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Addendum to Long Term Water Supply to Clearview, Schedule B Class EA

Community of Stayner
Township of Clearview

MAIN REPORT

Addendum to Long Term Water Supply to Clearview, Schedule B Class EA
Community of Stayner

Township of Clearview

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Record of Revisions

Revision	Date	Description
0	January 30, 2020	Draft Submission to Township
1	May 12, 2020	Draft Submission to NVCA
2	September 28, 2020	Draft Submission to MECP
3	February 2021	Final Submission for 30-day Public Review Period

R.J. Burnside & Associates Limited

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1.0 Introduction

The Township of Clearview (Township) has authorized R.J. Burnside & Associates Limited (Burnside) to complete a review and Addendum of the Municipal Class Environmental Assessment (EA) for the Long-Term Water Supply for Clearview (Schedule B), completed in February 2008 to assess long-term water supply requirements based on forecasted growth.

This Addendum is completed specifically for the community of Stayner and includes an overview of the significant modifications to the project or changes in the environment since the 2008 EA. The various water supply alternatives previously identified for Stayner are reviewed with respect to water demand and treatment only. Considering the project changes since the 2008 EA, the evaluation of Alternative Solutions was revisited with respect to meeting the study objectives, impacts to the natural, social, economic and technical environments. Effective mitigation measures for the revised Preferred Solution were also identified as part of this EA Addendum.

A copy of the original 2008 EA is provided in Attachment A for reference.

1.1 Background and Rationale for Class EA Addendum

The original Study Areas for the 2008 EA included the Airport Lands, New Lowell including Brentwood, Nottawa including Batteaux, Osler Recreational Lands and Stayner with a preferred solution identified for each Study Area. The original problem statement was as follows:

> *"To determine the long-term water supply needs and water servicing options for the Airport Lands, New Lowell and Brentwood, Nottawa and Batteaux, Osler Recreational Lands and Stayner."*

In 2000, a 600 mm diameter trunk watermain was constructed within the railway corridor from the Raymond A. Barker Water Treatment Plant (Collingwood) to the community of Alliston in the Town of New Tecumseth. This watermain passes directly through the Township. Connection tees were installed at Batteaux, Stayner, and New Lowell in anticipation of future water needs in the Township.

The 2008 EA identified and evaluated the following five Alternative Solutions for the Stayner water supply:

- Expand Existing Groundwater System;
- Connect to the Creemore Water Supply;
- Connect to the Wasaga Beach Water Supply;
- Connect to the Collingwood-New Tecumseth (C-NT) Pipeline; and
- Construct New Surface Water Plant.

The Preferred Solution identified in the 2008 EA for Stayner water supply was to "Connect to the C-NT Pipeline". At the time of completing the 2008 EA, the "Expand Existing Groundwater System" was preferred from an operational perspective; however, groundwater exploration near the Stayner settlement boundary did not result in any suitable municipal well locations. The 2008 EA noted that the cost of water purchased from the pipeline was relatively high but that available local groundwater supplies were inadequate to support the demand associated with the build-out population for Stayner.

Since the completion of the 2008 EA, a groundwater source for local water supply to Stayner has been identified, which has made "Expand Existing Groundwater System" the most Preferred Solution over the "Connect to the C-NT Pipeline" alternative. This EA Addendum provides an overview of the significant modifications to the project or changes in the environment since the 2008 EA.

1.2 Changes to the Existing Environment Since the 2008 EA

1.2.1 Study Area

The Study Area encompasses the southern portion of an agricultural property, located at 1585 Klondike Park Road, at the northeast corner of Klondike Park Road and Sunnidale Concession 12 Road (herein referred to as 'Well Site'), and the existing rights-of-way (ROW) along Sunnidale Concession 12 Road west from 1585 Klondike Park Road to County Road 7, south on County Road 7 to Nottawasaga 27/28 Sideroad (County Road 96), and west on Nottawasaga 27/28 Sideroad (County Road 96) to the Clearview Township Public Works building (herein referred to as 'Watermain Route').

1.2.2 Natural Environment

Terrestrial Environment

Properties adjacent to the Study Area include primarily rural residential and agricultural uses. The Study Area is comprised of five vegetation communities all of which are considered common in Ontario. Four of the five communities are within the Well Site and include: Agricultural (AG); Residential – Rural Property (CVR_4); Naturalized Deciduous Hedgerow (FODM11); and Meadow Marsh (MAM). The fifth community, ROW comprises the balance of the Study Area along the proposed Watermain Route.

Habitat features in the Study Area are considered to be suitable for wildlife species habituated to anthropogenic land use. Common Milkweed, the sole food source for Monarch (*Danaus plexippus*) caterpillars, was observed in the Well Site ROW, MAM, and FODM11 vegetation communities. Within the Watermain Route, an active Barn Swallow (*Hirundo rustica*) nest with nestlings was observed under Lamont Creek Bridge. Monarch is listed as a Special Concern species provincially and Threatened federally. Barn Swallow is listed as a Threatened species both provincially and federally.

In addition to Monarch and Barn Swallow, the Study Area provides habitat for the following terrestrial Species at Risk (SAR):

- Bobolink (*Dolichonyx oryzivorus*) – Threatened
- Eastern Meadowlark (*Sturnella magna)* – Threatened
- Little Brown Myotis (*Myotis lucifugus*) – Endangered
- Northern myotis (*Myotis septentrionalis*) – Endangered
- Tri-colored Bat (*Pipistrellus subflavus*) – Endangered
- Midland Painted Turtle (*Chrysemys picta marginata*) – Special Concern
- Northern Map Turtle (*Graptemys geographica*) – Special Concern
- Snapping Turtle (*Chelydra serpentina*) – Special Concern

Mitigation measures will be required for habitats of these SAR within the Study Area.

Aquatic Environment

There are six watercourses (two creeks and four tributaries) that cross beneath Sunnidale Concession 12 and Nottawasaga Sideroad 27/28 on the Watermain Route. Starting from the Well Site, moving west, are three cold-water thermal regime watercourses including an unnamed tributary of Nottawasaga Creek, an unnamed tributary of McIntyre Creek and McIntyre Creek itself. The unnamed tributary of Nottawasaga Creek is known to be inhabited by spring spawning species of fish, while McIntyre Creek and the tributary are known to be inhabited by both spring and fall spawning species. Moving further west along the Watermain Route, are three cool-water thermal regime watercourses including two tributaries of Lamont Creek and Lamont Creek itself. Lamont Creek and the two tributaries are known to be inhabited by both spring and fall spawning species of fish. Based on a review of the Department of Fisheries and Oceans Canada (DFO) SAR and Natural Heritage Information Centre (NHIC) mapping, aquatic SAR do not inhabit the Study Area.

Copies of the Terrestrial Environment Assessment and Aquatic Habitat Assessment Memoranda are provided in Appendix A1 and A2 respectively.

1.2.3 Social/Cultural Environment

The Township owns the property at 1585 Klondike Park Road. The Watermain Route to connect the Well Site with the existing water distribution system for Stayner is proposed to run within existing ROW and thus property acquisition is not anticipated at this time; however, this would be confirmed during the detailed design phase of the project.

Based on the Township of Clearview Official Plan (Consolidated January 2019), the Well Site and the property adjacent (to the east and south) are designated as rural. The property on the west side of Klondike Park Road is designated as agricultural. The proposed development for the Well Site is compatible with the adjacent lands uses. Access to the Well Site for operations is proposed off Klondike Park Road.

