansion work will not adversely impact fish habitat and aquatic life and will ensure that the required protection of the natural heritage system (features and functions) will be evaluated and implemented in accordance with the recommended Class EA solution;
- confirm and provide the justifications/assessments that the proposed WTP Expansion work will not adversely impact any existing archaeological conditions;
- confirm and provide justifications that the proposed WTP Expansion work will not adversely impact and will undertake all necessary measures to ensure that SON commercial fishing will be preserved;
- confirm and provide justifications that the potential increase of wastewater discharges related to the operation and maintenance from the proposed WTP Expansion site to the open water will not be adversely impact the receiving open water, fishery and aquatic systems;
- confirm and provide justifications that the proposed WTP Expansion work will not adversely impact the base flow, hydrogeological/water balance conditions, specifically during dry weather conditions;

- confirm and provide justifications for a review that climate change conditions will be incorporated in the recommended solution of this Class EA;
- provide confirmation that the Conceptual Erosion and Sediment Control Plan and the required measures will be developed and be included in the recommended solution of this Class EA; and
- confirm and provide justifications that the water quality monitoring program for the surface water of the open water areas within the vicinity of the subject site will be developed and be included in the ESR recommended solution for this Class EA; this water quality monitoring program needs to include two major components: the basic water chemistry parameters in accordance with the MECP requirements under Ontario Water Resources Act (OWRA) and biological (BioMap) monitoring components for measuring and reporting on the surface water quality under the pre and post-construction conditions for the work proposed in this Class EA

First Nation - SON Consultation Plan

1. Meet the requirements as 'duty to consult' in accordance with SON's Consultation Process Protocol, practices and vision/traditional knowledge;
2. Provide SON with the fund capacity and the required agreements to participate in the requested review;
3. Consult and conduct meetings with SON, the Town's Consultant; and
4. Obtain SON's acceptance for the recommended solution for the Town's Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion

If, at the time of SON's final review completion, the SON Environment Office and leadership determine that no negative impacts will occur within its Territory or adjacent lands/water resources system, and/or those impacts can be sufficiently mitigated, SON will agree to provide a letter withdrawing any objections to proceeding. If the review determines that negative impacts will occur, SON will proceed with a draft consultation and accommodation/economical plan and a meeting with the proponent to discuss the matter further.

We look forward to working together to complete this project successfully.

Respectfully,

**Doran Ritchie /Manager of Resources and Infrastructure
Saugeen Ojibway Nation (SON) Environment Office**

Cc: Mike Ainley P.Eng., PMP-Project Manager Ainley Group

From: Ken Kaden <kkaden@collingwood.ca>

Sent: April 28, 2020 2:49 PM

To: [REDACTED]

Cc: John Velick <jvelick@collingwood.ca>; Mike Ainley <ainley.m@ainleygroup.com>

Subject: RE: Water Treatment Plant extension

Good afternoon [REDACTED],

John forwarded me your email below. Thank you for your interest in the Water Treatment Plant Expansion. It is an important project for the Town.

Notices have been published in the paper and sent to neighbouring residents and stakeholders. Initially there was a plan to have a public meeting where people would be able to view information on what is being proposed and be given the opportunity to ask questions and provide comments either in writing or directly to the staff and our consultants that would be in attendance. Given the current situation with COVID-19 we have had to modify these notices and move this process on line.

We are using the Engage Collingwood platform to allow the public to review and comment on the proposed expansion. You can access this site directly at the link below;

<https://engage.collingwood.ca/water-treatment-plan-class-ea-pic>

We invite you to review the materials presented, ask questions and provide feedback. Please feel free to follow up with me directly if you have further questions about the process or the project.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: John Velick

Sent: April-28-20 1:19 PM

To: Ken Kaden <kkaden@collingwood.ca>

Subject: FW: Water Treatment Plant extension

Importance: High

Hi Ken – I think this should have come to you – see below.

John

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

John Velick P.Eng.
Manager, Engineering Services

Town of Collingwood
P.O. Box 157, 545 Tenth Line North
Collingwood, ON L9Y 3Z5
705-445-1292 Ext. 4209
jvelick@collingwood.ca | www.collingwood.ca

From: [REDACTED]
Sent: April 28, 2020 11:44 AM
To: John Velick <jvelick@collingwood.ca>
Cc: [REDACTED]
Subject: Water Treatment Plant extension
Importance: High

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Hi John,

I was just made aware that the proposed water plant extension may severely impact the views from [REDACTED]. Can you please pass along a timeline, contacts and any other critical information that I can share with the board of [REDACTED]

Thank you,

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Jody Marks

From: kkaden
Sent: Tuesday, April 28, 2020 7:00 AM
To: [REDACTED]; Mike Ainley
Subject: RE: Water Treatment Expansion

Good morning [REDACTED],

Thank you for your interest in the Water Treatment Plant Expansion. It is an important project for the Town.

Originally the intent of the notices published in the paper and sent out directly to neighbouring residents and stakeholders such as yourself was to make you aware of the project and invite you to a public meeting. There you would be able to view information on what is being proposed and be given the opportunity to ask questions and provide comments either in writing or directly to the staff and our consultants that would be in attendance. Given the current situation with COVID-19 we have had to modify these notices and move this process on line.

We are using the Engage Collingwood platform to allow the public to review and comment on the proposed expansion. You can access this site directly at the link below;

<https://engage.collingwood.ca/water-treatment-plan-class-ea-pic>

We invite you to review the materials presented, ask questions and provide feedback. Please feel free to follow up with me directly if you have further questions about the process or the project.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services P 705-445-1581 Ext. 3303 | M 705-351-2133 kkaden@collingwood.ca

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-----Original Message-----

From: [REDACTED]]
Sent: April-27-20 5:06 PM
To: Ken Kaden <kkaden@collingwood.ca>; ainley.m@ainleygroup.com
Subject: Water Treatment Expansion

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You are asking for comments re the expansion of the Water Treatment Plant but the letter I just received from you doesn't provide any information to comment on - ie. size or location of the expansion...what kind of comments are you looking for? I live in the [REDACTED] the water plant so would be interested to know your plans in detail.

Sincerely,
[REDACTED]

From: [Ken Kaden](#)
To: [Kate Hicks](#)
Cc: [Heather McGinnity](#)
Subject: RE: Voicemail from "PORTER N R" <7054445360>

Kate,

I spoke with [REDACTED] this morning. He was having difficulty accessing the Engage web site on Friday but had no trouble today.

He had typical questions about schedule and limits of construction which I answered with information that is included in the slides available on line. He had concerns about who was paying for this and who was benefitting but understands the need for the project. He was there when they built the original plant.

He thanked me for the call back and I encouraged him to submit any formal questions or comments using the Engage site or by email to me.

This will likely be the first of many similar calls.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

-----Original Message-----

From: Kate Hicks
Sent: April-27-20 11:02 AM
To: Ken Kaden <kkaden@collingwood.ca>
Subject: FW: Voicemail from "PORTER N R" <7054445360>

-----Original Message-----

From: Voicemail System [<mailto:vm@asterisk.collingwood.ca>]
Sent: April 27, 2020 10:53 AM
To: Kate Hicks
Subject: Voicemail from [REDACTED]

Kate Hicks,

There is a new voicemail in mailbox 3320:

From: [REDACTED] >
Length: 0:31 seconds
Date: Monday, April 27, 2020 at 10:52:46 AM

Dial *97 to access your voicemail by phone.

Responses Provided

TOWN OF COLLINGWOOD



Ken Kaden
43 Stewart Road, P.O Box 157
Collingwood, ON L9Y 3Z5
Tel: (705)445-1581 ext. 3303
kkaden@collingwood.ca

March 16, 2020

Juanita Meekins, Executive Assistant of Resources and Infrastructure
Saugeen Ojibway Nation Environment Office
25 Maadokii Subdivision Neyaashiinigiing, Ontario N0H 2T0

Dear Ms. Meekins,

Thank you for providing a Letter of Agreement attached to your email of February 7, 2020 to support SON's participation in and provision of input into the technical assessments being undertaken as part of the Class EA for the Barker Water Treatment Plant Expansion ("Project"). More specifically, the Letter of Agreement is intended to identify a plan for addressing any potential impacts of the Project.

By way of background, the construction of the Raymond A. Barker Water Treatment Plant was completed in 1999 and has been in operation since that time. The Class EA is being conducted to assess the preferred solution for the expansion of water treatment capacity. While the proposed project anticipates certain infrastructure works such as expansion of existing buildings and addition of new structures both above and below grade, all works are wholly contained within the existing treatment plant property and upon lands owned by the Town of Collingwood. Moreover, the Project does not involve any change to the raw water intake and we will continue to operate within the existing volumes of water permitted under the current Permit to Take Water (PTTW) issued by the Ministry of Environment, Conservation and Parks (MECP) on January 28, 2011. No amendment to the PTTW is required under this proposal. As such we do not anticipate any environmental impacts associated with the Project as proposed on the traditional or treaty lands of the SON.

We appreciate SON would like to participate in the process to ensure that any potential impacts to its lands and its rights are avoided and to the extent they cannot be avoided, mitigated. In light of this, we would be happy to meet with you and your technical advisors to review any relevant documentation and studies to assist in your review. As part of this meeting we would be happy to review the existing operations and the Town's plans over the next 5 – 15 years. We will plan to bring along our technical experts to answer any questions you may have. If after this meeting you still require an independent review or assessment of the technical reports, we would be happy to fund such review as requested to the sum of \$5533.00.

Please provide some dates if which you are available to meet in the coming weeks.

Sincerely,

A handwritten signature in black ink, appearing to read "Ken Kaden". The signature is written in a cursive, flowing style.

Ken Kaden, P.Eng.
Project Coordinator, Environmental Services

cc: Brian Sahely, AECOM (by email)
Reid Mitchell, Ainley Group (by email)
Mike Ainley, Ainley Group (by email)



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 ▪ Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

July 3, 2020

File No. 119013

Re: **Town of Collingwood
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Public Information Centre – Response to Comment Received**

Dear Ms. Bull:

We are responding on behalf of the Town of Collingwood to your comment received on June 18, 2020 responding to the Notice of Public Information Centre. We have highlighted your main comment below:

“The existing Water Treatment Plant (WTP) is located at the far northern end of Raglan Street on the shore of Georgian Bay. The site is within the “shoreline hazard limit” and the proposed future expansion of the facility, as indicated in the PIC material, includes construction of a building in close proximity to the shoreline. It is recommended that a qualified coastal engineer be retained during the detailed design process to assess and mitigate the risk of shoreline erosion to the facility.”

RESPONSE: The Town of Collingwood will consider the recommendation to retain a Coastal Engineer during final design,.

We trust this is satisfactory; however, if there are aspects that require further clarification, please contact the undersigned or Ken Kaden, P. Eng., Project Coordinator, Environmental Services, Town of Collingwood via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley', is written over a light blue horizontal line.

Mike Ainley, P. Eng., PMP
Project Manager
ainley.m@ainleygroup.com

cc: Ken Kaden, Town of Collingwood



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 ▪ Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

July 3, 2020

File No. 119013

Re: **Town of Collingwood
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Public Information Centre – Response to Comment Received**

Dear Mr. Vatri:

Thank you for your interest in the above noted project. We are responding on behalf of the Town of Collingwood to your comment received on May 29, 2020 during the Notice of Public Information Centre period. We have recorded your comment and question in the project file:

“I have reviewed the PIC boards for the Raymond A. Baker WTP expansion and note that the proposed Phase 1 expansion remains at 51,871 m³/day. Could you please confirm that the supply for New Tecumseth as noted below (email dated March 20, 2020) is being accommodated in the Phase 1 expansion.”

RESPONSE: As referred to in your comment, the Town of Collingwood held a virtual meeting with the Town of New Tecumseth on March 17, 2020 in order to provide New Tecumseth with a preview of the recommended design. The requirement noted by the Town of New Tecumseth during this meeting; that an increase to 23,500 m³/d water supply from the plant is needed sooner than identified in Collingwood’s Water and Wastewater Master Servicing Plan; has been documented in the Draft Environmental Study Report for this Class Environmental Assessment. The Town of Collingwood acknowledges that the timing for an increase to 23,500 m³/d for the Town of New Tecumseth in 2032 differs from that in the Master Servicing Plan (2044) and the Town of Collingwood will accommodate the earlier provision of the additional capacity, subject to finalization of the Water Supply Agreement between the two Towns.

We trust this is satisfactory; however, if there are aspects that require further clarification, please contact the undersigned or Ken Kaden, P. Eng., Project Coordinator, Environmental Services, Town of Collingwood via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley'.

Mike Ainley, P. Eng., PMP
Project Manager
ainley.m@ainleygroup.com

cc: Ken Kaden, Town of Collingwood

June 15, 2020

File No. 119013

Doran Ritchie /Manager of Resources and Infrastructure
Saugeen Ojibway Nation (SON) Environment Office
25 Maadokii Subdivision Neyaashiinigmiing, Ontario N0H 2T0

Ref: Town of Collingwood
Water Treatment Plant Expansion Class EA

Dear Mr. Ritchie:

On behalf of the Town of Collingwood, we are responding to your letter dated June 8, 2020 regarding the above-mentioned Class EA for an expansion of the Water Treatment Plant (WTP) in Collingwood. We have reprinted your comments below in Italics for ease of reference and we provide our responses following each comment.

The main objective of this process is to ensure the Town of Collingwood Municipal Class Environmental Assessment (Class EA) Study for the Raymond A. Barker Water Treatment Plant (WTP) Expansion Work, which proposes to increase approximately three times the water intake and water supply, as well as potentially increase wastewater discharges from this expanded WTP to the open water, will not create potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, the Traditional Way of Live of First Nations Communities - commercial fishery and cultural aspects, environmental/ ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Georgian Bay).

It is proposed to expand the water supply in two Phases. Phase 1 will increase the supply to approximately 52000 m³/d which in combination with flows required for in-plant processing is less than the approved water taking as defined by the currently approved Provincial Permit To Take Water (68250 m³/d). The ultimate expansion will increase the water supply to approximately 101000 m³/d which, in the future, will require a new Permit To Take Water at that time. The intake structure and pipe were likely constructed in the 1950s and have an expected life of more than 100 years. The Town inspects the intake on a regular basis (annually). Copies of Inspection Reports from the past three years have been provided to SON. It is recognized that SON. is concerned about the issue of emergency repairs and the potential for impact to fish habitat and water quality in the Bay. Based on the Town's regular inspections and considering that the intake is a rather uncomplicated structure, it is felt that the need for emergency repairs in the future is very unlikely. If a new intake is required in the future, based on Town growth, all approvals will be obtained.

It is acknowledged that there will be an increase in the amount of wastewater produced at the WTP. However, we wish to advise that the Town's Wastewater Treatment Plant currently has additional capacity to accommodate this increase in flow. All sanitary wastewater produced at the WTP will be directed to the Town's sanitary collection system. Membrane backwash wastewater will be directed to equalization tanks for disposal back into the Bay as long as it meets MECP requirements (≤ 25 mg/L TSS). The quality will be monitored and should TSS exceed the MECP limit, it will be diverted to the sanitary collection system.