A Stage 1 Archaeological Assessment was completed by Archaeological Services Inc. (ASI) to assess the archaeological potential of the Well Site and the Watermain Route. ASI found that portions of the Study Area along the Watermain Route as well as some areas of the Well Site exhibit archaeological potential and will need to be studied further through a Stage 2 Archaeological Assessment. A copy of the Stage 1 Archaeological Assessment Report is provided in Appendix A3.

A Cultural Heritage Evaluation was completed by ASI to assess the presence of cultural heritage resources within the Well Site and the Watermain Route. A total of ten cultural heritage resources (six residences and three farmscapes) were identified within or immediately adjacent to the Watermain Route. No cultural heritage resources were identified on or immediately adjacent to the Well Site. The construction of the proposed watermain may impact these cultural heritage resources; however, the specific impacts cannot be determined at this time. During the detailed design phase of the project, when the watermain alignment is more defined, the potential impacts to cultural heritage resources will need to be assessed and appropriate mitigation measures established. A copy of the Cultural Heritage Evaluation Report is provided in Appendix A4.

1.2.4 Financial Environment

The 2008 cost for connection to the C-NT Pipeline was $50.7 million. Since 2008, interest has been accumulating on the debt associated with the original capital costs of this project, and therefore the cost to connect, and the water rates have increased. The current cost estimate to develop the Well Site and to connect to the existing water distribution system in Stayner via the Watermain Route is estimated to be $31.1 million, which is less than the cost to connect to the C-NT Pipeline. Present value costs associated with the “Connect to CN-T Pipeline” alternative and other alternatives were updated to account for inflation but were not recalculated in detail as part of this Addendum. The cost estimate for the development of the Well Site and Watermain Route is provided as part of the Technical Memorandum in Appendix C3.

1.2.5 Technical Environment

The assessment of local groundwater supply in support of the original EA, was based on a drilling program completed by Golder and Associates in 2006, in the area relatively close to Stayner. Since the completion of the 2008 EA, the existing well site south of Stayner was redeveloped, including the drilling of a new well, which has restored some system capacity. A subsequent exploratory drilling program was initiated following the 2008 EA at other sites considered to have water supply potential. In 2018, the water supply exploration program identified significant amounts of groundwater with focus on the property located at 1585 Klondike Park Road, identified as having potential to provide adequate water supply to support the future growth in Stayner. The location had been previously identified by the Ministry of Northern Development and Mines as having a potential aquifer when they completed a seismic survey of Southern Ontario.

The location of the Well Site, which is approximately 9 km northeast of Stayner, north of Concession 12 Sunnidale Road near the boundary of the Town of Wasaga Beach, is illustrated on Figures 1A and 1B.

Since the completion of the 2008 EA, the C-NT transmission main has experienced shut downs for maintenance resulting in a lack of supply (as long as 32 days in duration[1]), which would require increased reservoir storage requirements for the Township, as large storage volumes would be required to provide sufficient water to Stayner during these service interruptions. Due to technical difficulties at the Raymond Barker Water Treatment Plant, the Town of Collingwood advised the Town of New Tecumseth that they were unable to provide additional requested flows and would be maintaining the supply from the pipeline to the Town of New Tecumseth at 9,500 m^3/day[2]. Based on these technical challenges with the C-NT pipeline, the certainty of this water supply to meet the future and ultimate capacity needs of the community of Stayner is not confirmed at this time.

The watermain to connect the Well Site with the existing water distribution system for Stayner is proposed to run within existing ROW. There is an existing gas main and hydro poles along areas of the Watermain Route; however, there are no existing water or storm sewers in along the route. There is an existing sanitary forcemain on a portion of Nottawasaga 27/28 Sideroad (County Road 96). Detailed utility investigations will need to be completed during the detailed design phase of the project to determine the exact location of the watermain within the ROW. The ROW widths within the watermain alignment vary from 20 m to 30 m. Trenchless technologies could be implemented, particularly at high traffic areas and road crossings, to minimize the disturbance to traffic and for the stream crossings to mitigate the environmental impacts. Coordination with the County of Simcoe will be required. The watermain will be located outside of the roadway wherever possible.

2.0 Description of the Revised Preferred Solution

The evaluation of Alternative Solutions from the 2008 EA was revisited with respect to meeting the study objectives, impacts to the natural, social, economic and technical environments. The updated evaluation of Alternative Solutions is provided in Appendix B.

Based on the changes to the technical and financial environment since the 2008 EA, the Preferred Solution for the supply of groundwater in Stayner is to “Expand Existing Groundwater System” through the development of new groundwater source at the Klondike Park Road site and connection to the existing water distribution system for Stayner.

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[1] Township of Clearview staff noted that the Township has been unable to take water from the C-NT Pipeline for 89 days between connecting to the system in May 2009 to February 2018. The longest period without connection was between October 29, 2015 and November 30, 2015 inclusive (32 days).
[2] Per Committee of the Whole Meeting - February 10, 2020 - Report #ENG-2020-02 - 2019 Water Supply and Demand Update Projections for Town Wide System (Town of New Tecumseth)

The existing Stayner system consists of four groundwater production wells, three pumphouses with treatment and a reservoir. The existing infrastructure will generally remain unchanged with the development of the revised Preferred Solution.

The revised Preferred Solution will include the addition of four new production wells (three duty, one standby) and associated pumphouse, treatment and further expansion of storage. A more detailed description of the hydrogeological investigations completed to confirm the viable groundwater source at the Klondike Park Road site as well as descriptions of the new well and pumphouse site and the watermain to connect to Stayner are provided in the following sections.

2.1 Hydrogeology

Golder completed hydrogeological studies at the Klondike Park Road site to support this EA Amendment including the "Township of Clearview, Stayner Long Term Water Supply, Schedule B Municipal Class EA, Water Supply Exploration Addendum, December 2018" and "Township of Clearview, Stayner Long Term Water Supply, Schedule B Municipal Class EA, Groundwater Modelling and Source Water Protection, October 2020". The reports have investigated the supply capacity of the Well Site, as well as the effects the development of this site will have on the aquifer and neighbouring well sites. Copies of these reports are provided in Appendix C1 and C2 respectively.

The study indicates that a source capacity of 120 L/s (10.367 m^3/d) is available at the Well Site. The predicted yield of the new wells at the Well Site is illustrated in Table 1.

Table 1: Aquifer Yield vs. Forecasted Demand

Maximum Sustainable Aquifer Yield (m^3/d)	**Forecasted Water Demand (ADD) (m^3/day)**	**Forecasted Water Demand (MDD) (m^3/day)**	**Percent of Demand Available from Groundwater**
Existing Wells - 5,500 (64 L/s) Proposed Wells-10,370 (120 L/s) Total – 15,870 (184 L/s)	14,136	27,057 (313 L/s)	59%

This flow rate is reflective of 59% of the projected maximum day demand. This maximum day demand is reflective of the full buildout of Stayer within the settlement boundary. Based on the assumptions below, the maximum day demand per unit is assumed at 2.7 m^3/unit/day:

- 3.0 ppu
- 450 L/capita/day
- Maximum Day Factor = 2.0

The additional supply generated from the construction of the new wells is equivalent to approximately 3,840 housing units (single detached equivalents or SDEs), or approximately 11,522 persons using the above assumptions.