The goal of the Class EA planning process is to identify any potential adverse impacts associated with the proposed expansion and to mitigate those impacts as much as possible. We note that the Phase 1 expansion will not require any work within Nottawasaga Bay, nor will there be any disruption of the existing shoreline. Mitigation measures will be implemented during construction to limit the flow of sediment to the Bay and to protect the existing aquatic life and fish habitat. Several analyses have been completed and the results/findings are documented in background Reports. Copies of the following Reports have recently been provided to SON.

- Master Servicing Plan, Cole Engineering Ltd., December 2019
- Existing Plant Performance/Capacity Assessment, AECOM Canada Ltd., September 2019
- Condition Assessment, AECOM Canada Ltd., September 2019
- Natural Environment Technical Report, AECOM Canada Ltd., September 2019
- Stage 1 Archaeological Assessment, AECOM Canada Ltd., September 2019
- Alternatives Selection Technical Memorandum, AECOM Canada Ltd., April 2020

The SON Consultation Process encompasses reviews and the development of the review comments/concerns associated with the Town Class EA Study for the Raymond A. Barker WTP Expansion and typically consists of 3 Stages as follows:

- **STAGE 1** - undertake preliminary/conceptual reviews and comments of all provided support information/documentation and reports that may include, but not be limited to, planning, archaeological, environmental, technical, cultural, natural heritage-terrestrial/aquatic, environmental, ecological, hydrogeological, water resources, geotechnical and legal reports, which sometimes includes a legal review of the potential impacts of the project on rights and land claims (reviews completed prior to finalizing reviews);
- **STAGE 2** - final review by SON Environment Office staff and SON's technical experts of all provided support information, reports and clarifications associated with the proposed projects, permits, policies, recommendations/solutions and OP Amendments Waste Management Policies provided changes/recommendations and reports to SON leadership regarding all critical planning, technical/environmental, economic and land use aspects of the project; SON will determine reasonable, suitable consultation, the required economical accommodation, may undertake all necessary

discussions with the proponent/municipality and SON leadership and/or if it is necessary, an (environmental) protection agreement, short or long-term, shall be developed.

- **STAGE 3** - *the implementation and monitoring work review details (if it is required), agreements which arise from the SON leadership discussion (upon acceptance of the proposed OP Amendments- Waste Management Polices and provided changes/recommendations by SON).*

The Town acknowledges the Consultation Process and is prepared to work with SON to complete the reviews.

SON PRELIMINARY REVIEW – COMMENTS AND CONCERNS

'The Duty to Consult' with First Nations: *The Town of Collingwood is required to fulfill 'the duty to consult' obligations with First Nations under the EAA to meet its legal obligations under the Aboriginal Rights Law.*

Acknowledged

The First Nations Consultation Process is an independent consultation process for EA projects under Aboriginal Rights Law and is required to be undertaken by proponents. This responsibility has been delegated to proponents by the Crown/the Province of Ontario.

Acknowledged

This First Nations EA consultation process must include the participation of First Nation communities for EA projects. First Nation communities require being part of EA discussions, consultations, decision making and economic agreements and benefits.

Acknowledged

'The duty to consult' with First Nations represents one of the major requirements of the review process, and Aboriginal consultation is a legal requirement that goes beyond "stakeholders engagement". Any federal and provincial funding for the project, if any matching federal and provincial funds are being used, and under the common law applying to Aboriginal right contexts. General 'stakeholders' information is not sufficient for Aboriginal consultation processes.

Acknowledged. The Town is prepared to consult with SON.

The consultation process, and specifically the First Nations consultation process, is considered the most important requirement for the Municipal Class EA Process under the Environmental Assessment Act (EAA).

Acknowledged

Saugeen Ojibway Nation Objectives: *To ensure that the Class EA recommended, preferred solution/option will not have any substantial adverse impacts on water volume and quality, aquatic and fishery life, the environmental/ ecological health of the water resources system of Georgian Bay. Specifically, no adverse impacts on SON's commercial fishery, aquatic life and the environmental ecological health and conditions of the water resources and the shore land that is essential to SON communities. In order to protect SON's Fishery Rights, it is critical to preserve, maintain and enhance the ecological and environmental health of water quality and water resources functions and features of Georgian Bay to comply with the Aboriginal Treaty Rights.*

Although there will be no construction work within the Bay as part of Phase 1 of the plant expansion, it is recognized that construction activities immediately adjacent to the Bay will have the potential to impact water quality which could negatively affect the fishery. In that regard, the mitigation measures proposed by the Town will be put into place throughout construction. The effectiveness of these measures will be monitored during construction and, if necessary, will be retained following construction.

The Town currently samples raw water from the intake in accordance with MECP requirements. During construction, sampling of surface water runoff from the construction site will be monitored for sediment content as part of the construction mitigation plan. The ESR will describe the requirements of the erosion control plan as a mitigation measure. The preparation of drawings for the proposed erosion control measures will be provided as part of the detailed design.

It should be noted that the preliminary comments presented in this correspondence are based on the previously limited information provided to SON by the Town's Consultants that included: the Ainley/AECOM project introducing letter and the Notice of Commencement of this Class EA WTP Expansion. It should be also noted that the Ministry of Environment Conservation and Parks (MECP) identifies that First Nation's consultation required by the Class EA process under the Environmental Assessment Act (EEA) must ensure that sufficient information is provided to First Nations to enable the First Nation to identify what rights and interests may be impacted by the proposal; to identify and evaluate impacts; and to determine what accommodations may be necessary.

The Town will continue to provide SON with information on the proposed Project. Information was made available on the Town's Engage platform from mid April until the end of May 2020 for public and review agency comment. That information was recently provided directly to SON by email. We note that a telephone conference call was held with SON staff on Friday June 12, 2020 at which time, general information was presented and SON.'s initial questions were answered. Minutes of that conference call were recorded.

SON is committed to work with the Town of Collingwood and its Consultants to successfully complete this Class EA to all parties mutual satisfaction and to proceed with the implementation and construction of the proposed work in accordance with the Class EA finalized recommended preferred option-solution accepted by SON.

Acknowledged

At the present time, the proponent/consultant has not provided SON with the important detailed information such as: an evaluation of the existing and future Municipal Water Supply Class EA water demands; evaluations/completed studies of existing environmental/ecological and water resources conditions; evaluations of existing geotechnical, hydrogeological, existing environmental/ecological conditions and the water balance assessments; the proposed consideration for the required mitigation works associated with the above-noted issues and the proposed intake and discharges increases associated to the WTP Expansion proposed works.

Background reports as listed above, have been made available for SON's review. This was discussed and minuted during the telephone conference call of June 12.

Therefore, we wish to identify SON's preliminary concerns/comments associated with potential adverse impacts by the proposed project and ask for the following additional information:

- *identify the conceptual technical information associated with the proposed increase of the water demand/intake and all potential works modifications associated with the intake system works in the open water (the potential modifications to the location, the type of the intake system and its components, existing and future hydraulic conditions);*

The proposed works are identified in the material that was made available on the Town's Engage platform from mid April until the beginning of June. SON was provided with a copy of the Notice of PIC and was informed of the Engage Collingwood information. Material presented as part of the PIC was later provided to SON directly by email.

No in-water works are proposed for the completion of the Phase 1 expansion. It is noted that the Phase 1 expansion was based on the currently approved rating of the Permit To Take Water. It is also noted that the existing intake structure and pipe are hydraulically designed to provide a much greater water flow than the currently approved water taking. In order to allow the Ultimate water taking, a new Permit To Take Water will be required in the future. At that time, the Town will provide all required engineering documentation to the MECP in support of the increased water taking.

- *identify considerations and conceptual mitigation measures to preserve, maintain and improve the surface water quality and ensure that the above-noted water quality will not be adversely impacted by the proposed WTP Expansion work under the construction and/or under the post-construction work stages;*

Mitigation measures will be outlined in the Draft ESR which will be available for public review in July. SON will be provided with that information as soon as possible.

- *confirm and provide justifications that the proposed WTP Expansion work will not adversely impact fish habitat and aquatic life and will ensure that the required*

protection of the natural heritage system (features and functions) will be evaluated and implemented in accordance with the recommended Class EA solution;

No in-water work is proposed for the Phase 1 expansion of the WTP. Mitigation measures for on-land construction work will be provided to SON for review. These measures are proposed to protect fish habitat and aquatic life. An assessment of the Natural Heritage system has been completed and a copy of the Report was recently provided to SON for review.

- *confirm and provide the justifications/assessments that the proposed WTP Expansion work will not adversely impact any existing archaeological conditions;*

An assessment of the Natural Heritage system has been completed and a copy of the Report was recently provided to SON for review.

- *confirm and provide justifications that the proposed WTP Expansion work will not adversely impact and will undertake all necessary measures to ensure that SON commercial fishing will be preserved;*

No in-water work is proposed for the Phase 1 expansion of the WTP. Mitigation measures for on-land construction work will be provided in the ESR for SON review. These measures are proposed to protect fish habitat and aquatic life.

- *confirm and provide justifications that the potential increase of wastewater discharges related to the operation and maintenance from the proposed WTP Expansion site to the open water will not be adversely impact the receiving open water, fishery and aquatic systems;*

All wastewater produced by the WTP will be directed to the Town's sanitary collection system for treatment at the Wastewater Treatment Plant (WWTP). The WWTP has spare capacity to handle the increased flow and the effluent from the WWTP meets the requirements of the MECP.

- *confirm and provide justifications that the proposed WTP Expansion work will not adversely impact the base flow, hydrogeological/water balance conditions, specifically during dry weather conditions;*

The proposed water taking is for municipal use in the Town of Collingwood, The Town of the Blue Mountains and New Tecumseth as well as the Township of Clearview. All of those municipalities have wastewater treatment plants with ultimate effluent discharge to Nottawasaga Bay. Therefore, there will be no impact to the hydrogeological/water balance conditions in the Bay.

- *confirm and provide justifications for a review that climate change conditions will be incorporated in the recommended solution of this Class EA;*

Climate change mitigation measures will be discussed in the ESR and define the need to design for a 100-year storm including wave uprush from the Bay.

- *provide confirmation that the Conceptual Erosion and Sediment Control Plan and the required measures will be developed and be included in the recommended solution of this Class EA; and*

Erosion and sediment control measures are discussed in the Mitigation section of the Draft ESR. These requirements will be defined in more detail during the design stage and will be required as part of the construction.

- *confirm and provide justifications that the water quality monitoring program for the surface water of the open water areas within the vicinity of the subject site will be developed and be included in the ESR recommended solution for this Class EA; this water quality monitoring program needs to include two major components: the basic water chemistry parameters in accordance with the MECP requirements under Ontario Water Resources Act (OWRA) and biological (BioMap) monitoring components for measuring and reporting on the surface water quality under the pre and post-construction conditions for the work proposed in this Class EA*

A surface water quality monitoring program is proposed in the ESR. The details of the monitoring program will be defined in more detail as part of final design.

First Nation - SON Consultation Plan

1. *Meet the requirements as 'duty to consult' in accordance with SON's Consultation Process Protocol, practices and vision/traditional knowledge;*
2. *Provide SON with the fund capacity and the required agreements to participate in the requested review;*
3. *Consult and conduct meetings with SON, the Town's Consultant; and*
4. *Obtain SON's acceptance for the recommended solution for the Town's Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion*

Acknowledged

If, at the time of SON's final review completion, the SON Environment Office and leadership determine that no negative impacts will occur within its Territory or adjacent lands/water resources system, and/or those impacts can be sufficiently mitigated, SON will agree to provide a letter withdrawing any objections to proceeding. If the review determines that negative impacts will occur, SON will proceed with a draft consultation and accommodation/ economical plan and a meeting with the proponent to discuss the matter further.

Acknowledged

We wish to thank you for your input into this Class EA planning process and want to assure you that we will endeavour to provide all of the information you require to complete your review.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read "Michael W. Ainley". The signature is fluid and cursive, with the first name "Michael" and last name "Ainley" clearly distinguishable.

Michael W. Ainley, P. Eng., PMP
Vice President, Corporate Affairs
Project Manager

cc. Juanita Meekins, SON
Berta Krichker, SON
Ken Kaden, Town of Collingwood
Heather McGinnity, Town of Collingwood

Meeting Notes

June 12, 2020 Meeting with Saugeen Ojibway Nation

MEETING WITH SAUGEEN OJIBWAY NATION

MEETING MINUTES

PROJECT: The Town of Collingwood
Updated Class EA for the R. A. Barker Water Treatment Plant Expansion
Ainley Job No. 119013

DATE: June 12, 2020

LOCATION: Bell Teleconference Meeting

TIME: 10:00 a.m. – 10:45 a.m.

PRESENT: Juanita Meekins, Saugeen Ojibway Nation
Berta Krichker, Saugeen Ojibway Nation
Ken Kaden, Town of Collingwood
Heather McGinnity, Town of Collingwood
Mike Ainley, Ainley Group
Reid Mitchell, Ainley Group
Jody Marks, Ainley Group

DISTRIBUTION: All Present

1. Call to Order

The meeting was called to order at 10:00am.

2. Purpose of Meeting

Ainley acknowledge receipt of the letter from Saugeen Ojibway Nation (SON) dated June 8, 2020 and thanked them for providing detailed comments. The purpose of this meeting was to discuss the project status and next steps.

3. Project Background

Ainley identified that the original supply plant for the Town of Collingwood and the intake were built approximately in the 1950s or earlier, and in 1999 the membrane filtration plant was added on the same site. The plant currently services the Town of Collingwood, the Town of New Tecumseth, and the Town of the Blue Mountains. The Town of Collingwood completed a Master Servicing Plan (MSP) in 2019, and the plan recommends expansion on the same site to support growth in all serviced communities. The MSP included a Public Information Centre (PIC) held in March 2019, a Notice of Completion published in December 2019, and the finalization of the MSP and filing with the Ministry of Environment, Conservation and Parks (MECP) January 2020. The MSP satisfies Phase 1 and 2 of the Municipal Class Environmental Assessment (MCEA) requirements for the plant expansion.

SON informed the group that they did not provide comments on the MSP.

Ainley described the tasks completed to date under Phase 3 of this Class EA. During Phase 3 evaluations of the proposed design concepts were completed and the information presented to the

public during a virtual PIC. The information material was available online from April 24, 2020 to June 1, 2020. Prior to the start date of the virtual PIC period, a Notice of PIC was sent to all agencies, residents and to the Saugeen Ojibway Nation Environmental Office. SON acknowledged receipt of the presentation material that was emailed directly to them by the Town of Collingwood after June 1.

From SON's review of presentation material, it is their understanding that the existing water supply is between 27,000 and 31,000m³/day and in Phase 1 of the expansion that amount will be increased to approximately 51,000 m³/day. SON expressed concerns that this increase will require in-water work in the Bay or along the shoreline.

Ainley acknowledged that SON's understanding of the existing plant capacity was correct but further explained that the current Permit to Take Water (PTTW) authorizes a taking of approximately 68,000 m³/day. The proposed increase in capacity associated with Phase 1 of the expansion is within the current PTTW and no in-water work is required.

4. Description of Planned Expansion

Ainley provided an overview of the plant expansion, referencing the conceptual drawings provided in the PIC presentation material:

- A new low lift pumping station would be installed that will replace the existing building where the intake water enters the plant (currently a gravity fed system).
- A new membrane building would be constructed (east of the existing plant), within property boundaries.
- A chlorine contact reservoir would be built just north of the existing membrane building, with UV disinfection facilities on top of this reservoir.
- Some pumps in the high lift pump room would be replaced to get extra capacity and the remainder of the existing building would be repurposed to include extra office space.
- The existing membranes would be decommissioned and a new membrane system for the full capacity would be installed in the new building.