Based on the planned developments[3] for the community of Stayner, there are a total of 3,715 SDEs new units that will require 10,030 m^3/day from the Stayner water supply based on the above assumptions. The existing water supply wells for Stayner have an unused capacity of 2,136 m^3/day. Therefore, the total water supply deficit associated with the planned developments is 7,894 m3/day or 91 L/s. Each new water supply well has an estimated capacity of 40 L/s. Although the three new wells would not be able to meet the forecasted water demand for the entire settlement boundary area of Stayner; they should be able service all or most of the currently planned developments, depending on the demands these developments generate. Per the 2019 Development Charges Background Study by Watson and Associates, the growth in Stayner is expected to be 3,257 units by 2039. By these estimates, the new will site will provide adequate supply for the next 20 years or more.

The additional undeveloped land within the settlement boundary not accounted for in the current planned developments, will ultimately require water supply when developed.

Golder is currently working with the Nottawasaga Valley Conservation Authority (NVCA) to complete an update to the South Georgian Bay Lake Simcoe Source Water Protection Plan to include the Well Site. Per Source Water Protection guidelines, this is recommended to be completed in tandem with the EA Addendum process.

2.2 New Well, Pumphouse and Reservoir Site

The new well, pumphouse and reservoir site ('Well Site') is located on the northeast corner of Concession 12 Sunnidale and Klondike Park Road. The proposed layout of the site is illustrated on Figures 1A and 1B. The Well Site will consist of the following key elements:

- 4 drilled wells
- 4 well pumps
- Pumphouse building
    - Disinfection and iron-sequestering treatment
    - High lift pumps
- On-site generator
- Ground level reservoir storage
- Chlorine contact facilities

[3] The purposes of this EA Addendum, Planned Developments include all developments that have final approval, are at draft plan approval stage or are undergoing a draft plan application.

2.2.1 Pumphouse

The pumps will be sized to provide system pressures consistent with the Ministry of the Environment, Conservation and Parks (MECP) recommendations and aligned with the existing Stayner pressure zone. The total dynamic head (TDH) of the pumps will be designed to match the hydraulic grade line of the existing Airport Road reservoir and will function in the same pressure zone. The pumphouse building would be equipped with chemical disinfection, and an iron sequestering system. An emergency generator will be provided, outside the pumphouse building. The building appearance will be designed in a manner sympathetic to existing surroundings and be similar to the existing Well 2 and 4 site.

More details on the preliminary design concept for the pumphouse and reservoir are documented in the technical memorandum that accompanies this EA Addendum, a copy of which is provided in Appendix C3.

2.2.2 Reservoir

The reservoir will be designed to provide the necessary chlorine contact time as well as a storage volume designed to continue to provide water to the system should the wells be unavailable for a short duration, such as for maintenance. For the purposes of this EA, we have assumed a storage volume equivalent to 48 hours of the total maximum day for the pumphouse capacity, which is equivalent to 5,700 m^3. This will be refined during detailed design of the Well Site.

We note that the Well Site itself is quite large and provides flexibility of the building footprint when moving into the detailed design stage of the project.

More details on the preliminary design concept for the pumphouse and reservoir are documented in the technical memorandum that accompanies this EA Addendum, a copy of which is provided in Appendix C3.

This pumphouse will connect into the existing system via an 8 km 600 mm diameter watermain on Concession 12, County Road 7, and Nottawasaga 27/28 Sideroad (County Road 96).

2.2.3 Connecting Watermain

The connecting watermain will extend south from the pumphouse building and enter the Concession 12 right-of-way at the south east corner of the Well Site property. The connecting watermain is planned to head west on Concession 12, to County Road 7, south on County Road 7 to 27/28 Sideroad, and west on 27/28 Sideroad to the Township's Public Works building. The watermain would connect into the existing 200 mm watermain near the Public Works Building, which connects to the overall Stayner water distribution system. As development in the north end of Stayner progresses, this watermain may be extended further west to Highway 26.

The watermain will be sized to minimize headloss and velocities, while providing system pressures within MECP accepted values. Direct connections to the watermain (i.e. water services along the watermain route) will be permitted. Preliminary sizing indicates that a 600 mm diameter watermain will accommodate the ultimate projected maximum day demands.

The Watermain Route is illustrated on Figure 2.