SON asked for further details regarding the wastewater equalization tanks. Ainley noted that any on-site sanitary sewage will flow directly into the Town's sewage collection system. Membrane backwash water directed to the wastewater equalization tanks will not contain a high level of solids and will be monitored to ensure the quality of water discharged to the Bay meets the Provincial standard of 25mg/L TSS. If the monitors indicate the TSS in the water to be discharged from the equalization tanks is higher than 25 mg/L, the water will automatically be diverted directly to the sanitary sewage system.

5. Summary of ESR Support Documents that have been completed

Ainley noted that all the supporting documents summarized below can be provided to SON if desired, further noting that a copy of the MSP can also be provided.

- Condition Assessment
 - This report provides general information on the building structure and condition of associated infrastructure.
- Plant Performance Capacity Assessment
 - An assessment was done on the current plant operation and limitations. The report concluded that the plant can be operated to its current rated capacity, but an expansion is required to increase capacity.

- Natural Environment Assessment
 - Field investigations and background review were completed. Information was obtained on known natural environment features and species records.
 - The Ministry of Natural Resources and Forestry (MNR) was consulted.
 - The conclusion was that there are no designated natural environment features or areas (e.g., significant wetlands, etc.) or ecological communities within the study area. Potential impacts to noted species at risk or their habitat are considered low with implementation of proper mitigation measures.
- Stage 1 Archaeological Assessment
 - Extensive previous construction and underground utilities installations have been completed on the site.
 - As a result, there is no potential for the recovery of archaeological resources. Therefore, no further archaeological work is required.
- Alternatives Selection Technical Memorandum
 - Describes each alternative developed for the membrane and disinfection components of the expansion.
 - Provides an explanation of the screening criteria and evaluation scoring prior to selecting the recommended solution.

6. Additional Information Required by Saugeen Ojibway Nation

SON thanked the project team for the information provided to date and would like to receive a copy of all the supporting documents.

ACTION ITEM: Ainley

SON asked if the intake had sufficient capacity for ultimate expansion. Ainley noted that the current intake system can accommodate flow rates in excess of 120,000 m³/day. At this time, it is expected this will be sufficient to accommodate the ultimate expansion; however, this will be confirmed prior to that expansion. As such, there are no plans to modify or replace the intake system in either the first or Ultimate phase of the expansion. Ainley also noted that if there was a need for replacement or repair the work will be required to go through comprehensive approvals and notifications.

SON acknowledged the long life expectancy of the intake. They confirmed that they were satisfied with the commitment to undertake work in the proposed two stages and were pleased that no in-water work is planned or anticipated. Their concern would be an emergency situation that would permit in-water work without acquiring approvals. This situation is a concern to SON with respect to potential impacts to the aquatic habitat and water quality when working in open waters. The Town noted that the intake is inspected annually and the recommendations from the inspections implemented, with the latest inspection deeming the intake to be in serviceable condition with no upgrades or repairs recommended. Ainley noted that the Town's measures ensure that the intake life expectancy continues to be extended beyond the foreseeable horizon and that the annual inspections conducted by the Town will mitigate the likelihood of an emergency occurrence.

Ainley will provide SON with a copy of the most recent intake inspection report.

ACTION ITEM: Ainley

SON asked if the Town is currently sampling the raw water to monitor water quality and the Town confirmed that it is sampling raw water regularly in compliance with MECP requirements.

SON expressed concern that during construction activities for the Phase 1 expansion, some sediment could wash into the Bay and asked if there will be a monitoring program in place to ensure water quality is not compromised. Ainley responded that there are typical mitigation measures for sediment

control listed in the MCEA document and as a minimum these measures, including recommended monitoring, will be included in the Environmental Study Report (ESR).

Further to this, SON's June 8, 2020 letter to the Town indicated that a conceptual erosion and sediment control plan should be in principle identified in the ESR. Ainley reiterated that the ESR will summarize and expand on the erosion and sediment mitigation measures listed in the MCEA document and will clearly stipulate that detailed site erosion and control plans shall be developed during detailed design. SON acknowledged this was an acceptable approach subject to their review on the Draft ESR.

Given the close proximity to the shore, SON asked if the project takes into consideration climate change, noting that the increase in extreme weather events increased the risk of the treatment chemicals being washed into open water. Ainley confirmed that the ESR will provide a discussion on climate change and propose mitigation measures, including stipulating that all buildings be built above the 100-year storm elevation. SON acknowledged that this was acceptable.

7. Next Steps/Schedule

The following identifies the proposed next steps/schedule

- Ainley to meet with Town to discuss initial Draft ESR and Draft Notice of Completion *June 25, 2020*
- Receive pre-Notice of Completion comments (Saugeen Ojibway Nation, MECP, NVCA, etc.) *July 10, 2020*
- Finalize Draft ESR and Notice of Completion; Publish Notice and Issue letter *July 16, 2020*

SON expressed concern with their limited time in the schedule to review the ESR document after receiving it. Ainley noted that the Town would like to proceed with issuing the Notice of Completion, with the understanding based on SON's July 8, 2020 letter that SON must sign off on the ESR before it can be finalized and filed with MECP. Therefore, the July 10th receipt of pre-Notice of Completion comments from SON is a target that should not necessarily delay issuing the Notice of Completion, since comments can continue to be received during the 30-day review period. Ainley noted that the MSP as well as the ESR support documents, which contain all the information that will form the basis of the ESR, will be submitted to SON next week. Ainley will also try to meet with the Town before June 25th and soon after forward the Draft ESR to SON ahead of schedule. For their part, SON agreed to make every effort to accommodate the schedule outlined.

It was agreed that a hard copy of each supporting document will be mailed to SON by Ainley on the Town's behalf before the end of next week (June 19th). Ms. Berta Krichker will provide the Town with a mailing address.

ACTION ITEM: Ainley/Saugeen Ojibway Nation

It was further agreed that, in addition to hard copies, Ainley will send SON the digital files of the supporting documents as well as a lasting link to the MSP document on the Town's website. The digital files will be sent to the email of Ms. Juanita Meekins by end of day Monday June 15, 2020.

ACTION ITEM: Ainley/Town of Collingwood

8. Adjournment

This meeting was adjourned at 10:45 a.m.

Minutes prepared by J. Marks and finalized by:

A handwritten signature in black ink, appearing to read "M.W. Ainley". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

M.W. Ainley, P. Eng, PMP
Ainley & Associates Limited

From: [Berta Krichker](#)
To: [Mike Ainley](#)
Cc: [Juanita Meekins](#); [kkaden](#); [Heather McGinnity](#); [Reid Mitchell](#); [Jody Marks](#)
Subject: Re: 119013 Collingwood WTP Class EA - Meeting Minutes
Date: Tuesday, June 16, 2020 9:13:36 AM

Good morning bMike,

I acknowledge that we receive the formation, as it was outlined in our telephone discussions the last Friday. Thank you very much for the provided information.

Best regards,

Berta Bella Krichker, M.Eng., P.Eng., F.E.C.

On Jun 15, 2020, at 11:41 AM, Mike Ainley <ainley.m@ainleygroup.com> wrote:

Hi Juanita, Berta, Ken, Heather, Jody and Reid,

I tried sending several emails with various attachments which have been getting kicked back due to size limitations. I believe I have separated the attachments enough now that everyone has received all the information, but please confirm that all of you have received all the following attachments:

- Existing Plant Performance/Capacity Assessment, AECOM Canada Ltd., September 2019
- Condition Assessment, AECOM Canada Ltd., September 2019
- Natural Environment Technical Report, AECOM Canada Ltd., September 2019
- Stage 1 Archaeological Assessment, AECOM Canada Ltd., September 2019
- Alternative Selection Technical Memorandum, AECOM Canada Ltd., April 2020
- Inspection of Water Intake Facilities reports, Watech Services Inc. (May 2019)
- Inspection of Water Intake Facilities reports, Watech Services Inc. (June 2018)
- Inspection of Water Intake Facilities reports, Watech Services Inc. (May 2017)

My apologies for the confusion.

Regards,

Mike Ainley, P.Eng., PMP
Vice President, Corporate Affairs
<[image001.jpg](#)>

www.ainleygroup.com

Tel: (705) 445-3451 Ext. 136

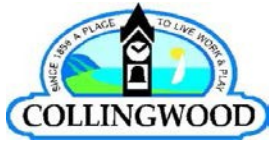
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Appendix J

NOTICE OF STUDY COMPLETION

- **July 16 and 23, 2020 Notice of Study Completion**
- **July 13, 2020 Mail Out of Notice of Study Completion to Adjacent Residents, Review Agencies and Indigenous Communities and Agencies**
- **Agency Mailing List**
- **Comments Received and Associated Responses from Notice of Study Completion**



Town of Collingwood Schedule 'C' Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion NOTICE OF COMPLETION

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing in 2019, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.

The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes the Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

A virtual Public Information Centre (PIC) was conducted using the Engage Collingwood platform from April 24, 2020 until June 1, 2020.

Through this platform, the digital PIC provided an opportunity for all interested parties to review the alternatives developed for the WTP expansion and submit questions and comments regarding the project to the study team. Concluding the PIC period and review of comments received, the selected Preferred Solution is to repurpose the existing membrane building, construct a new low lift pumping station, construct a new membrane building, proceed with new UV disinfection, chlorinate in new contact chambers and undertake associated upgrades to the other existing facilities in the plant. The expansion in the capacity of the plant will be undertaken in two phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The opinion of capital cost of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements. Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and contributions from other Municipalities in accordance with Water Agreements.



Environmental Study Report

In accordance with the Schedule 'C' Municipal Class EA process, a Draft Environmental Study Report (ESR) has been prepared to document the Class EA process completed for this undertaking and by this Notice is being placed in the public record for a 30 day public review and comment period. A digital copy of the Draft ESR will be available on the Town of Collingwood's website at www.collingwood.ca on July 16, 2020.

If you have any outstanding concerns regarding this project, please contact Mr. Ken Kaden of the Town of Collingwood by **August 17, 2020**. If concerns regarding this project cannot be resolved with the municipality, a person or party may request that the Minister of Environment make an order for the project to comply with Part II of the *Environmental Assessment Act* (referred to as a Part II Order), which addresses individual environmental assessments. To submit a Part II Order request, please complete the Ministry of the Environment, Conservation and Parks *Part II Order Request Form*. The form must be submitted by **August 17, 2020** to the parties and addresses shown below:

**Minister
Ministry of the Environment,
Conservation and Parks**
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
Minister.mecp@ontario.ca

**Director, Environmental
Assessment Branch
Ministry of the Environment, Conservation
and Parks**
135 St. Clair Ave W, 1st Floor
Toronto ON M4V 1P5
enviopermissions@ontario.ca

**Ken Kaden, P. Eng.
Project Coordinator,
Environmental Services**
Town of Collingwood
(705)-351-2133
kkaden@collingwood.ca

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on July 13, 2020.

Photo Credit
Dave West

Town of Collingwood Weekly Town Page



Thursday, July 16, 2020

Schedule 'C' Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing in 2019, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.



NOTICE OF COMPLETION

The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes the Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

A virtual Public Information Centre (PIC) was conducted using the Engage Collingwood platform from April 24, 2020 until June 1, 2020. Through this platform, the digital PIC provided an opportunity for all interested parties to review the alternatives developed for the WTP expansion and submit questions and comments regarding the project to the study team. Concluding the PIC period and review of comments received, the selected Preferred Solution is to repurpose the existing membrane building, construct a new low lift pumping station, construct a new membrane building, proceed with new UV disinfection, chlorinate in new contact chambers and undertake associated upgrades to the other existing facilities in the plant. The expansion in the capacity of the plant will be undertaken in two phases (Phase 1 and Ultimate) to meet the future anticipated water supply requirements. The opinion of capital cost of the Phase 1 expansion of the plant is \$65 million (2020 dollars). A further expansion will be necessary to meet the Ultimate water supply requirements. Funding for the Phase 1 expansion will be provided through the Town's Allocated Water Reserve Fund (funded through water rates), Development Charges, and contributions from other Municipalities in accordance with Water Agreements.

Environmental Study Report

In accordance with the Schedule 'C' Municipal Class EA process, a Draft Environmental Study Report (ESR) has been prepared to document the Class EA process completed for this undertaking and by this Notice is being placed in the public record for a 30 day public review and comment period. A digital copy of the Draft ESR will be available on the Town of Collingwood's website at www.collingwood.ca on July 16, 2020.

If you have any outstanding concerns regarding this project, please contact Mr. Ken Kaden of the Town of Collingwood by **August 17, 2020**. If concerns regarding this project cannot be resolved with the municipality, a person or party may request that the Minister of Environment make an order for the project to comply with Part II of the Environmental Assessment Act (referred to as a Part II Order), which addresses individual environmental assessments. To submit a Part II Order request, please complete the Ministry of the Environment, Conservation and Parks Part II Order Request Form. The form must be submitted by **August 17, 2020** to the parties and addresses shown below:

Minister

Ministry of the Environment, Conservation and Parks

777 Bay Street, 5th Floor
Toronto, ON, M7A 2J3
Minister.mecp@ontario.ca

Director, Environmental Assessment Branch

Ministry of the Environment, Conservation and Parks

135 St. Clair Ave W, 1st Floor
Toronto, ON, M4V 1P5
enviropermissions@ontario.ca

Ken Kaden, P. Eng.

Project Coordinator, Environmental Services Town of Collingwood

705-351-2133
kkaden@collingwood.ca

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on July 13, 2020.



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townhall@collingwood.ca
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Thursday, July 23, 2020

Schedule 'C' Class Environmental Assessment Raymond A. Barker Water Treatment Plant Expansion

Project Background

Following the completion of the Master Servicing Plan (MSP) for Water and Sanitary Servicing in 2019, the Town of Collingwood has continued with the Class Environmental Assessment planning process to identify and assess options to increase the Town's water treatment capacity. The MSP document identifies the need to expand the existing Raymond A. Barker Water Treatment Plant (WTP) to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.



NOTICE OF COMPLETION

The Raymond A. Barker WTP is located on Raglan Street as illustrated on the accompanying map. The service area being considered under the Class EA includes the Town of Collingwood, and supply requests from the Town of the Blue Mountains, Town of New Tecumseth and Township of Clearview.

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Environmental Study Report

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Minister

Ministry of the Environment, Conservation and Parks

777 Bay Street, 5th Floor
Toronto, ON, M7A 2J3
Minister.mecp@ontario.ca

Director, Environmental Assessment Branch

Ministry of the Environment, Conservation and Parks

135 St. Clair Ave W, 1st Floor
Toronto, ON, M4V 1P5
enviropermissions@ontario.ca

Ken Kaden, P. Eng.

Project Coordinator, Environmental Services Town of Collingwood

705-351-2133
kkaden@collingwood.ca

Any input received during this process will be maintained on file for use during the project and may be included in project documentation. Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. With the exception of personal information, all comments will become part of the public record.

This notice was issued on July 13, 2020.