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TOWNSHIP OF CLEARVIEW

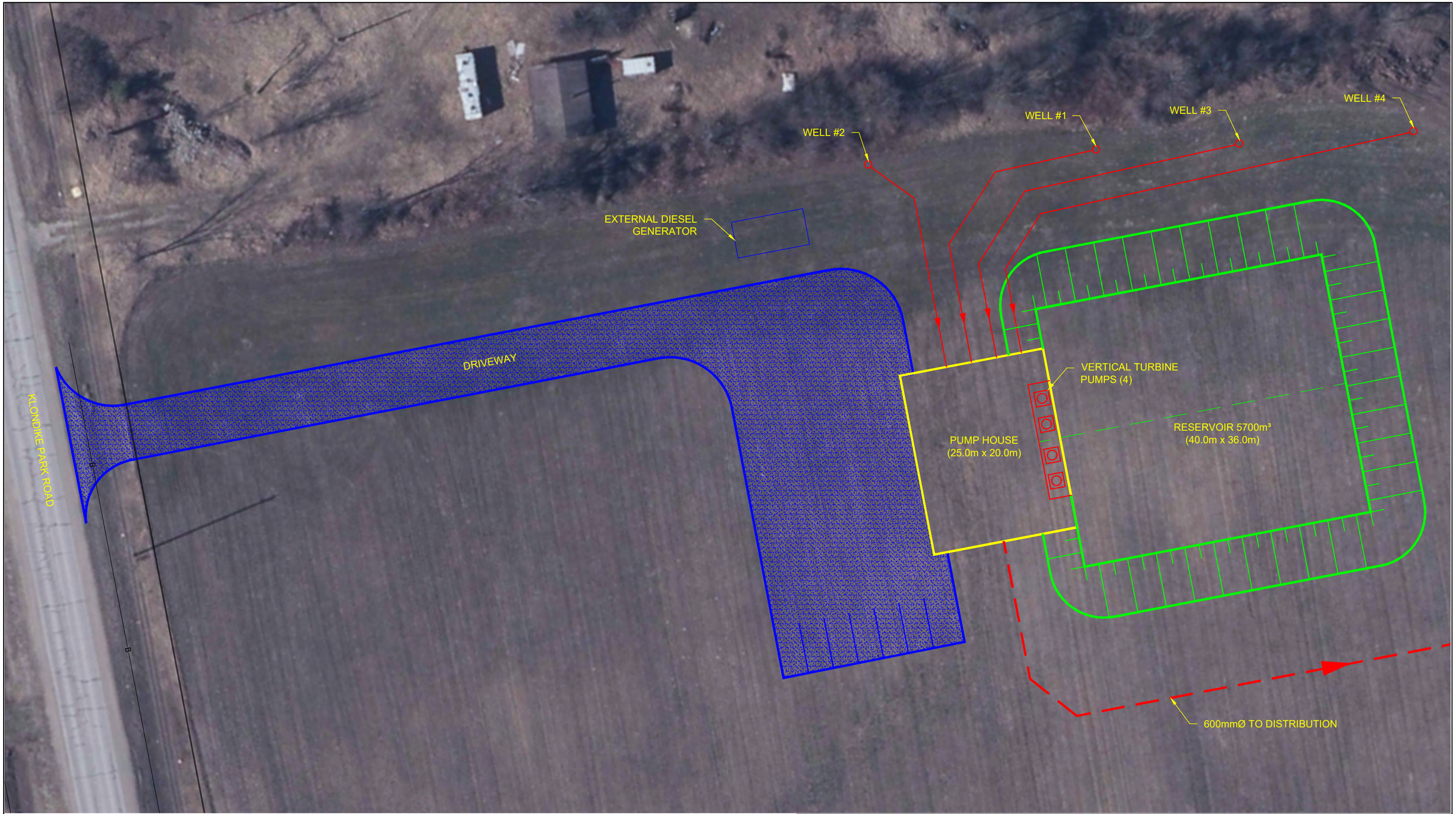
Figure Title

NEW WELL SITE ALTERNATIVE

ADDENDUM TO SCH B MUNICIPAL CLASS E.A.
LONG TERM WATER SUPPLY FOR CLEARVIEW

Drawn	Checked	Date	Figure No.
DMC		11/02/20	**FIG 1A**
Scale		Project No.	
1:2000		300044192	

File: \\collingwood\Shared Work Areas\044192-Stayner Water EA\03_ProductionDwg\044192_FIG-1X_CONCEPTUAL PUMPHOUSE - LARGE SCALE.dwg Date Plotted: November 2, 2020 - 4:01 PM



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BURNSIDE

Client

TOWNSHIP OF CLEARVIEW

Figure Title

NEW WELL SITE ALTERNATIVE

ADDENDUM TO SCH B MUNICIPAL CLASS E.A.
LONG TERM WATER SUPPLY FOR CLEARVIEW

Drawn	Checked	Date	Figure No.
DMC		11/02/20	**FIG 1B**
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LEGEND	
	TRANSMISSION WATERMAIN

BURNSIDE

Client

TOWNSHIP OF CLEARVIEW

Figure Title

NEW WELL SITE ALTERNATIVE

ADDENDUM TO SCH B MUNICIPAL CLASS E.A.
LONG TERM WATER SUPPLY FOR CLEARVIEW

Drawn	Checked	Date	Figure No.
DMC		19/08/12	**FIG 2**
Scale		Project No.	
1:500		300044192	

File: \\collingwood\Shared Work Areas\044192-Stayner Water EA\03_ProductionDwg\044192_FIG-1X_CONCEPTUAL WATERMAIN - LARGE SCALE.dwg Date Plotted: January 22, 2020 - 4:36 PM

3.0 Source Water Protection

As a result of the Clean Water Act, (Ontario Regulation 287/07) communities in Ontario are required to develop source protection plans in order to protect their municipal sources of drinking water. These plans identify risks to local drinking water sources and develop strategies to reduce or eliminate these risks.

A review of the Ministry of Environment Conservation and Parks (MECP) Source Water Protection Information Atlas indicates that the Study Area is located within the Nottawasaga Valley Source Protection Area for which the South Georgian Bay-Lake Simcoe Source Protection Plans applies. To protect drinking water sources, areas are identified where activities can affect the drinking water sources. The Clean Water Act refers to these areas as Vulnerable Areas, which are broken down into four (4) types:

- Intake Protection Zones;
- Wellhead Protection Area;
- Highly Vulnerable Aquifers; and
- Significant Groundwater Recharge Areas.

3.1 Existing Designated Vulnerable Areas

A discussion of the existing designated vulnerable areas in the Study Area is provided in the following section along with commentary on how the proposed construction activities and future operations at the Well Site and construction of the Watermain Route relate, if at all, to these existing vulnerable areas.

Intake Protection Zones

An Intake Protection Zone (IPZ) represents an area around a surface water body intake. No existing IPZs were identified in the Study Area.

Wellhead Protection Areas

A Wellhead Protection Area (WHPA) is an area related to a wellhead and within which it is desirable to regulate or monitor drinking water threats. WHPAs are delineated for threats to quality and quantity. The Source Protection Assessment modelling by Golder includes the Wasaga Beach WHPAs. The modelling has determined that the Wasaga Beach WHPAs will not be affected by the construction of the new well.

Highly Vulnerable Aquifers

A Highly Vulnerable Aquifer (HVA) is an aquifer on which external sources have or are likely to have a significant adverse effect and includes the land above the aquifer. An aquifer can be considered highly vulnerable based on a number of factors, including how deep it is underground, what sort of soil or rock is covering it and the characteristics of the soil or rock surrounding it. The faster water is able to flow through the ground to an aquifer, the more vulnerable it is to contamination.

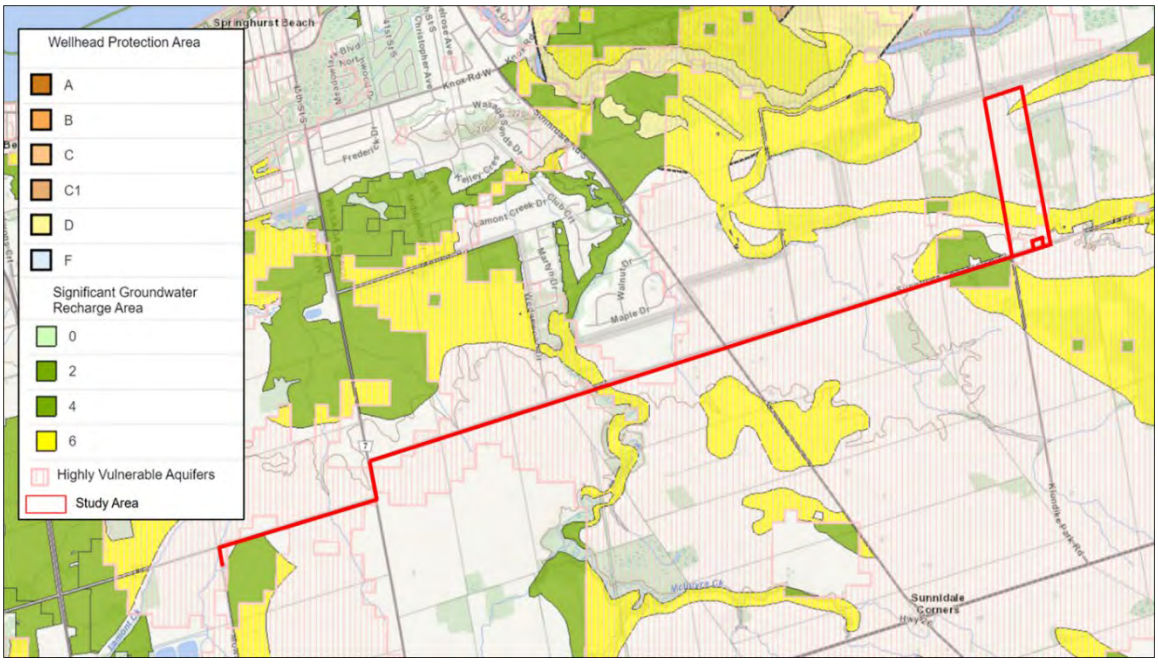
Approximately 94% of the Well Site lies within a mapped HVA, as well as most of the areas along the Watermain Route fall within an HVA as inferred from the Source Protection Information Atlas. According to the MECP 2017 Technical Rules Under the Clean Water Act, an HVA registers a vulnerability score of 6. HVA mapping pertains to shallower aquifer(s) that reside above the deeper Aquifer A3. Contrastingly, Aquifer A3, which is the source of water to the proposed Klondike Park Road wellfield, is confined by one or more aquitard units and is classified as having a low vulnerability within the Klondike Park Road WHPAs. This is discussed in detail in Section 6.1 of the Groundwater Modelling and Source Water Protection Report by Golder Associates (October 2020), which is provided in Appendix C2. In any case, upon review of the Approved South Georgian Bay Lake Simcoe Protection Plan, an HVA vulnerability score of 6 does not result in a significant drinking water threat for any Well Site activities, nor do we find any applicable local source water protection policies related to the HVA, including those pertaining to handling and storage of fuel.