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YouTube www.youtube.com/TownofCollingwood



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**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Provincial & Federal Agencies										
Mr.	Rob	Dobos	Manager, Environmental Assessment Section	Environment Canada - Environmental Protection Operations Division - Ontario Region	867 Lakeshore Road	P.O. Box 5050	Burlington, ON	L7R 4A6	905-336-4953	rob.dobos@canada.ca
Ms.	Chunmei	Liu	Environmental Resource Planner & EA Coordinator - Air, Pesticides and Environmental Planner (<i>Barrie, Orillia & County of Simcoe</i>)	Central Region Ministry of Environment, Conservation and Parks	5775 Yonge Street	8th Floor	North York, ON	M2M 4J1	416-326-4886	chunmei.liu@ontario.ca
Ms.	Cindy	Hood	District Manager	Barrie District Office Ministry of Environment, Conservation and Parks	54 Cedar Point Drive	Unit 1201	Barrie, ON	L4N 5R7	705-739-6436	cindy.hood@ontario.ca
Hon.	Jeff	Yurek	Minister	Ministry of the Environment, Conservation and Parks	77 Wellesley Street West	11th Floor	Toronto, ON	M7A 2T5		minister.mecp@ontario.ca
			Director, Environmental Assessment and Permissions Branch	Ministry of the Environment, Conservation and Parks	135 St. Clair Avenue West	1st Floor	Toronto, ON	M4V 1P5		moeccpermissions@ontario.ca
Mr.	Dan	Thompson	Acting - District Manager	Midhurst District Ministry of Natural Resources and Forestry	2284 Nursery Road		Midhurst, ON	L0L 1N8	705-725-7561	dan.l.thompson@ontario.ca
Ms.	Karla	Barboza	Team Lead, Heritage	Ministry of Tourism, Culture & Sport	401 Bay Street	Suite 1700	Toronto, ON	M7A 0A7	416-314-7120	karla.barboza@ontario.ca
Ms.	Kimberly	Livingstone		Ministry of Tourism, Culture & Sport	402 Bay Street	Suite 1701	Toronto, ON	M7A 0A8		Kimberly.Livingstone@ontario.ca
Ms.	Annelies	Eckert	Rural Planner	Ontario Ministry of Agriculture, Food and Rural Affairs	6484 Wellington Rd. 7	Unit 10	Elora, ON	N0B 1S0	519-827-6040	Anneleis.eckert@ontario.ca
Mr.	Peter	Dorton	Senior Project Manager	Ministry of Transportation, Corridor Management Section	159 Sir William Hearst Avenue	Bldg. D, 7th Floor	Toronto, ON	M3M 0B7	416-235-4280	peter.dorton@ontario.ca
Mr.	Michael	Lindsay	Manager Major Projects, Roads & Transit	Infrastructure Ontario	777 Bay Street	6th Floor, Suite 602	Toronto, ON	M5G 2C8	416-327-8037	michael.lindsay@infrastructureontario.ca
Mr.	Tim	Haldenby	Municipal Planning Advisor - Team Lead Central Ontario	Ministry of Municipal Affairs and Housing	777 Bay Street	13th Floor	Toronto, ON	M5G 2E5	416-585-6559	tim.haldenby@ontario.ca
			Fish Habitat Biologist	Department of Fisheries and Ocean	867 Lakeshore Road		Burlington, ON	L7S 1A1	905-336-4999	info@dfo-mpo.gc.ca
Ms.	Karen	Lorente		Ontario Clean Water Agency	30 Woodland Drive		Wasaga Beach, ON	L9Z 2V4		
Local Government, Adjacent Municipalities & Other Agencies										
Mr.	Christian	Meile	Director, Transportation Construction & Maintenance	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	christian.meile@simcoe.ca
Mr.	Dave	Parks	Director, Planning, Development & Tourism	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6	705-726-9300	dave.parks@simcoe.ca
Ms.	Cathy	Clark	Manager of Emergency Planning	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		cathy.clark@simcoe.ca
Mr.	Mark	Aitken	CAO	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		mark.aitken@simcoe.ca
Mr.	Allan	Greenwood	Director, Corporate Communications	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		allan.greenwood@simcoe.ca
Ms.	MaryAnn	Hunt	Planner III, Planning Department	County of Simcoe	1110 Highway 26 West		Midhurst, ON	L9X 1N6		maryann.hunt@simcoe.ca
Mr.	Fareed	Amin	CAO	Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	cao@collingwood.ca
Mr.	Adam	Farr	Director, Planning Services	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	afarr@collingwood.ca
Mr.	Dean	Collver	Director, Parks, Recreation & Culture	Town of Collingwood	545 Tenth Line North	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1292	dcollver@collingwood.ca
Mr.	Chris	Hibberd	Director, Watershed Management Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0	705-424-1479	c.hibberd@nvca.on.ca

**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
Ms.	Lee	Bull	Manager, Planning Services	Nottawasaga Valley Conservation Authority	John Hix Conservation Administration Centre	8195 8th Line	Utopia, ON	L0M 1T0		lbull@nvca.on.ca
Mr.	Steve	Sage	CAO	Township of Clearview	217 Gideon Street	Box 200	Stayner, ON	L0M 1S0	705-428-6230 ext. 228	ssage@clearview.ca
Mr.	Shawn	Everitt	CAO	Town of the Blue Mountains	32 Mill Street	P.O. Box 310	Thornbury, ON	N0H 2P0	519-599-3131 ext. 234	tspeck@thebluemountains.ca
Mr.	George	Vadeboncoeur	CAO	Town of Wasaga Beach	30 Lewis Street		Wasaga Beach, ON	L9Z 1A1		
Ms.	Colleen	Healey-Dowdall	CAO	Township of Essa	5786 County Road 12		Utopia, ON	L0M 1T0		
Mr.	Blaine	Parkin	CAO	Town of New Tecumseth	10 Wellington Street East		Alliston, ON	L9R 1A1	705-435-3900	
Mr.	Jason	Reynar	CAO	Town of Innisfil	2101 Innisfil Beach Road		Innisfil, ON	L9S 1A1	705-436-3740 Ext. 1202	kshea@innisfil.ca
Mr.	Geoff	McKnight	CAO	Town of Bradford West Gwillimbury	100 Dissette Street	Unit 7&8, P.O. Box 100	Bradford, ON	L3Z 2A7	905-775-5366 ext. 1201	gmcknight@townofbwg.com
Ms.	Barb	Fox	Planning Officer	Simcoe Muskoka Catholic District School Board	46 Alliance Blvd.		Barrie, ON	L4M 5K3	705-722-3559 ext. 250	
Ms.	Holly	Spacek	Planning Officer	Simcoe County District School Board	1170 Highway 26		Midhurst, ON	L9X 1N6	705-728-7570 ext. 11311	
Mr.	Miguel	Ladouceur	Director of Building, Maintenance and Planning	Conseil Scolaire Viamonde	116 Cornelius Parkway		Toronto, ON	M6L 2K5	1-416-614-5917	ladouceurm@csviamonde.ca
Ms.	Nathalie	Huard	Transportation Technician, Service de Transport Francobus	Association Franco-Ontarienne Des Conseils Scolaires Catholiques	138 rue Main Est	Bureau 205	Welland, ON	L3B 3W6	1-800-749-0002	huardn@francobus.ca
Mr.	Earl	Elliott	President	Simcoe County Historical Association		P.O. Box 144	Barrie, ON	L4M 4S9	705-796-7649	earl.elliott@rogers.com
Ms.	Bonnie	Branch	Transportation Coordinator	Simcoe County Student Transportation Consortium	64 Cedar Pointe Drive	Unit 1403	Barrie, ON	L4N 5R7	705-733-8965, ext. 107	transportation@scstc.ca
Ms.	Sara	Almas	Clerk	Accessibility Advisory Committee Town of Collingwood	97 Hurontario Street	P.O. Box 157	Collingwood, ON	L9Y 3Z5	705-445-1030	salmas@collingwood.ca
				Simcoe Muskoka District Health Unit	280 Pretty River Parkway		Collingwood, ON	L9Y 4J5	705-445-6498	
Mr.	George	Powell		Blue Mountain Watershed Trust Foundation		P.O. Box 605	Collingwood, ON	L9Y 4E8		
Emergency Services										
Mr.	JC	Gilbert	Deputy Chief Operations	County of Simcoe Paramedic Services	1110 Highway 26		Midhurst, ON	L9X 1N6	705-726-9300	jc.gilbert@simcoe.ca
Mr.	Ross	Parr	Fire Chief	Town of Collingwood Fire Department	45 High Street		Collingwood, ON	L9Y 4V4	705-445-3920 ext. 7502	rparr@collingwood.ca
Mr.	Colin	Shewell	Fire Chief	Township of Clearview Fire Department	217 Gideon Street		Stayner, ON	L0M 1S0	705-428-6230 ext. 403	cshewell@clearview.ca
Ms.	Mary	Shannon	Inspector	Ontario Provincial Police Collingwood and the Blue Mountains	201 Ontario Street		Collingwood, ON	L9Y 4M4	705-445-4321	mary.shannon@opp.ca
Ms.	Paula	Brown	Operational Policy & Strategic Planning	Ontario Provincial Police	777 Memorial Ave., 2nd Floor		Orillia, ON	L3V 7V3		
Member of Parliament										
Mr.	Jim	Wilson	Member of Provincial Parliament	Collingwood Constituency Office	50 Hume Street		Collingwood, ON	L9Y 1V2	1-800-268-7542	
Ms.	Kellie	Leitch	Member of Parliament - Simcoe-Grey	Collingwood Constituency Office	50 Hume Street	#4	Collingwood, ON	L9Y 4H8	705-445-5557	kellie.leitch@parl.gc.ca
Interest Groups										
Ms.	Trish	Irwin	GM/CEO	Collingwood Chamber of Commerce	115 Hurontario Street	Suite 102	Collingwood, ON	L9Y 2L9	705-445-0221	tirwin@collingwoodchamber.com
Ms.	Kandas	Bondarchuk	Planner - Technician	Collingwood Heritage Committee	55 Ste. Marie Street	Unit 302	Collingwood, ON	L9Y 0W6	705-445-1290 ext. 3275	kbondarchuk@collingwood.ca
Mr.	Jamie	Forsythe		Blue Mountain & Collingwood Snowdrifters Snowmobile Club	453 Oak Street		Collingwood, ON	L9Y 4N1	705-446-1848 705-606-1453	bluemountainsnowdrifters@gmail.com
Mr.	Ben	McNabb		Collingwood Cycling Club	47 Sherwood Street		Collingwood, ON	L9Y0C5		info@collingwoodcyclingclub.ca
Mr.	Murray	Knowles		Black Ash Trail Committee	32 Westwind Drive		Collingwood, ON	L9Y 5J1		knowles.murray@gmail.com
Aboriginal Consultation										
Att: Consultation Unit				Ministry of Indigenous Affairs	160 Bloor St. East	4th Floor	Toronto, ON	M7A 2E6	416-326-4740	

**Town of Collingwood
Raymond A. Barker WTP Class EA
AGENCY CONTACT LIST**

Title	First	Last	Title	Company	Address 1	Address 2	Town	PC	Telephone	Email
(CIRNAC (formerly INAC) <u>not</u> contacted for this project as project is not on Aboriginal lands)				Crown-Indigenous Relations and Northern Affairs Canada (formerly Indigenous & Northern Affairs Canada Consultation Unit)	25 St. Clair Avenue East	8th Floor	Toronto, ON	M4T 1M2	1-800-567-9604	
Mr.	Doran	Ritchie	Infrastructure and Resource Manager	Saugeen Ojibway Nation Environment Office	25 Maadookii Subdivision		Neyaashiinigiing, ON	N0H 2T0	519-534-5507	d.ritchie@saugeenojibwaynation.ca & cc executive assistant Juanita Meekins juanita.meekins@saugeenojibwaynation.ca
First Nation Communities (as per MECP letter dated October 24, 2019)										
Chief	Guy	Monague		Beausoleil First Nation	General Delivery		Cedar Point, ON	L0K 1C0	705-247-2051	bfchief@chimnissing.ca
Chief	Donna	Big Canoe		Chippewas of Georgina Island First Nation	R.R. #2	P.O. Box 13	Sutton West, ON	L0E 1R0	705-437-1337	donna.bigcanoe@georginaisland.com
Chief	Greg	Nadjiwon		Chippewas of Nawash First Nation	135 Lakeshore Blvd.		Neyaashiinigiing, ON	N0H 2T0	519-534-1689	cnadministrator@nawash.ca
	Sharday	James	Community Consultation Worker, Communications	Chippewas of Rama First Nation	5884-Rama Road	Suite 200	Rama, ON	L3V 6H6	705-325-3611	shardayj@ramafirstnation.ca
Chief	Lester	Anoquot		Chippewas of Saugeen First Nation	6493 Highway 21	R.R.#1	Southampton, ON	N0H 2L0	519-797-2781	sfn@saugeen.org
		Family Chief	Grand Chef Konrad H. Sioui	Nation Huronne-Wendat	255 Place Michel Laveau		Wendake, QC	G0A 4V0		
President	Margaret	Froh		Métis Nation of Ontario	66 Slater Street	Suite 1100	Ottawa, ON	K1P 5H1		
Mr.	Greg	Garratt	President	Georgian Bay Métis Council	355 Cranston Crescent	P.O. Box 4	Midland, ON	L4R 4K6		greggarratt63@gmail.com
Utilities										
Mr.	Ted	Burrell		EPCOR	43 Stewart Road		Collingwood, ON	L9Y 4M7	705-443-1868	tburrell@epcor.com
Ms.	Carol	O'Brien		Bell Canada	136 Bayfield Street	2nd Floor	Barrie, ON	L4M 3B1	705-722-2405	carol.obrien@bell.ca
Mr.	Tony	Dominguez		Rogers	1 Sperling Drive		Barrie, ON	L4N 6B8	705-737-4660 xt 6907	tony.dominguez@rci.rogers.com
Mr.	Tom	Jedemann		Enbridge Gas	101 Honda Blvd		Markham, ON	L6C 0M6	905-927-3184	tom.jedemann@enbridge.com
				Enbridge Gas						municipalnotices@enbridge.com
Land Use Planning										
				Plan Well Associates	40 Connor Avenue		Collingwood, ON	L9Y 5K6	705-444-5812	[REDACTED]
				Georgian Planning Solutions					705-446-0530	[REDACTED]
				R. J. Burnside and Associates Limited	3 Ronell Crescent		Collingwood, ON	L9Y 4J6		[REDACTED]
				C.C. Tatham & Associates Ltd.	115 Sandford Fleming Drive	Suite 200	Collingwood, ON	L9Y 5A6	705-444-2565	[REDACTED]
Attn:	Manager			Greenland	120 Hume Street		Collingwood, ON	L9Y 1V5	705-444-5482	[REDACTED]
				C.F Crozier & Associates Consulting Engineers	40 Huron Street	Suite 301	Collingwood, ON	L9Y 4R3	705.446.3510	[REDACTED]
				Travis and Associates	275 First Street	Unit 7	Collingwood, ON	L9Y 1A8	705-446-9917	[REDACTED]
				Loft Planning Inc.	308 Hurontario Street		Collingwood, ON	L9Y 2M4	705-446-1168	[REDACTED]



Ainley & Associates Limited
280 Pretty River Parkway, Collingwood, ON, L9Y 4J5
Tel: (705) 445-3451 • Fax: (705) 445-0968
E-mail collingwood@ainleygroup.com

July 13, 2020

File No. 119013

Re: **Town of Collingwood**
Class Environmental Assessment
Raymond A. Barker Water Treatment Plant Expansion
Notice of Completion

Dear Sir or/and Madam:

The Town of Collingwood has retained the services of Ainley Group (in partnership with AECOM) to document a Municipal Class Environmental Assessment for an expansion of the Raymond A. Barker Water Treatment Plant (WTP). The purpose of this letter is to inform you of the publishing of the Draft Environmental Study Report. Please refer to the attached *Notice of Completion* for additional details.