Significant Groundwater Recharge Areas

Significant Groundwater Recharge Area (SGRA) is a recharge area which helps maintain the water level in an aquifer that supplies a community with drinking water. Recharge areas often have loose or permeable soil such as sand or gravel, which allows the water to seep easily into the ground. Areas with shallow fractured bedrock are also often recharge areas.

Approximately 13% of the Well Site as well as a few areas adjacent to the Watermain Route lie within a mapped SGRA. However, no aspect of Well Site development is expected to have any appreciable effect on reducing recharge rates and thus the SGRA designation will be maintained.

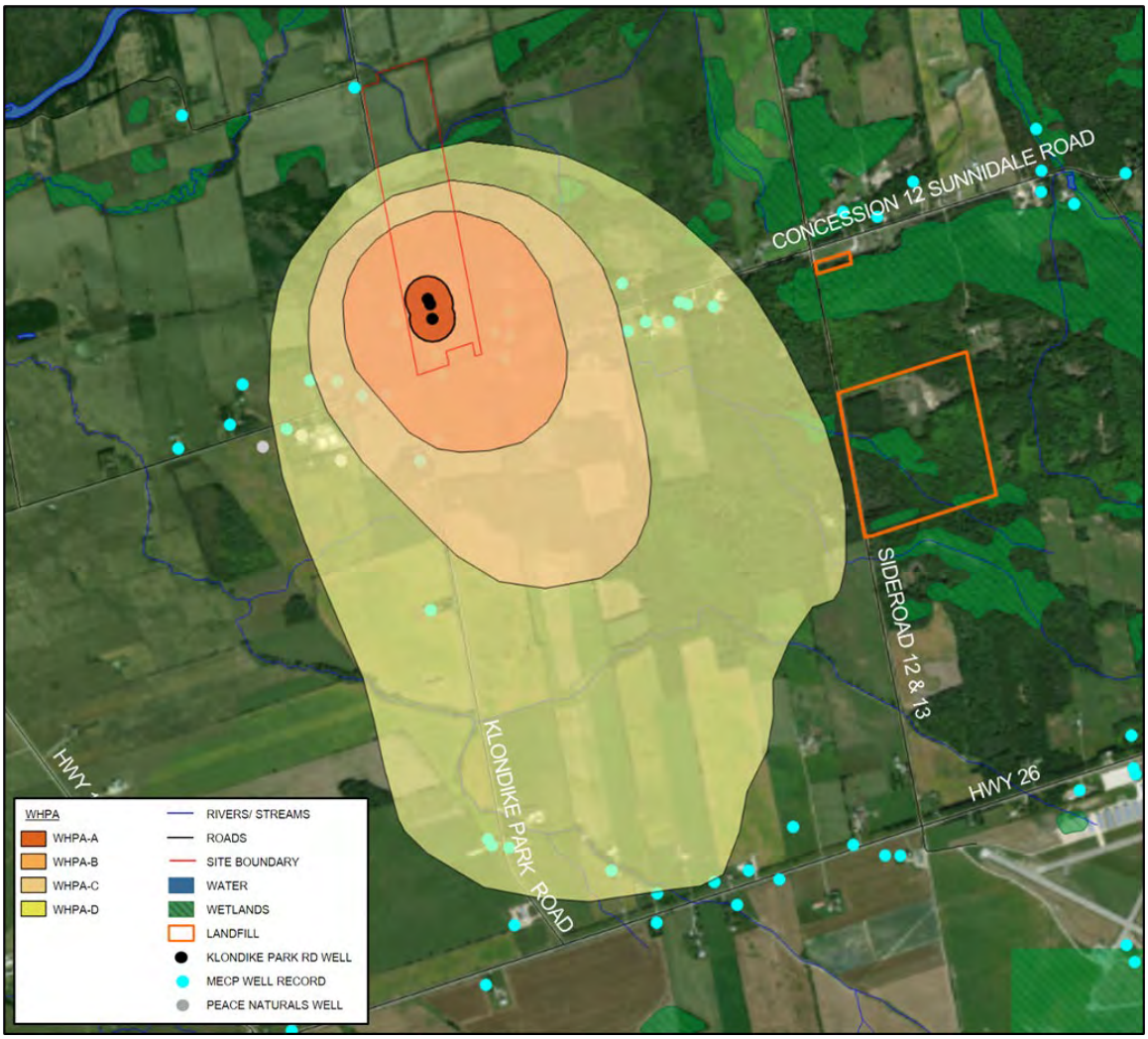
Figure 3: Existing Designated Vulnerable Areas (Source Water Protection Atlas, 2021)



3.2 Draft Wellhead Protection Areas and Vulnerability Scoring

The Groundwater Modelling and Source Water Protection Report by Golder Associates (October 2020) used a Future Conditions model, which simulated three new Site wells withdrawing a combined 60 L/s from confined Aquifer A3. As a result of the modelling, a proposed new Klondike Park Road Wellfield WHPA-A, B, C and D are proposed for source water protection planning and mapping. The draft WHPA-A is contained within the Well Site property. These areas are illustrated on Figure 4. In their totality, the Klondike Park Road wellfield WHPAs reaches a width of 2.3 km and southeast upgradient length of 2.8 km. The details of these draft WHPAs are discussed in Section 5.5 of the Groundwater Modelling and Source Water Protection Report, which is provided in Appendix C2 of this Report.

Figure 4: Draft Well Head Protection Areas (Golder Associates, 2020)