Should you have any questions or concerns, please contact the undersigned or Ken Kaden, P. Eng., Project Coordinator, Environmental Services, Town of Collingwood via email at kkaden@collingwood.ca.

Yours truly,

AINLEY & ASSOCIATES LIMITED

A handwritten signature in black ink, appearing to read 'Mike Ainley'.

Mike Ainley, P. Eng., PMP
Project Manager
ainley.m@ainleygroup.com

cc: Ken Kaden, Town of Collingwood

Comments Received

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Thursday, August 20, 2020 7:51 AM
To: Lee Bull
Cc: Morgen Wilson; Mike Ainley; mitchell@ainleygroup.com; Jody Marks; Heather McGinnity
Subject: RE: Raymond A. Barker Water Treatment Plant Expansion - Environmental Study Report - NVCA ID # 37757

Good morning Lee.

Thank you for your comments and continued interest in this project. I am copying other members of our team to make them aware of your comments for inclusion in the final ESR.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: Lee Bull [mailto:lbull@nvca.on.ca]
Sent: August-17-20 2:16 PM
To: Ken Kaden <kkaden@collingwood.ca>
Cc: Morgen Wilson <mwilson@nvca.on.ca>
Subject: Raymond A. Barker Water Treatment Plant Expansion - Environmental Study Report - NVCA ID # 37757

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Good afternoon Ken

Nottawasaga Valley Conservation Authority (NVCA) staff appreciates the opportunity to provide comments on the draft Environmental Study Report, completed in support of the above noted Environmental Assessment.

Specifically, NVCA staff has reviewed the following:

- Ainley Group, "Raymond A. Barker Water Treatment Plant Expansion Scheduled 'C' Class Environmental Assessment Draft Environmental Study Report", dated July, 2020
- AECOM, Raymond A. Barker Water Treatment Plant – Class Environmental Assessment, Natural Environment Technical Report (Appendix E to ESR), dated Nov 4 2019

Upon completion of our review, we offer the following comments:

Clean Water Act/Source Water Protection Comments:

The *Safe Drinking Water Act, 2002* and the *Clean Water Act, 2006* were amended to ensure that source protection planning is incorporated early in the municipal residential drinking water supply process. Effective July 1, 2018, the new amendments require that system owners ensure that work to assess the vulnerability of a new or expanding drinking water system is completed and accepted by the source protection authority (SPA) before the owner can apply for a drinking water works permit / license, and that the water not be provided to the public until the updated source protection plan that protects the system is approved by the Ministry of the Environment, Conservation, and Parks.

Correspondence with Mr. Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood dated November 21, 2019 indicates:

"our Permit to Take Water (PTTW) is up for renewal in January 2021 and the current plan is to renew it at the same taking limits as this will satisfy our projected needs for the next 10 years. No new surface water intake or alternations to the existing intake pipe are proposed under Phase 1."

Accordingly,

1. At the present time, there are no Clean Water Act implications.
2. The identification of Significant Drinking Water Threats is the responsibility of the Town of Collingwood Risk Management Official who is internally staffed at the Town.

Engineering Comments

The Environmental Study Report (ESR) acknowledged the NVCA comments dated Jun-19-2020 and, in particular, the recommendation that a qualified coastal engineer be retained during the detailed design. The following statement is made in the ESR: "It is not anticipated that the expansions will require any work within Nottawasaga Bay, nor is any disruption of the existing shoreline anticipated. During detailed design further analysis will be completed and any additional mitigation measures identified will be implemented."

3. We offer no engineering comments on the ESR.

Natural Heritage Comments

There are minimal constraints associated with the study area, with the exception of direct shoreline areas. It is the understanding of NVCA staff that the proposed project scope does not involve in-water works, at least not at this stage or within the scope of this EA. AECOM's technical report does a good job of describing natural features and functions of the project area, and providing reasonable mitigation measures for various minor impacts.

4. NVCA staff offer no natural heritage related comments or concerns with the proposed works, provided that all mitigation measures discussed in Section 5 of the Natural Environment Technical Report are implemented.

We trust the foregoing is of assistance to you. Please feel free to contact the undersigned should you wish to discuss these comments further.

Sincerely,

Lee J. Bull, MCIP, RPP | Manager, Planning Services

Nottawasaga Valley Conservation Authority

8195 8th Line, Utopia, ON L0M 1T0

T 705-424-1479 ext. 231 | F 705-424-2115

lbull@nvca.on.ca | nvca.on.ca

I am currently working remotely as the Nottawasaga Valley Conservation Authority is taking preventative measures to limit the spread of COVID-19. You may experience some delays or disruptions as we follow recommendations of health professionals to slow the virus from spreading.

This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original message.

Ministry of Heritage, Sport,
Tourism and Culture Industries

Ministère des Industries du Patrimoine,
du Sport, du Tourisme et de la Culture

Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7
Tel: 613.242.3743

Direction des programmes et des services
401, rue Bay, Bureau 1700
Toronto, ON M7A 0A7
Tél: 613.242.3743



August 17, 2020

Email Only

Ken Kaden, P. Eng.
Project Coordinator, Environmental Services
Town of Collingwood
kkaden@collingwood.ca

MHSTCI File	:	0011264
Proponent	:	Town of Collingwood
Subject	:	Notice of Completion – Schedule C MCEA
Project	:	Raymond A. Barker Water Treatment Plant Expansion
Location	:	Raglan Street, Town of Collingwood, County of Simcoe

Dear Ken Kaden:

Thank you for notifying the Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI) of the above-referenced project. MHSTCI's interest in this environmental assessment (EA) project relates to its mandate of conserving Ontario's cultural heritage.

MHSTCI has reviewed the Notice of Completion and Draft Environmental Study Report for the Raymond A. Barker Water Treatment Plant Expansion, (Ainley Group, July 2020) and offers the following comments:

Project Summary

As part of the Town of Collingwood's Master Servicing Plan process, the Town has identified the need to expand the existing Raymond A. Barker Water Treatment Plan to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities. The Town has retained the services of Ainley Group (in partnership with AECOM) to complete an updated Class EA in accordance with the Municipal Class Environmental Assessment (MCEA) document (Oct. 2000, as amended 2007, 2011 & 2015). Based on the scope (increased water treatment capacity), this project constitutes a Schedule "C" project in accordance with the MCEA document.

Comments and Recommendations

Given that cultural heritage is one aspect of the environment, a section must be included in the Environmental Study Report to illustrate that this has been addressed in a formal and methodical manner. The purpose of this section is to document the existing conditions and indicate that due diligence has been undertaken for cultural heritage. We recommend that the following revised sections:

- 4.5 Cultural Heritage
- 4.5.1 Built Heritage Resources and Cultural Heritage Landscapes
- 4.5.2 Archaeological Resources

Here is an example of how that information could be captured, should the results of the completed screening checklist indicate that potential for built heritage resources and cultural heritage landscapes is low:

- 4.5.1 Built Heritage Resources and Cultural Heritage Landscapes
- The screening checklist developed by the Ministry of Heritage, Sport, Tourism and Culture Industries [Criteria for Evaluating Potential for Built Heritage Resources and Cultural](#)

[Heritage Landscapes](#) was completed as part of the project file (see Appendix X). The study area was determined to have low potential for built heritage resources and cultural heritage landscapes. Therefore, no technical cultural heritage studies have been undertaken.

If the checklist indicates that there is potential for built heritage resources and cultural heritage landscapes, a Cultural Heritage Evaluation Report (CHER), and a Heritage Impact Assessment (HIA) if required, should be completed and included as part of the ESR documentation. Please forward any technical cultural heritage studies (i.e. CHER, HIA if required) to MHSTCI for review.

Archaeological Resources

The EA Report also documents the findings from the Stage 1 archaeological assessment (Project Information Form Number: P438-0186-2019) in Appendix F of the Report. The assessment indicates that the potential for the recovery of archaeological resources has been removed as a result of extensive, deep land alterations associated with previous construction and underground utilities at the site. Based on these findings, no further archaeological work is required. MHSTCI confirms that the Stage 1 archaeological assessment has been reviewed and entered into the Ontario Public Register of Archaeological Reports. We recommend that the MHSTCI letter indicating that the report has been entered into the Register be included in the Appendix.

Thank you for the opportunity to review the draft ESR. If you have any questions or require clarification, please do not hesitate to contact Kimberly Livingstone.

Joseph Harvey
On behalf of

Kimberly Livingstone
Heritage Planner (A)
Heritage Planning Unit
Kimberly.Livingstone@ontario.ca

c: Jody Marks, Environmental Planner, Ainley Group
Chunmei Liu, Environmental Resource Planner, MECP, Central Region.

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. MHSTCI makes no representation or warranty as to the completeness, accuracy or quality of any checklists, reports or supporting documentation submitted as part of the EA process and in no way shall MHSTCI be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Please notify MHSTCI if archaeological resources are impacted by EA project work. All activities impacting archaeological resources must cease immediately and a licensed archaeologist is required to carry out an archaeological assessment in accordance with the *Ontario Heritage Act* and the *Standards and Guidelines for Consultant Archaeologists*.

If human remains are encountered, all activities must cease immediately and the local police as well as the Registrar, Burials of the Ministry of Government and Consumer Services (416.326.8800) must be contacted. In situations where human remains are associated with archaeological resources, MHSTCI should also be notified to ensure that the site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

July 22, 2020

Ken Kaden, P.Eng, Project Engineer,
Environmental Services
The Town of Collingwood
43 Steward Road
Collingwood ON L9Y 4N7

Dear Mr Kaden:

**Re: Saugeen Ojibway Nation Review Comments for
Town of Collingwood Municipal Class Environmental Assessment Study
Raymond A. Barker Water Treatment Plant Expansion
In Accordance with SON Consultation Process**

The Saugeen Ojibway Nation (SON) acknowledges receiving a letter from Ainley and Associates Limited (Ainley) on the behalf of the Town of Collingwood for the Town of Collingwood Raymond A. Barker Water Treatment Plant (WTP) Expansion Municipal Class Environmental Assessment Study (Class EA) dated June 15, 2020, in response to the SON Preliminary Review Comments letter issued June 8, 2020.

On behalf of SON, please accept my acknowledgement and thanks for received of the June 16, June 29 and July 13, 2020, Class EA information and emailed reports. As discussed by phone on June 12, 2020, we received hard copies from Ainley. The received information included the following:

- Raymond A. Barker Water Treatment Plant Expansion, Schedule 'C' Class Environmental Assessment Study-Draft Environmental Study Report, prepared by Ainley and Associates Limited, June 2020;
- Town of Collingwood Raymond A. Barker Water Treatment Plant - Alternatives Selection Technical Memorandum Rev, 7, prepared by AECOM, April 8, 2020;
- Town of Collingwood Raymond A. Barker Water Treatment Plant - Condition Assessment Technical Memorandum - AECOM, September 27, 2019;
- Town of Collingwood Class Environmental Assessment Amendment - Natural Environmental Technical Report, prepared by AECOM, September, 2019;
- Town of Collingwood Raymond A. Barker Water Treatment Plant-Existing Plant Performance/Capacity Assessment, prepared by AECOM, September 23, 2019;
- Inspection of Water Intake Facilities, Collingwood, Ontario that was prepared by Watech Services Inc.; dated May 2017;
- Inspection of Water Intake Facilities, Collingwood, Ontario that was prepared by Watech Services Inc.; dated May 2018;
- Inspection of Water Intake Facilities, Collingwood, Ontario that was prepared by Watech Services Inc.; dated May 2019; and
- The Town of Collingwood-Stage1 Archaeological Assessment Collingwood WTP Class EA Amendment Part of Lot 44, Concession, Township of Nottawasaga, Simcoe County-Now the Town of Collingwood, Ontario by AECOM. September 12, 2019.

SON CONSULTATION PROCESS

As stated by SON previously, the SON Consultation Process encompasses the following major principals and requirements:

- “The duty to consult’ obligations to the First Nations under the Environmental Assessment Act (EAA) to meet its legal obligations under the Aboriginal Rights Law and is required to be undertaken by the proponent. This responsibility has been delegated to the proponent by the Crown/the Province of Ontario.
- The First Nations consultation process is considered to be the most important requirement for the Municipal Class EA Process under Environment Assessment Act and the First Nation Communities require to being part of EA decisions, consultations and decision making and economic agreements and benefits. General “stakeholders’ information is not sufficient for Aboriginal consultation process.
- SON Consultation Process for this project, as identified previously, encompasses reviews and the development of the review comments/concerns associated with the Town Raymond A. Barker WTP Expansion Class EA and consists of 3 Stages. We completed **the STAGE 1 and are proceeding with the SON comments to finalize STAGE 2 of the SON Consultation Process.**

SON REVIEW COMMENTS AND CONCERNS

SON appreciates that in the response letter from Ainley, they acknowledged the SON Consultation Process requirements and expressed a willingness to work together with SON toward achieving an acceptable preferred servicing solution for the Raymond A. Barker WTP Expansion Class EA proposed work and to ensure that any potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, commercial fishery, environmental/ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Bay) will be minimized or completely eliminated.

SON reviewed the response letter dated June 15, 2020, and all the above-noted information and reports provided by Ainley on the behalf of the Town of Collingwood.

SON has no objections to the Town of Collingwood Raymond A. Barker WTP Expansion Class EA recommended preferred solution that includes:

- Design and construction of Option#3 of the Membrane upgrade Alternative #3-Repurpose Existing ZW 500 Membrane Building and Construct New Building;
- Design and construction of Option#5 of and the disinfection upgrades Alternative #5-Practice UV disinfection and chlorinate in new CT chamber;
- Design and construction of the associated plant upgrades identified in the Existing Plant Performance/ Capacity Assessment Report; and
- Encourage enhanced efficiency and conservation by reviewing and expending the Town’s current effort reduced daily water use and continue with undertaking repairs to the Town’s infrastructure.

SON has also completed reviews of the Town of Collingwood-Stage1 Archaeological Assessment Collingwood WTP Class EA Amendment Part of Lot 44, Concession, Township of Nottawasaga, Simcoe County-Now the Town of Collingwood, Ontario prepared by AECOM and dated September 12, 2019 and the Town of Collingwood Class Environmental Assessment Amendment - Natural Environmental Technical Report, prepared by AECOM, dated September, 2019. **SON has no objections** to the conclusions and recommendations presented in these reports.