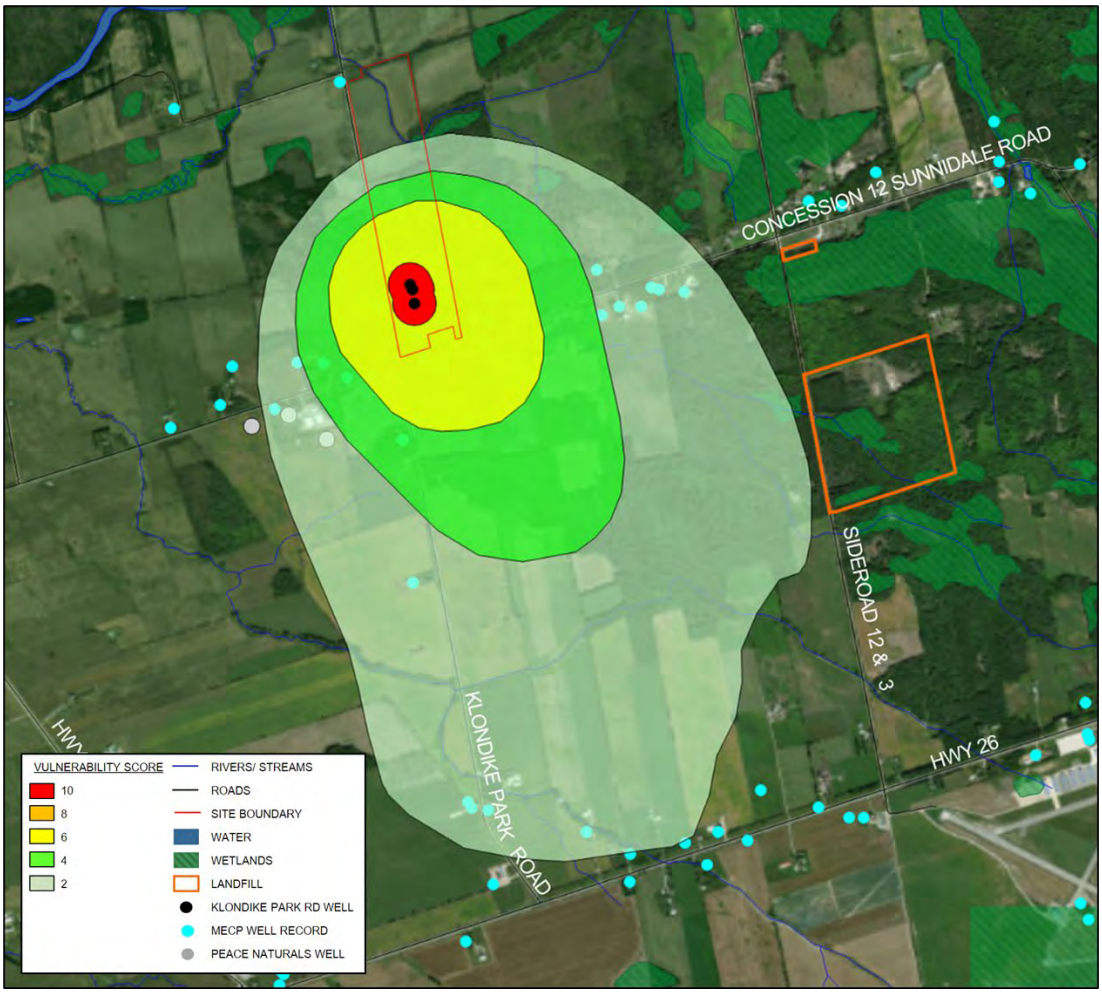
Vulnerability Score

The vulnerability of municipal supply Aquifer A3 was calculated using the Aquifer Vulnerability Index (AVI) method. The AVI method provides three categories of vulnerability: Low (AVI > 80), Medium (AVI between 30 and 80) and High (AVI < 30). The AVI score within the draft Klondike Park Road WHPAs ranges from 110 to 280 and is thus classified as having a "Low" intrinsic vulnerability. The Vulnerability Score of a WHPA is determined by the intrinsic vulnerability classification and the WHPA zone. Given the Low intrinsic vulnerability, the vulnerability scores for each WHPA were identified as follows:

- WHPA-A: Score of 10
- WHPA-B: Score of 6
- WHPA-C: Score of 4
- WHPA-D: Score of 2

Vulnerability scores for each draft WHPA are illustrated on Figure 5. The details of the vulnerability scoring process are discussed in Section 6.2 of the Groundwater Modelling and Source Water Protection Report, which is provided in Appendix C2 of this Report.

Figure 5: Vulnerability Scores for Draft Wellhead Protection Areas (Golder Associates, 2020)



3.3 Potential Impacts on Surrounding Groundwater Resources

As noted above, the Groundwater Modelling and Source Water Protection Report by Golder Associates (October 2020) used a Future Conditions model which simulated three new Site wells withdrawing a combined 60 L/s from confined Aquifer A3. Based on this model, the following conclusions are made regarding the potential impacts to surrounding groundwater resources:

- The greatest amount of drawdown is estimated within Aquifer A3, reaching a maximum of 3 m underneath the Site for Future Conditions. The approximately radial zone of influence, as defined by the 1 m drawdown contour, extends 1.1 km from the Site wells.

- There are 24 private wells within the simulated zone of influence. Drawdown at 20 of the 24 wells is less than 10% of the available water column and is thus unlikely to cause an adverse effect to well operation at these wells. A water level monitoring program for the remaining wells should be established and, in the event that drawdown from municipal water taking affects the operation of these private wells, remedial options such as connecting the homes to the municipal water supply, lowering pumping equipment, or drilling new and deeper wells should be considered.
- The Site withdrawal of 60 L/s pumped from A3 is ultimately drawn from a broad range of sources including the Nottawasaga River and its tributaries, Georgian Bay, and the regional flow external to the model domain. Volumetrically, the greatest flow loss per model component is simulated to occur at the Nottawasaga River (21 L/s) and its tributaries Little Marl Creek (1 L/s) and McIntyre Creek (8 L/s) for a total of 30 L/s loss within the river catchment. However, the average baseflow at the Nottawasaga River is greater than 17,000 L/s; as such, the percent loss (0.2%) at the river is considered negligible. The greatest relative stream baseflow loss occurs at McIntyre Creek, where a Future Conditions decline in baseflow of 8 L/s results in a baseflow loss of 8% relative to Existing Conditions. It is further noted that Little Marl Creek experiences a 1 L/s (6%) loss in discharge. Whereas the estimated loss at Little Marl Creek is minor and still under 10%, it is re-emphasized that this feature is not considered groundwater dependent anyway.
- The Klondike Park Rd wellfield pumping has no effect on Wasaga Beach municipal well water level or capture zones.

3.4 Potential Significant Drinking Water Threats to New Klondike Park Road WHPAs

The potential impacts related to the application of nutrients (ASM, commercial fertilizer, NASM) where evaluated by determining the livestock density and operation. Based on the MPAC property codes, satellite imagery for suspected livestock barns and windshield survey completed in October 2020, no livestock operations are found within WHPAs with a Vulnerability Score of 6 or greater (i.e. WHPA-A and WHPA-B).

With respect to the future Klondike Park Rd well's WHPA-As, which register a vulnerability score of 10, it is acknowledged that the South Georgian Bay-Lake Simcoe Protection Plan policies for significant drinking water threats will apply, up to and including prohibition of certain activities and uses. Since the WHPA-A lies entirely within the Well Site, which is owned by the Township of Clearview, the Township will have the ability to design their development and/or control the activities on this property to address such policies without concern for imposing an effect on neighbouring properties. Notwithstanding, a review of the anticipated activities for the Well Site property was undertaken to assess whether any of these activities would pose a significant drinking water threat to the WHPA-A as identified in the South Georgian Bay-Lake Simcoe Protection Plan policies.

In general, the potential significant drinking water threats can be categorized into two groups, agricultural threats associated with any potential activities taking place within the WHPA-A and threats associated with the operation of the Well Site itself. Potential agricultural-based significant drinking water threats include:

- Threat # 3 – The application of agricultural source material to land.
- Threat # 4 – The storage of agricultural source material.
- Threat # 5 – The management of agricultural source material.
- Threat # 6 – The application of non-agricultural source material to land.
- Threat # 7 – The handling and storage of non-agricultural source material.
- Threat # 8 – The application of commercial fertilizer to land.
- Threat # 9 – The handling and storage of commercial fertilizer.
- Threat # 10 – The application of pesticide to land.
- Threat # 11 – The handling and storage of pesticide.

As noted above, Township can control the activities on the Well Site property, which includes the use of land for the purposes of agricultural practices. A mitigation measure for the Township to ensure they have a policy in place that requires all agricultural users of the property to operate in a manner that would avoid any significant drinking water threats has been included in Section 4.2.

Potential well operation-based significant drinking water threats include:

- Threat # 2 - The establishment, operation or maintenance of a system than collects, stores, transmits, treats or disposes of sewage (for On-site sewage systems).
- Threat # 12 - The application of road salt.
- Threat # 14 - The storage of snow.
- Threat # 15 – The handling and storage of fuel.

An assessment of the applicability of any of the well operation-based significant drinking water threats was completed. Table 2 outlines the results of this assessment including an indication of whether a mitigation measure is required.

Table 2: Potential Significant Drinking Water Threats from Well Site Activities

Potential Significant Drinking Water Threat	Circumstances Needed for a Significant Threat for WHPAs with Vulnerability Scores of 10	Associated Well Site Operational Activity
Threat #2: The establishment, operation or maintenance of a system than collects, stores, transmits, treats or disposes of sewage. c. *On-site sewage systems*[4]	Subject to Ontario Building Code Act, 1992 (small systems – less than or equal to 10,000 L / day)	There will be no washroom facilities provided at the Well Site, so there thus are no on-site sewage systems that store or treat human waste at the Well Site. A soak-away pit will likely be constructed to receive discharge from an emergency eye-wash station, floor drains and chlorine analyzer. However, as this activity is not considered to meet the definition of on-site sewage systems, the soak-away pit or equivalent system installed at the Well Site is not considered as significant drinking water threat.
Threat #12: The application of road salt.	Application area is ≥ 80% impervious surface	The Township will need to maintain the driveway for the Well Site to ensure the site is accessible to operational vehicles. Therefore, the application of road salt is considered a significant drinking water threat. However, the Township has the option of using sand at the Well Site which would eliminate this threat. A mitigation measure to require the application of sand instead of salt at the Well Site has been included in Section 4.2.

[4] The definition of on-site sewage systems includes systems that store or treat human waste on-site, but does not include sewage treatment plants. These systems come in a variety of forms including earth pit privies, privy vaults, grey water systems, cesspools, leaching bed systems and associated treatment units, and holding tanks. Leaching bed systems with septic tanks or holding tanks are the systems most commonly used. (South Georgian Bay-Lake Simcoe Source Protection Region – Approved Source Protection Plan, January 26, 2015)

Potential Significant Drinking Water Threat	Circumstances Needed for a Significant Threat for WHPAs with Vulnerability Scores of 10	Associated Well Site Operational Activity
Threat #14: The storage of snow.	Storage at or Above Grade over 1-5 hectares or >5 hectares	The clearing of snow on-site would only be required for the driveway to the Well Site. As the entire driveway is less than 1 hectare in size, the snow pile area would be even less. Therefore, the storage of snow at the Well Site is not considered a significant drinking water threat.
Threat #15: The handling and storage of fuel	Storage of greater than or equal to 2,500 L of liquid fuel or fuel oil Above Grade	Diesel is proposed for the Well Site to provide a source of fuel for stand-by power units. Fuel would be stored in an above ground tank. The anticipated volume of diesel fuel for the stand-by generator is less than 2,500L. On this basis, the proposed diesel storage at the Well Site is not considered a significant drinking water threat.

3.5 Potential Impacts to Existing and Future Land Use

Currently, land use within the new WHPAs is almost entirely agricultural fields or forest, except for residential properties and the Peace Natural (commercial) facility along Concession 12 Sunnidale Road. Notably, the WHPAs do not underlie the landfill's along Sideroad 12/13. As noted in Section 3.4, the WHPA-A lies entirely within the Well Site property and provided that the Township implements a policy to limit use of the agricultural land use to activities that would not pose a significant drinking water threat, no landowners or other entities within the new WHPAs will be affected by the land use restrictions or policies. Additionally, beyond the Well Site property, Golder Associates (October 2020) found that there are no significant drinking water threats found within the Klondike Park Road WHPAs based on:

- South Simcoe Groundwater Study Contaminant Source Inventory (Golder, 2004);
- Examination of satellite imagery;
- Windshield survey (October 20, 2020), which notably did not identify any obvious locations for DNAPL handling or storage; and
- No livestock operations are found within WHPAs with a Vulnerability Score of 6 or greater (i.e. WHPA-A and WHPA-B).

Thus, Golder Associates (October 2020) concluded that no landowners or other entities will be affected by Klondike Park Road wellfield vulnerable area land use restrictions or policies that would relate to the elimination or mitigation of significant drinking water threats.

3.6 Permit to Take Water Considerations

All water takings in Ontario exceeding 50,000 L/day are required to obtain a Permit To Take Water (PTTW) from the MECP. The project's future construction activities and proposed water supply will require PTTWs prior to operation. The groundwater modelling report prepared by Golder, in addition to meeting the requirements of the Class EA, may be used to support the PTTW review and approval process. The model itself may also continue to be used as a groundwater management tool by the Township of Clearview. In addition, and in consultation with the MECP during the PTTW process, a monitoring program will be instituted to ensure that private water supplies are not adversely impacted by the water taking.

With respect to construction dewatering, the design of a reservoir for the Site should consider the groundwater table at approximately five metres below grade at OW4. As such, temporary dewatering may be required during the initial placement of the reservoir. Such short-term actions within the shallow aquifer are not expected to adversely affect nearby wells, surface water resources, or have settlement issues given the distance of the reservoir from the property boundaries and off-Site environmental features. Nonetheless, a localized Site assessment examining any potential dewatering effects is recommended to support future PTTW or Environmental Activity and Sector Registry (EASR) applications prior to construction.

4.0 Impacts and Mitigation Measures for the Revised Preferred Solution

The area of impact for the revised Preferred Solution is limited to the proposed Well Site and existing ROW along the proposed Watermain Route. Construction activities associated with the development of the Well Site are anticipated to include clearing of vegetation, development of three new wells and excavation and grading for the installation of the pumphouse, reservoir and watermain. Construction activities associated with the Watermain Route will involve open cut excavations within the ROW and employment of trenchless technologies at major watercourse and road crossings. Along portions of the proposed alignment, it may be necessary to dewater the watermain trench. Installation of the watermain will also require limited vegetation removal in select areas, located primarily within the grading limits of the ROW, with some edge encroachment into adjacent vegetation communities.

The final alignment of the watermain will be determined during the detailed design phase of the project; however, will be as much as possible outside of the traveled portion of the road.

In all cases, proposed structures should be designed to be functional, cost effective and aesthetically pleasing to mitigate long term visual impacts.

The following mitigation measures and design approach should be implemented to mitigate negative impacts of the proposed project on the environment of the Study Area. It is also recommended that the following mitigation and monitoring measures be included within the Detailed Design process and reporting, and within the Special Provisions section of the Tender Documents, as applicable. All Design and Construction Reports and Plans will be based on a best management approach that centers on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of the impacted areas.