However, SON has the following comments and concerns:

In this response letter the Consultant stated that :*“It is proposed to expand the water supply in two Phases. Phase 1 will increase the supply to approximately 52000 m3/d which in combination with flows required for in-plant processing is less than the approved water taking as defined by the currently approved Provincial Permit To Take Water (68250 m3/d). “* Based on the SON completed technical reviews of the provided information and the technical reports:

- a) Under the existing conditions this WTP is running in the range of 27.7-31.14 ML/D (27,656 m3/d-31,140 m3/d).
- b) The existing Permit to Take Water (PTTW) for this WTP authorizes the withdrawal of water to 68.25 ML/D (68,250 m3/d). This PTTW is issued on January 28, 2011, and it is valid only until January 31, 2021.
- c) The Town of Collingwood MSP identified “the need to expand the existing 31.14 ML/D” for this WTP “which currently has insufficient capacity to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities”. Therefore, it is our understanding that this Class EA is intended to reaffirm the need to increase the ultimate WTP capacity to 101 ML/D (101,000 m3/d).
- d) As stated above, Phase 1 will increase the supply to approximately 52,000 m3/d and under Phase 2- Ultimate WTP will increase up to app. 101,000 m3/d), therefore, the Class EA for Raymond A. Barker WTP Expansion proposed work represents an increase of approximately more than three times (from 31,140 m3/d to 101,000 m3/d) of the WTP capacity.
- e) Prior to proceeding with the Phase 1 construction of the proposed WTP Expansion, the Town of Collingwood would be required to apply for an amendment to the existing PTTW or probably for a new Category 3 PTTW and the MECP estimated review time to process this type applications approximately 3 months. Also, MECP may identify additional provisions and/or conditions for this type PTTW approvals.

SON recommends that the Final Class EA ESR report and ESR's Executive Summary will clearly identify a magnitude of the proposed water supply and water treatment capacity increase, the current PTTW expiry date and needs to apply for MECP's amendment to the existing PTTW or for a new PTTW for the proposed Phase 1 works.

- The Ainley response letter stated that: *"it is acknowledged that there will be an increase in the amount of wastewater produced at the WTP. However, we wish to advise that the Town's Wastewater Treatment Plant currently has additional capacity to accommodate this increase in flow. All sanitary wastewater produced at the WTP will be directed to the Town's sanitary collection system. Membrane backwash wastewater will be directed to equalization tanks for disposal back into the Bay as long as it meets MECP requirements (< 25 mg/L TSS). The quality will be monitored and should TSS exceed the MECP limit, it will be diverted to the sanitary collection system.*
- a) The proposed draft ESR for the Class EA WTP Extension works identifies that the wastewater discharges from this expanded WTP to the Bay will be increased. The projected increases of wastewater discharges probably would be related to the recommended increase in the numbers of various types of membranes systems, the membranes backwashing from solids (under the existing conditions AECOM identified the increases of the bacteriological counts and solids) and other potential blockages that may occur due to the weather conditions and other performance deficiencies, as well as sensitivities membranes systems of the existing and new membranes and the maintenance requirements that include backwashing/the residue water management transferred into the wastewater discharges to the open water. The existing overflow 250 mm pipe also discharges the wastewater to the open water.
- b) Based on the Class EA recommended preferred servicing solution outlined in the draft ESR, the increased membranes backwash and all the residue water management and wastewater maintenance volumes would be collected and directed to a new constructed equalization tanks for to be discharged into the open water-the Bay with only one condition to meet the MECP requirements only for TSS levels (< 25 mg/), prior to discharging to the open water. Other water quality monitoring parameters were not recommended for the water quality monitoring. We are under the opinion that a more comprehensive water quality monitoring program is required to meet the MEPC's PWQO for the Water Quality monitoring of the WTP wastewater discharges in order to be accountable in reporting the water quality of the receiving existing open water and to protect and preserve existing environmental/ecological conditions.
- Taking in consideration that the Class EA WTP extension works encompass various utilities and the site modifications, new building(s) at the WTP site, which is located immediately close to the shore and the open water of the Bay. Also, some areas of the recommended site modification works would encroach on the existing flood lines and/or on the designated hazardous lands, or/and on the required setbacks from these areas that are governed by the Conservation Acts and its regulations. All site servicing information is presented at a very preliminary stage without identifying any specific detailed information that may be related to the flood elevations, the flood protection, the required setbacks and all other important information.

- The geotechnical and hydrogeological evaluations/reports were not provided to SON for reviews and in our previous letter we requested the Hydrogeological information. Based on the above, SON made an assumption at the present time these reports are not developed and they are not available.
- SON is concerned that taking into consideration the subject site located in close proximity to the open water and the construction works and activities that is proposed be undertaken at the subject site, a substantial dewatering may be required. SON is of the opinion that water quality monitoring for all discharges be undertaken to ensure and protect the existing water quality of water resources, environmental/ecological conditions, fishery and/or aquatic health that are important and critical for SON. Based on the above, a water quality monitoring program needs to be developed and implemented for the total period of all proposed construction works and activities. The proposed water quality monitoring needs to include, but not limited to, two major components: the water quality including the basic chemistry and the ecological monitoring (BioMap) to meet requirements of MECP's PWQO . The protocol of BioMap ecological monitoring often used by MECP for the municipal and provincial projects.
- The draft ESR make references to list the very basic sediment and erosion control measures, making also a commitment that a more detailed sediment and erosion control measures will be developed during the detailed design stage and also the considerations were provided to engage a shoreline professional engineer to design a specific shoreline revegetation and stabilization adjacent to the WTP site during the design stage and all these to implement during construction.
- SON is of the opinion that to engage a shoreline professional engineer to design a specific shoreline revegetation and stabilization adjacent to the WTP site during the design stage is a great approach. However, based on our reviews of the provided information/reports, SON is of the opinion that the Conceptual Erosion Sediment Control Plan for the proposed works needs to be included in the final ESR and include, but not be limited to, all applicable specific major components and measures to protect, control and to mitigate the sediment and erosion control during dry and/or wet weather conditions (considering also potentially the extreme storm/runoff conditions that may related to the climate change conditions) and make extra efforts to minimize and/or will eliminate any potential direct discharges to the open water. The upgraded Conceptual Erosion Sediment Control Plan and Measures (including conceptual mitigations measures) for the subject site and proposed works must be effective and robust during the various weather conditions and must secure the required protection of the water resources, preserve water quality, fishery and aquatic systems health and it is important and critical for the protection of SON commercial fishing.

SON recommends that the Final ESR report for the Town of Collingwood Raymond A. Barker WTP Expansion Class EA proposed work will include the following commitments to develop and implement the following:

- **The water quality monitoring program to measure, evaluate and report on all potential discharges from the subject site to the open water-the Bay during all proposed construction works and activities (Phase 1 and Phase 2) until the completed work assumption. Water quality monitoring program #1 needs to include two major components: the basic water chemistry parameters in accordance with MECP's PWQO and biological (BioMap) monitoring components for measuring and reporting on the surface water environmental/ecological quality discharges during all periods of construction for the work proposed by this Class EA.**

- **Water quality monitoring program #2 to measure, evaluate and report on the wastewater back washing or any other wastewater residue management/wastewater discharges to the open water- the Bay is required to be developed and implemented and the water quality monitoring program needs to include the basic water chemistry parameters and bacteria cont in accordance with MECP's PWQO;**

SON requests the review of the recommended finalized Water quality monitoring programs #1 and #2, prior to implementation. Upon your receipt of all future monitoring reports of these programs with the collected data and analysis, SON asks the Town of Collingwood and its Consultant to forward these reports to the SON Environmental Office.

- **The Conceptual Erosion Sediment Control Plan for the subject site for the proposed construction works and activities needs to expand and to identify all applicable conceptual specific for the sediment and erosion control components measure, including also proposed mitigation measures to protect the water resources (open waters and groundwater) during dry and wet weather conditions. The developed Erosion Sediment Control Plan for the subject site and proposed works must be the most effective, efficient and robust during all weather conditions and to secure the required protection of the water resources, water quality, fishery and aquatic systems and eliminate any potential discharges. The considered set back from the shore of the open water to the site should exceed the proposed minimum 30 m set back in order to maximize protection of the aquatic endangered species under ESA and the Special Concerns species , as well as to minimize potential acceleration of sediment discharge from the subject site to the open water and maximize protection of the water quality.**
- SON reviewed the provided Inspection Reports of Water Intake Facilities, Collingwood, Ontario which were prepared by Watech Services Inc., dated May 2017, 2018, 2019, and stated that “the offshore intake structures (4 risers) are generally in good conditions”.

However, it should be noted that:

- a) the existing intake system is approximately 70 years old and the theoretical life expectancy typically for these systems are approximately 80-100 years;
- b) the presented information has not provided an assessment and estimation of the remaining life expectancy of this system;
- c) no further recommendations of the monitoring or improvements were recommended in these
- d) reports; and
- e) all provided information in reports have not been stamped by a Professional Engineer; and
- f) the Town of Collingwood is planning to proceed with the proposed work for Phase 1 where the work has been estimated in the amount of approximately \$60 M.

Based on the requirements of the Municipal Class Environmental Assessment, SON is expecting that all our comments will be included in the Final ESR for the for the Town of Collingwood Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion.

First Nation - SON Consultation Plan

1. Meet the requirements as 'duty to consult' in accordance with SON's Consultation Process Protocol, practices and vision/traditional knowledge;
2. Provide SON with the fund capacity and the required agreements to participate in the requested review;
3. Consult and conduct meetings with SON, the Town's Consultant; and
4. Obtain SON's acceptance for the recommended solution for the Town's Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion

If, at the time of SON's final review completion, the SON Environment Office and leadership determine that no negative impacts will occur within its Territory or adjacent lands/water resources system, and/or those impacts can be sufficiently mitigated, SON will agree to provide a letter withdrawing any objections to proceeding. If the review determines that negative impacts will occur, SON will proceed with a draft consultation and accommodation/economical plan and a meeting with the proponent to discuss the matter further.

We look forward to working together to complete this project successfully.

Respectfully,

A handwritten signature in black ink, appearing to read 'D. Ritchie', with a long horizontal line extending to the right.

**Doran Ritchie /Manager of Resources and Infrastructure
Saugeen Ojibway Nation (SON) Environment Office**

Cc: Mike Ainley P.Eng., PMP-Project Manager Ainley Group

Jody Marks

From: Ken Kaden <kkaden@collingwood.ca>
Sent: Thursday, August 20, 2020 7:33 AM
To: [REDACTED]
Cc: Mike Ainley; reid mitchell; Jody Marks; Heather McGinnity
Subject: RE: Town of Collingwood, Schedule C Class Environmental Assessment - Raymond A. Barker Water Treatment Plant Expansion

Good morning [REDACTED],

Thank you for your email and your interest in this project. I have copied our consultant team on this email. We will prepare a formal response shortly to address your concerns.

Ken Kaden P.Eng.
Project Coordinator, Environmental Services
P 705-445-1581 Ext. 3303 | M 705-351-2133
kkaden@collingwood.ca

Due to preventative measures being taken to limit the spread of the COVID19 VIRUS, the Town of Collingwood's offices are currently closed but we remain open for business by phone and by email. Please visit www.collingwood.ca for updates on the Town's status.

From: [REDACTED]]
Sent: August-16-20 9:08 PM
To: Ken Kaden <kkaden@collingwood.ca>
Cc: [REDACTED]
Subject: Town of Collingwood, Schedule C Class Environmental Assessment - Raymond A. Barker Water Treatment Plant Expansion

EXTERNAL EMAIL: This email originated outside of the Town's email system. Do not click any links or open any attachments unless you trust the sender and know the content is safe. If in doubt, please contact the helpdesk at x4357.

Dear Mr. Kaden: I am sending this email to formally register my concerns regarding the water treatment plant expansion. I own a [REDACTED], Collingwood. The proposed expansion of the water treatment plant will negatively impact the enjoyment of my property. Specifically, the new building will block my view from Sunset Cove.

Also, I am sceptical of the contents of the report that states there will be no increased noise level. I expect that with the expanded operation, there indeed will be increased noise from the plant. Even the current level is not satisfactory in my opinion. When sitting outside on [REDACTED] property the noise from the existing operation interferes with the enjoyment of my property.

I therefore request the following accommodation. Plant trees between Sunset Cove and the water treatment plant. Tall coniferous trees will provide a more pleasant view than having to look at the building. The trees will also act as a sound barrier and mitigate the noise coming from the water treatment plant.

Thank you for your consideration.

Responses Provided

(Attachment(s) referenced in Response Letter(s) not included)

August 24, 2020

File No. 119013

Lee J. Bull, MCIP, RPP | Manager, Planning Services
Nottawasaga Valley Conservation Authority
8195 8th Line, Utopia, ON L0M 1T0

Ref: Town of Collingwood
Water Treatment Plant Expansion Class EA

Dear Ms. Bull:

We are responding on behalf of the Town of Collingwood to your email dated August 17, 2020. We thank you for your input and we have included your email in the Final ESR for documentation purposes. We acknowledge the requirement of source water protection authority approval before the owner can apply for a drinking water works permit/license. This requirement was included in Section 3.2 of the Draft ESR under the heading of Clean Water Act 2006. We acknowledge that the NVCA has determined that there are no Clean Water Act implications associated with the Project and that the identification of threats to the drinking water source is the responsibility of the Town. We also acknowledge that there are no engineering comments from NVCA at this time and that the NVCA has no natural heritage related comments or concerns provided that mitigation measures outlined in Section 5 of the Natural Environment Technical Report (AECOM) are implemented.

Yours truly

AINLEY & ASSOCIATES LIMITED



M.W. Ainley, P.Eng., PMP
Project Manager

Cc – Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood

September 10, 2020

File No. 119013

Ministry of Heritage, Sport, Tourism and Culture Industries
Programs and Services Branch
401 Bay Street, Suite 1700
Toronto, ON M7A 0A7

Attn: Joseph Harvey

Ref: Town of Collingwood
Water Treatment Plant Expansion Class EA

Dear Mr. Harvey:

We are responding on behalf of the Town of Collingwood to your email with attached letter dated August 17, 2020. We thank you for your input and we have addressed your comments in the Final ESR. After completing the screening checklist, it was determined that the Project will have a low potential for negative impact to built heritage resources and cultural heritage landscapes. Although there are some structures and buildings that are more than 40 years old, they are strictly utilitarian for water conveyance and have no cultural heritage value or interest.

A new Section has been added to the ESR and the completed checklist is included in Appendix F. A copy of the checklist is attached for your information. We also wish to confirm that a copy of the MHSTCI letter dated July 7, 2020 re: confirmation that the Stage 1 Archaeological Assessment (AECOM) has been entered into the Ontario Public Register for Archaeological Reports, is also included in Appendix F.

Yours truly

AINLEY & ASSOCIATES LIMITED



M.W. Ainley, P.Eng., PMP
Project Manager

Cc – Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood
Kimberly Livingstone, Heritage Planner (A), MHSTCI
Chunmei Liu, Environmental Resource Planner, MECP, Central Region

September 10, 2020

File No. 119013

Doran Ritchie /Manager of Resources and Infrastructure
Saugeen Ojibway Nation (SON) Environment Office
25 Maadokii Subdivision Neyaashiinigiing, Ontario N0H 2T0

Ref: Town of Collingwood
Water Treatment Plant Expansion Class EA

Dear Mr. Ritchie:

On behalf of the Town of Collingwood, we are responding to your letter dated July 22, 2020 regarding the above-mentioned Class EA for an expansion of the Water Treatment Plant (WTP) in Collingwood. We wish to thank you and your team for responding in a timely manner to the publication of the Draft ESR.

The Town will work collaboratively with SON to protect SON's Fishery Rights and preserve, maintain and enhance the ecological and environmental health of water quality and water resources functions and features of Georgian Bay to comply with the Aboriginal Treaty Rights. The Town makes the following commitments for this project:

- To develop and implement Water Quality Program #1 comprised of two major components: the basic water chemistry parameters in accordance with MECP's Provincial Water Quality Objectives (PWQO) and monitoring components for measuring and reporting on the surface water environmental/ecological quality with respect to potential discharges from the site to Nottawasaga Bay during all proposed construction works and activities (Phase 1).
- To develop and implement Water Quality Monitoring Program #2 to measure, evaluate and report on the wastewater backwashing or any other wastewater residue management/ wastewater discharges directly from the WTP to Nottawasaga Bay, including basic water chemistry parameters in accordance with MECP's PWQO.
- To provide the recommended finalized Water Quality Monitoring Programs #1 and #2, to SON for review prior to implementation.
- To develop and implement an Erosion Sediment Control Plan prior to and to be maintained during construction and to submit this Plan to SON for review prior to implementation – the Preliminary Conceptual Erosion Sediment Control Plan is included with this submission (see Drawings SC1 and SC2).
- To complete geotechnical/ hydrogeological investigations during Final Design in support of determining volumes and water chemistry of potential dewatering discharges.
- To engage a shoreline Professional Engineer during Final Design to design specific shoreline revegetation and stabilization adjacent to the WTP where appropriate in areas that may be disturbed during construction.
- To ensure that environmental monitoring be conducted on behalf of the Town with regular inspections during the construction phase.

We have reprinted your comments below in *Italics and Underlining* (replacing **Bold**) for ease of reference and we provide our responses (in **Bold**) following each comment. We have also attached a copy of the Final ESR which incorporates your recommended additions and

clarifications. This includes statements that the proposed validity of the ESR is for Phase 1, more specificity about the proposed temporary and permanent monitoring programs, and a Preliminary Conceptual Erosion Sediment Control Plan. The additions have been included in distinct sections of the Final ESR and Executive Summary designating revisions to the Draft ESR in direct response to SON's comments.

SON CONSULTATION PROCESS: *As stated by SON previously, the SON Consultation Process encompasses the following major principals and requirements:*

- *“The duty to consult” obligations to the First Nations under the Environmental Assessment Act (EAA) to meet its legal obligations under the Aboriginal Rights Law and is required to be undertaken by the proponent. This responsibility has been delegated to the proponent by the Crown/the Province of Ontario.*
- *The First Nations consultation process is considered to be the most important requirement for the Municipal Class EA Process under Environment Assessment Act and the First Nation Communities require to being part of EA decisions, consultations and decision making and economic agreements and benefits. General “stakeholders’ information is not sufficient for Aboriginal consultation process.*
- *SON Consultation Process for this project, as identified previously, encompasses reviews and the development of the review comments/concerns associated with the Town Raymond A. Barker WTP Expansion Class EA and consists of 3 Stages. We completed the STAGE 1 and are proceeding with the SON comments to finalize STAGE 2 of the SON Consultation Process.*

RESPONSE:

The Town acknowledges the Consultation Process and is prepared to continue to work with SON to complete the reviews.

SON REVIEW COMMENTS AND CONCERNS

SON appreciates that in the response letter from Ainley, they acknowledged the SON Consultation Process requirements and expressed a willingness to work together with SON toward achieving an acceptable preferred servicing solution for the Raymond A. Barker WTP Expansion Class EA proposed work and to ensure that any potential adverse impacts on water quality, aquatic life and fishery, and the fishery habitat, commercial fishery, environmental/ ecological health and existing conditions of terrestrial and water resources systems and specifically for the open waters (Bay) will be minimized or completely eliminated.

RESPONSE:

Acknowledged.

SON reviewed the response letter dated June 15, 2020, and all the above-noted information and reports provided by Ainley on the behalf of the Town of Collingwood.

SON has no objections to the Town of Collingwood Raymond A. Barker WTP Expansion Class EA recommended preferred solution that includes:

- Design and construction of Option#3 of the Membrane upgrade Alternative #3-Repurpose Existing ZW 500 Membrane Building and Construct New Building;
- Design and construction of Option#5 of and the disinfection upgrades Alternative #5-Practice UV disinfection and chlorinate in new CT chamber;
- Design and construction of the associated plant upgrades identified in the Existing Plant Performance/ Capacity Assessment Report; and
- Encourage enhanced efficiency and conservation by reviewing and expending the Town's current effort reduced daily water use and continue with undertaking repairs to the Town's infrastructure.

RESPONSE:

Acknowledged.

SON has also completed reviews of the Town of Collingwood-Stage1 Archaeological Assessment Collingwood WTP Class EA Amendment Part of Lot 44, Concession, Township of Nottawasaga, Simcoe County-Now the Town of Collingwood, Ontario prepared by AECOM and dated September 12, 2019 and the Town of Collingwood Class Environmental Assessment Amendment - Natural Environmental Technical Report, prepared by AECOM, dated September, 2019. SON has no objections to the conclusions and recommendations presented in these reports.

RESPONSE:

Acknowledged.

However, SON has the following comments and concerns:

In this response letter the Consultant stated that: "It is proposed to expand the water supply in two Phases. Phase 1 will increase the supply to approximately 52000 m3/d which in combination with flows required for in-plant processing is less than the approved water taking as defined by the currently approved Provincial Permit To Take Water (68250 m3/d)." Based on the SON completed technical reviews of the provided information and the technical reports:

- a) Under the existing conditions this WTP is running in the range of 27.7-31.14 ML/D (27,656 m3/d-31,140 m3/d). **RESPONSE: Agreed.**
- b) The existing Permit to Take Water (PTTW) for this WTP authorizes the withdrawal of water to 68.25 ML/D (68,250 m3/d). This PTTW is issued on January 28, 2011, and it is valid only until January 31, 2021. **RESPONSE: Agreed.**
- c) The Town of Collingwood MSP identified "the need to expand the existing 31.14 ML/D" for this WTP "which currently has insufficient capacity to accommodate future water demands for the Town of Collingwood and its contractual commitments to supply treated water to other municipalities". Therefore, it is our understanding that this Class EA is intended to reaffirm the need to increase the

ultimate WTP capacity to 101 ML/D (101,000 m³/d).

RESPONSE:

The Master Servicing Plan provides a timeframe for growth with a long-term buildout (Ultimate) treated water demand of approximately 101,000 m³/d. Although we have considered the Ultimate demand, this Environmental Study Report (ESR) is seeking approval and will be valid for an increase in water treatment capacity to approximately 52,000 m³/d (Phase 1) at this time.

In the future, another Class Environmental Assessment will be undertaken to confirm the Ultimate demand and to confirm the Phase 2 Expansion requirements. At this time, as determined in the Master Servicing Plan, the Town anticipates the need for an Ultimate expansion of the WTP in the future to a water treatment capacity of approximately 101,000 m³/d. Since Ultimate buildout will not be reached for several decades and since there is greater uncertainty with long-range growth/water demand forecasts, the Environmental Assessment has recognized the need for phasing.

The Phase 1 expansion was deliberately set to stay within the existing PTTW limit (68,250 m³/d), thereby facilitating the next PTTW renewal process by not increasing the currently approved water taking volume.

The purpose of including and assessing the estimated future Ultimate demand is to simply show that it may be possible to expand the plant on the existing site and to plan for future equipment space requirements, pipe connections, etc..

To reiterate, this Class EA planning process is intended to document a Phase 1 expansion of the WTP up to a supply of 52,000m³/d of treated water. Confirmation of the ESR being valid for the Phase 1 expansion only is included in the Final Draft ESR including the Executive Summary.

d) As stated above, Phase 1 will increase the supply to approximately 52,000 m³/d and under Phase 2-Ultimate WTP will increase up to app. 101,000 m³/d, therefore, the Class EA for Raymond A. Barker WTP Expansion proposed work represents an increase of approximately more than three times (from 31,140 m³/d to 101,000 m³/d) of the WTP capacity.

RESPONSE:

See response to c) above.

e) Prior to proceeding with the Phase 1 construction of the proposed WTP Expansion, the Town of Collingwood would be required to apply for an amendment to the existing PTTW or probably for a new Category 3 PTTW and the MECP estimated review time to process this type applications approximately 3 months. Also, MECP may identify additional provisions and/or conditions for this type PTTW approvals.

RESPONSE:

The current PTTW is approved for the withdrawal of 68,250 m³/d. As this amount is sufficient for the Phase 1 expansion, the PTTW renewal will not be seeking an increase in this rate and therefore a renewal from MECP for the existing rate is required by January 31, 2021. The Town has already commenced the PTTW renewal

application process. We acknowledge that the MECP review of the PTTW Application may take three months.

SON recommends that the Final Class EA ESR report and ESR's Executive Summary will clearly identify a magnitude of the proposed water supply and water treatment capacity increase, the current PTTW expiry date and needs to apply for MECP's amendment to the existing PTTW or for a new PTTW for the proposed Phase 1 works.

RESPONSE:

Enclosed with this letter is the Final Draft ESR. The above noted concern has been addressed to include clarification on the Phase 1 and 2 PTTW application process.

The Ainley response letter stated that: "it is acknowledged that there will be an increase in the amount of wastewater produced at the WTP. However, we wish to advise that the Town's Wastewater Treatment Plant currently has additional capacity to accommodate this increase in flow. All sanitary wastewater produced at the WTP will be directed to the Town's sanitary collection system. Membrane backwash wastewater will be directed to equalization tanks for disposal back into the Bay as long as it meets MECP requirements (< 25 mg/L TSS). The quality will be monitored and should TSS exceed the MECP limit, it will be diverted to the sanitary collection system."

- a) *The proposed draft ESR for the Class EA WTP Extension works identifies that the wastewater discharges from this expanded WTP to the Bay will be increased. The projected increases of wastewater discharges probably would be related to the recommended increase in the numbers of various types of membranes systems, the membranes backwashing from solids (under the existing conditions AECOM identified the increases of the bacteriological counts and solids) and other potential blockages that may occur due to the weather conditions and other performance deficiencies, as well as sensitivities membranes systems of the existing and new membranes and the maintenance requirements that include backwashing/the residue water management transferred into the wastewater discharges to the open water. The existing overflow 250 mm pipe also discharges the wastewater to the open water.*
- b) *Based on the Class EA recommended preferred servicing solution outlined in the draft ESR, the increased membranes backwash and all the residue water management and wastewater maintenance volumes would be collected and directed to a new constructed equalization tanks for to be discharged into the open water-the Bay with only one condition to meet the MECP requirements only for TSS levels (< 25 mg/l), prior to discharging to the open water. Other water quality monitoring parameters were not recommended for the water quality monitoring. We are under the opinion that a more comprehensive water quality monitoring program is required to meet the MEPC's PWQO for the Water Quality monitoring of the WTP wastewater discharges in order to be accountable in reporting the water quality of the receiving existing open water and to protect and preserve existing environmental/ecological conditions.*

RESPONSE:

See response to SON recommendation for Water Quality Monitoring Program #2 on Page 8.

Taking in consideration that the Class EA WTP extension works encompass various utilities and the site modifications, new building(s) at the WTP site, which is located immediately close to the shore and the open water of the Bay. Also, some areas of the recommended site modification works would encroach on the existing flood lines and/or on the designated hazardous lands, or/and on the required setbacks from these areas that are governed by the Conservation Acts and its regulations. All site servicing information is presented at a very preliminary stage without identifying any specific detailed information that may be related to the flood elevations, the flood protection, the required setbacks and all other important information.

RESPONSE:

See response to SON recommendation for the Preliminary Conceptual Erosion Sediment Control Plan on Page 9.

The geotechnical and hydrogeological evaluations/reports were not provided to SON for reviews and in our previous letter we requested the Hydrogeological information. Based on the above, SON made an assumption at the present time these reports are not developed and they are not available.

SON is concerned that taking into consideration the subject site located in close proximity to the open water and the construction works and activities that is proposed be undertaken at the subject site, a substantial dewatering may be required. SON is of the opinion that water quality monitoring for all discharges be undertaken to ensure and protect the existing water quality of water resources, environmental/ecological conditions, fishery and/or aquatic health that are important and critical for SON. Based on the above, a water quality monitoring program needs to be developed and implemented for the total period of all proposed construction works and activities. The proposed water quality monitoring needs to include, but not limited to, two major components: the water quality including the basic chemistry and the ecological monitoring (BioMap) to meet requirements of MECP's PWQO. The protocol of BioMap ecological monitoring often used by MECP for the municipal and provincial projects.

RESPONSE:

See response to SON recommendation for Water Quality Monitoring Program #1 on Page 7.

The draft ESR make references to list the very basic sediment and erosion control measures, making also a commitment that a more detailed sediment and erosion control measures will be developed during the detailed design stage and also the considerations were provided to engage a shoreline professional engineer to design a specific shoreline revegetation and stabilization adjacent to the WTP site during the design stage and all these to implement during construction.

SON is of the opinion that to engage a shoreline professional engineer to design a specific shoreline revegetation and stabilization adjacent to the WTP site during the design stage is a great approach. However, based on our reviews of the provided information/reports, SON is of the opinion that the Conceptual Erosion Sediment

Control Plan for the proposed works needs to be included in the final ESR and include, but not be limited to, all applicable specific major components and measures to protect, control and to mitigate the sediment and erosion control during dry and/or wet weather conditions (considering also potentially the extreme storm/runoff conditions that may related to the climate change conditions) and make extra efforts to minimize and/or will eliminate any potential direct discharges to the open water. The upgraded Conceptual Erosion Sediment Control Plan and Measures (including conceptual mitigations measures) for the subject site and proposed works must be effective and robust during the various weather conditions and must secure the required protection of the water resources, preserve water quality, fishery and aquatic systems health and it is important and critical for the protection of SON commercial fishing.

RESPONSE:

See response to SON recommendation for the Preliminary Conceptual Erosion Sediment Control Plan on Page 9.

SON recommends that the Final ESR report for the Town of Collingwood Raymond A. Barker WTP Expansion Class EA proposed work will include the following commitments to develop and implement the following:

- *The water quality monitoring program to measure, evaluate and report on all potential discharges from the subject site to the open water-the Bay during all proposed construction works and activities (Phase 1 and Phase 2) until the completed work assumption. Water quality monitoring program #1 needs to include two major components: the basic water chemistry parameters in accordance with MECP's PWQO and biological (BioMap) monitoring components for measuring and reporting on the surface water environmental/ecological quality discharges during all periods of construction for the work proposed by this Class EA.*

RESPONSE:

The commitment to develop a water quality monitoring program (Water Quality Program #1) during all periods of construction is included in the Final Draft ESR and will be part of the scope of engineering services for the design phase of the WTP expansion.

In addition to a commitment to engage a shoreline Professional Engineer during Final Design, the Final Draft ESR also stipulates that environmental monitoring will be conducted on behalf of the Town with regular inspections during the construction phase. Environmental monitoring will require completion of a checklist with each inspection to verify the condition of the erosion control system including confirmation that:

- **Sediment and erosion controls are installed to project specifications.**
- **Silt control barriers are properly trenched.**
- **Sediment control devices fully contain runoff.**
- **Sediment controls are tight and free of rips.**
- **Silt fences, check dams and rip-rap do not have excessive sediment buildup.**
- **Permeable barriers do not have excessive sediment buildup.**
- **Erosion controls cover all exposed areas of concern including exposed ditches.**

- Inactive disturbed areas have become stabilized.
- Stockpiled soils are protected from erosion.
- Site catch basins are protected from the entry of silt and sediment.
- Imported fill is free construction debris and contamination.
- Dust control measures are adequate.
- Construction waste has been cleared from completed areas.
- Vehicles and machinery are parked in the designated area for storage and refueling complete with spill containment and emergency clean up procedures in place.

There have been no specific geotechnical or hydrogeological evaluations developed for this Class EA; however, a geotechnical investigation was completed for the original membrane plant in 1995. Dewatering will be required for the construction of underground structures and piping. A geotechnical/ hydrogeological investigation, which will include water chemistry analysis, will be undertaken during Final Design to determine monitoring requirements to meet MECP's Provincial Water Quality Objectives (PWQO) and estimated daily water taking, including procurement of a PTTW for construction purposes if required.

- Water quality monitoring program #2 to measure, evaluate and report on the wastewater back washing or any other wastewater residue management/wastewater discharges to the open water- the Bay is required to be developed and implemented and the water quality monitoring program needs to include the basic water chemistry parameters and bacteria count in accordance with MECP's PWQO;

RESPONSE:

Details of the Water Quality Monitoring Program #2 will be developed during final design. However, MECP typically applies two limits to meet for the discharge of non-chemical backwash wastewater:

1. Total Suspended Solids – based on annual average concentration (typically 25 mg/L)
2. Total Chlorine Residual – based on maximum concentration (typically 0.03 mg/L given accuracy of instruments)

Because the raw water total solids are low, no chemicals will be added to the raw water supply that would increase the solid loadings (total mass of solids) in the wastewater generated from the membrane plant. Hence, the daily wastewater solid loadings from the plant will be identical to the daily raw water solid loadings into the plant.

The TSS concentration in the wastewater will be higher than that in the raw water by a concentration factor depending on the membrane recovery rate. For the proposed recovery rate of 90% and given a raw water TSS concentration of 2 mg/L, the TSS concentration in the wastewater generated from the membranes will be approximately 20 mg/L. This is lower than the MECP wastewater annual average disposal limit of 25 mg/L for this plant, which is typically based on monthly composite samples averaged over the year.

Neutralized wastewater from the chemically enhanced backwash (CEB) process and from the clean-in-place (CIP) process for the membrane system will be discharged directly

from the cleaning/neutralization pumps to the sanitary sewer for treatment at the Town's wastewater treatment plant.

SON requests the review of the recommended finalized Water quality monitoring programs #1 and #2, prior to implementation. Upon your receipt of all future monitoring reports of these programs with the collected data and analysis, SON asks the Town of Collingwood and its Consultant to forward these reports to the SON Environmental Office.

RESPONSE:

These two water quality monitoring programs will be prepared as part of the Final Design and will be provided to SON for review and approval prior to implementation.

MECP is the authorized Agency for receiving and enforcing monitoring reports. However, the Town has no objection to SON requesting copies of the reports from MECP.

The Conceptual Erosion Sediment Control Plan for the subject site for the proposed construction works and activities needs to expand and to identify all applicable conceptual specific for the sediment and erosion control components measure, including also proposed mitigation measures to protect the water resources (open waters and groundwater) during dry and wet weather conditions. The developed Erosion Sediment Control Plan for the subject site and proposed works must be the most effective, efficient and robust during all weather conditions and to secure the required protection of the water resources, water quality, fishery and aquatic systems and eliminate any potential discharges. The considered set back from the shore of the open water to the site should exceed the proposed minimum 30 m set back in order to maximize protection of the aquatic endangered species under ESA and the Special Concerns species, as well as to minimize potential acceleration of sediment discharge from the subject site to the open water and maximize protection of the water quality.

RESPONSE:

In the attached Final Draft ESR the details of the Preliminary Conceptual Erosion Control Sedimentation Plan are provided on Drawings SC1 and SC2. This Plan will be augmented and updated during final design and will include recommendations from a shoreline Professional Engineer. It is assumed that the Erosion Sediment Control Plan is to be implemented prior to and during construction and will be removed upon completion of construction.

The AECOM Natural Environment Report (see Appendix E of the Final Draft ESR) notes there are no designated natural heritage features or areas (e.g., significant wetlands, etc.) or ecological communities within the study area. Since no in-water work is proposed, the Report concludes that the potential indirect effects on fish and fish habitat as a result of construction of the project are considered low as long as avoidance and mitigation measures are effectively implemented. These measures, as summarized below, have been incorporated into the Preliminary Conceptual Erosion Sediment Control Plan. They are described in detail in the AECOM report and will be developed and augmented further in the Final Design.

Scheduling of Construction Activities

- Strategic scheduling of works near water to:

- **Respect the timing windows to protect fish, including their eggs, juveniles, spawning adults and/or organisms upon which they feed.**
- **Avoid wet, windy and rainy periods that may increase erosion and sedimentation.**
- **Conduct vegetation clearing and trimming outside of the overall bird nesting period (April 1st to August 31st) to avoid incidental take and limit disturbance to migratory birds or their nests.**

Erosion and Sediment Control

- **Proposed works to not occur in water and to remain above the High-Water Mark of Nottawasaga Bay.**
- **Erosion and Sediment Control Plan to be implemented prior to the start of construction to minimize the risk of sedimentation to the waterbody during all phases of construction, including:**
 - **Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering Nottawasaga Bay.**
 - **Measures for managing water flowing onto the site, as well as water being pumped/ diverted from the site such that sediment is filtered out prior to the water entering Nottawasaga Bay.**
 - **Measures to contain and stabilize any waste material above the High-Water Mark (HWM) to prevent re-entry.**
 - **Regular inspection and maintenance of erosion and sediment control measures and structures, especially during a major storm event.**
 - **Repairs to erosion and sediment control measures and structures if damage occurs.**
 - **Removal of non-biodegradable erosion and sediment control materials once site is stabilized.**
 - **Incorporation in the Final Design of site management practices (e.g. site grading, curb controls, catch basins) to manage impervious surface runoff and impacts from road de-icing during the operation of the new facility to negate the effects of increased runoff to Nottawasaga Bay.**
- **Clear delineation of the construction footprint, in the form of construction fencing and/or silt fence barriers, to avoid accidental damage to retained vegetation.**
- **Pruning any tree limbs or roots that are accidentally damaged by construction activities.**
- **Avoiding clearing of riparian vegetation.**
- **Minimizing vegetation removal and limiting removal to the construction footprint.**
- **Revegetating cleared areas using native plant species.**
- **Immediate stabilization of any shoreline and/or banks disturbance by any activity associated with the project to prevent erosion and/or sedimentation.**
- **Erosion and sediment control measures to be maintained until all disturbed ground has been permanently stabilized, any suspended sediment has resettled.**

Operation and Use of Machinery and Industrial Equipment

- **Planning of activities near water to ensure that such materials such as paint, primers, blasting abrasives, rust, solvents, degreasers, grout or other chemicals do not enter Nottawasaga Bay.**
- **Development of a response plan for spills before work commences, to be implemented immediately in the event of a sediment release or spill of a deleterious substance.**
- **Handling and treatment of building material used near Nottawasaga Bay in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.**
- **Confirmation that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.**
- **Washing, refueling and servicing of machinery and storage of fuel and other materials for the machinery in a specified area at least 30 m away from Nottawasaga Bay in such a way as to prevent any deleterious substances from entering the water.**
- **Stockpiling of materials or equipment within the construction footprint; in addition to being kept at least 30 m away from Nottawasaga Bay.**
- **Removal of all construction materials from site upon project completion.**

SON reviewed the provided Inspection Reports of Water Intake Facilities, Collingwood, Ontario which were prepared by Watech Services Inc., dated May 2017, 2018, 2019, and stated that “the offshore intake structures (4 risers) are generally in good conditions”.

However, it should be noted that:

- a) the existing intake system is approximately 70 years old and the theoretical life expectancy typically for these systems are approximately 80-100 years;*
- b) the presented information has not provided an assessment and estimation of the remaining life expectancy of this system;*
- c) no further recommendations of the monitoring or improvements were recommended in these*
- d) reports; and*
- e) all provided information in reports have not been stamped by a Professional Engineer; and*
- f) the Town of Collingwood is planning to proceed with the proposed work for Phase 1 where the work has been estimated in the amount of approximately \$60 M.*

RESPONSE:

We have confirmed that the intake at the RAB Water Treatment Plant was constructed in 1969, therefore it is approximately 50 years old. The Town acknowledges that the typical useful life of these assets is 80-100 years, thus it is likely the intake structure will need to be replaced in the next 30-50 years. As an increase to the intake structure capacity is not anticipated for the expansion project, modifications to the intake structure are not part of the scope or budget for Phase 1.

As noted above, the intake inspection reports indicate that no further monitoring or improvements are required at this time. However, the Town intends to continue to complete annual inspections of the intake and implement the recommended repairs/improvements identified in these assessments. Historically these intake inspections have not been conducted or reviewed by a Professional Engineer, but this is something the Town will endeavor to incorporate into future intake inspections.

Based on the requirements of the Municipal Class Environmental Assessment, SON is expecting that all our comments will be included in the Final ESR for the for the Town of Collingwood Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion.

RESPONSE:

Enclosed with this letter is the Final Draft ESR.

First Nation - SON Consultation Plan

1. Meet the requirements as 'duty to consult' in accordance with SON's Consultation Process Protocol, practices and vision/traditional knowledge;
2. Provide SON with the fund capacity and the required agreements to participate in the requested review;
3. Consult and conduct meetings with SON, the Town's Consultant; and
4. Obtain SON's acceptance for the recommended solution for the Town's Class EA Study for the Raymond A. Barker Water Treatment Plant Expansion

RESPONSE:

Acknowledged. The Town is requesting SON submit an invoice for reimbursement of costs incurred to complete the technical review of the Town's ESR for this project. The invoice should be sent by email to Ken Kaden (kkaden@collingwood.ca).

If, at the time of SON's final review completion, the SON Environment Office and leadership determine that no negative impacts will occur within its Territory or adjacent lands/water resources system, and/or those impacts can be sufficiently mitigated, SON will agree to provide a letter withdrawing any objections to proceeding. If the review determines that negative impacts will occur, SON will proceed with a draft consultation and accommodation/economical plan and a meeting with the proponent to discuss the matter further.

RESPONSE:

Acknowledged. Should SON determine at this stage that potential negative impacts will be sufficiently mitigated based on our responses, we would appreciate receiving your letter withdrawing any objections by September 24, if possible, so the Town can file the ESR with MECP and proceed to the final design phase.

We wish to thank you for your input into this Class EA planning process and want to assure you that we will endeavour to provide all of the information you require to complete your review.

Yours truly,

AINLEY & ASSOCIATES LIMITED



M.W. Ainley, P.Eng., PMP
Project Manager

Cc – Juanita Meekins, SON
Berta Krichker, SON
Ken Kaden, Town of Collingwood
Heather McGinnity, Town of Collingwood



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E-mail: collingwood@ainleygroup.com

August 24, 2020

File No. 119013

[REDACTED]
[REDACTED]
[REDACTED]

Ref: Town of Collingwood
Water Treatment Plant Expansion Class EA

Dear [REDACTED]:

We are responding on behalf of the Town of Collingwood to your email dated August 16, 2020. We thank you for your input and we have included your email in the Final ESR for documentation purposes. During the final design of the proposed expansion of the plant, a landscaping plan will be developed for Town approval. Your request for a mature tree screening between the WTP property and the Sunset Cove Condominium will be considered at that time.

Yours truly

AINLEY & ASSOCIATES LIMITED

M.W. Ainley, P.Eng., PMP
Project Manager

Cc – Ken Kaden, Project Coordinator, Environmental Services, Town of Collingwood

SON Confirmation Letter September 23, 2020

September 23, 2020

Ken Kaden, P.Eng, Project Engineer,
Environmental Services
The Town of Collingwood
43 Stewart Road
Collingwood ON L9Y 4N7

Dear Mr Kaden:

**Re: Saugeen Ojibway Nation Final Review Comments for
Town of Collingwood Municipal Class Environmental Assessment Study
Raymond A. Barker Water Treatment Plant Expansion
In Accordance with SON Consultation Process**

The Saugeen Ojibway Nation (SON) acknowledges receiving a response letter, dated September 10, 2020, from Ainley Consulting Engineers Planners (Ainley) issued on behalf of the Town of Collingwood (the Town) for the Raymond A. Barker Water Treatment Plant Expansion Municipal Class Environmental Assessment Study, Schedule 'C', in response to the SON Review Comments letter issued on July 22, 2020.

On behalf of SON, please accept my thanks for forwarding by email the above-noted information together with the Raymond A. Barker Water Treatment Plant (WTP) Expansion Municipal Class EA (Class EA) Final Draft Environmental Study Report (ESR), and by hard copy, the ESR and Appendix A and G. The received information included the following:

- Raymond A. Barker Water Treatment Plant Expansion, Schedule 'C' Class Environmental Assessment Study, Final Draft Environmental Study Report, prepared by Ainley;
- Appendix G - Town of Collingwood Raymond A. Barker Water Treatment Plant - Alternatives Selection Technical Memorandum Rev, 7, prepared by AECOM, April 8, 2020;
- Appendix A-Town of Collingwood Final Master Plan Collingwood, Water and Sanitary Sewer Systems- Cole Engineering Group Ltd. December, 2019.

On behalf of the SON Environment Office, we would like to extend our sincere appreciation to the Town of Collingwood for its commitment to the Municipal Class EA project Consultation Process. We also acknowledge your comprehensive and open dialogue with First Nations communities, and specifically with SON, during this Class EA study consultation.

Furthermore, SON is pleased to advise that the majority of our review comments/concerns have been addressed and comprehensive explanations were provided, along with the proponent's commitments incorporated into the response letter and the final draft ESR.

The Town and its consultant expressed the commitment to undertake SON's requested additional evaluations/studies and monitoring programs that were identified in the SON Review Comments dated July 22, 2020.

We look forward to working with the Town and its consultant on the design stage of this project that was identified in the SON comments (SON Consultation Process for Class EAs as **Stage 3**).

We look forward to receiving the Notice of Study Completion for the Municipal Class Environmental Assessment (EA) Study, Schedule 'C' Raymond A. Barker Water Treatment Plant Expansion.

The SON Environmental Office confirms the **SON Consultation Process Stage 1 and Stage 2** for the Municipal Class EA, the Town of Collingwood for the Raymond A. Barker Water Treatment Plant Expansion Municipal Class EA has been successfully completed and that **SON has no objections to the recommended, preferred solution for this project.**

The SON Environmental Office has recommended to SON leadership that they accept the Leachate Management Class EA Final Report preferred solution.

We look forward to working together to successfully complete the design and construction of this project.

Respectfully,

A handwritten signature in black ink, appearing to read 'D. Ritchie', with a long horizontal flourish extending to the right.

**Doran Ritchie /Manager of Resources and Infrastructure
Saugeen Ojibway Nation (SON) Environment Office**

Cc: Mike Ainley P.Eng., PMP-Project Manager Ainley Group