4.1 Surface Water/Hydrology and Soils and Sedimentation/Stormwater Management

Potential Effect

A. Potential for sediments to enter the watercourses as a result of the following project activities:
   - Stockpiling
   - Excavation
   - Construction

B. Potential for localized water quality impacts as a result of spills.

C. Potential for invasive species to enter the environment.

Mitigation Measures

A. The footprint of disturbed area shall be minimized as much as possible, for example, vegetated buffers/setbacks will remain untouched adjacent to the watercourse, wherever possible.
   - An Erosion and Sediment Control Plan shall be developed during the detailed design phase of the project, prior to construction. Implementation of the erosion and sediment control measures shall conform to recognized standard specifications, such as Ontario Provincial Standards Specification (OPSS), and the requirements of the NVCA.
   - Trenchless technologies will be used to the extent possible, particularly at high traffic areas and road crossings, to minimize the disturbance to traffic and for watercourse crossings to mitigate impacts to surface water, fish and fish habitat.
   - In-water operation of heavy equipment shall be prevented, as well as minimizing the operation of any equipment on the banks of the watercourse. Stockpiled material will be stored and stabilized at least 30 m from the watercourse. All materials and equipment used for the purpose of site preparation and project completion will be operated and stored in a manner that prevents any deleterious substance (e.g., petroleum products, silt, etc.) from entering the water.
   - Sediment and erosion control measures (silt curtains, silt fence, rock check dams, etc.) shall be installed and maintained during the work phase, until the site has been stabilized. Control measures will be inspected daily to ensure they are functioning and maintained as required. If control measures are not functioning properly, no further work will occur until the problem is resolved.
   - Temporary mitigation measures shall be installed prior to the commencement of any clearing, grubbing, excavation, filling or grading works and must be maintained on a regular basis, prior to, and after precipitation events.
   - Water quality impacts related to surface water run-off shall be mitigated to avoid downstream impacts by controlling surface water run-off within the boundaries of the site.
   - All disturbed areas of the work site shall be stabilized immediately and revegetated as soon as conditions allow.

B. All equipment fueling and maintenance shall be done at least 30 m from the watercourse to ensure that no deleterious substances enter the waterway.
   - The Contractor shall be required to develop Spill Prevention and Contingency Plans for construction and operational phases of the project. Personnel will be trained in how to apply the Plans, and the Plans will be reviewed to strengthen their effectiveness and ensure continuous improvement. Spills will be immediately contained and cleaned up in accordance with provincial regulatory requirements and the contingency plan. A hydrocarbon spill response kit will be on site at all times during the work. Spills will be reported to the Ontario Spills Action Center at 1-800-268-6060.

C. All equipment and personal protective equipment must arrive on-site clean to prevent the potential transfer of invasive species (i.e., phragmites) to the local environment.

4.2 Groundwater

Effect

A. There is potential for localized groundwater quality impacts as a result of spills.
B. Temporary impacts from dewatering of the work area.
C. Potential impact to private shallow water supply wells as a result of dewatering of the work area.
D. Potential impact to four private shallow water supply wells as a result of water extraction at the Well Site as identified in the by Golder Associates (October 2020).
E. There is potential for the following agricultural-based significant drinking water threats in the WHPA-A if certain agricultural activities are not limited by the Township.
   - Threat # 3 – The application of agricultural source material to land.
   - Threat # 4 – The storage of agricultural source material.
   - Threat # 5 – The management of agricultural source material.
   - Threat # 6 – The application of non-agricultural source material to land.
   - Threat # 7 – The handling and storage of non-agricultural source material.
   - Threat # 8 – The application of commercial fertilizer to land.
   - Threat # 9 – The handling and storage of commercial fertilizer.
   - Threat # 10 – The application of pesticide to land.
   - Threat # 11 – The handling and storage of pesticide.

Mitigation Measures

A. Refueling of equipment and fuel storage shall be conducted in designated areas, at least 30 m away from the watercourses and any existing wells, with spill protection provided.
B. The work area shall be dewatered as per recognized provincial standards and pumped into acceptable dewatering traps. These dewatering traps will be placed away from the watercourse to allow for infiltration prior to discharging to the watercourse.
C. Where homes or business are reliant on shallow wells and are in close proximity to the proposed watermain alignment, these wells shall be monitored in advance of the dewatering and during the dewatering exercise to ensure that these well supplies are not temporarily affected. Where supplies are affected the contractor shall provide a temporary supply.

D. A water level monitoring program for the four potentially affected wells shall be established and, in the event that drawdown from municipal water taking affects the operation of these private wells, remedial options such as connecting the homes to the municipal water supply, lowering pumping equipment, or drilling new and deeper wells shall be considered.

E. The Township shall limit any agricultural activities from the Well Site property that would pose a significant drinking water threat to the WHPA-A. A policy shall be implemented by the Township that will ensure than anyone leasing the land for agricultural purposes limits their use of the land so as not to cause any of the nine above noted significant drinking water threats, in accordance with the definitions for said significant drinking water threats provided in the South Georgian Bay-Lake Simcoe Source Protection Region – Approved Source Protection Plan.

4.3 Trees and Vegetation

Effect

A. Loss of trees and vegetation within work zone of Well Site. Installation of the new watermain will clearing of vegetation growing within the naturalized hedgerow and orchard to accommodate the connection to Sunnidale Concession 12.

B. Tree and vegetation removal along the ROW may be required to accommodate the watermain installation along Sunnidale Concession 12, County Road 7 and 27/28 Sideroad depending on the method used (e.g. open trench) and the proximity to the trees.

Mitigation

A. Minimize disturbance to existing vegetation. Reduce impacts to vegetation by restricting vegetation clearing and disturbance to the work zone. Maintain, at minimum, dripline protection for trees located on lands to the east of the Well Site when installing the distribution line.

   - Disturbed areas will be stabilized and re-vegetated using, at minimum, a seed mix upon project completion and restored to a pre-disturbed state where practical. New tree and shrub planting is recommended to compensate for loss of hedgerow and orchard vegetation.

B. Impacts to trees within and adjacent to the ROW will be re-evaluated for impacts on an individual basis as part of the detailed design stage of the project. Measures such as tree protection fence or ESC fence are recommended where construction is proposed to protect trees from grading impacts and when adjacent construction is occurring to prevent access, stockpile and storage impacts to trees.

   - ESC measures and other specified protection measures must be installed prior to commencement of any grading or vegetation disturbance.

- An Environmental Inspector shall be engaged during the construction phase to review ESC and other protection measures for deficiencies. Deficiencies must be resolved immediately.
- No access, storage or stockpile of materials or equipment can occur within the area protected by the ESC and other protection measures.
- New ROW tree planting is recommended to compensate for loss of ROW trees, as needed.

4.4 Wildlife/Habitat

Effect

A. Temporary displacement of and disturbance to wildlife and wildlife habitat during the construction phase (i.e., vegetation removals, noise disturbance), including SAR. Temporary limitation of wildlife movement and reduction of useable habitat during the construction phase.

B. Potential for temporary disturbance or destruction of nesting SAR and migratory breeding birds and bird habitat during the vegetation removal and grading activities.

C. Potential for temporary disturbance to turtle habitat during vegetation removal and grading activities around McIntyre and Lamont Creeks.

D. Possible impact to potential candidate bat maternity-roosting habitat if trees removals are required within the Naturalized Deciduous Hedgerow (FODM11), watermain route and the woodland riparian communities during the construction phase.

E. Potential impact to Monarch resulting from removal of Milkweed during ROW grading.

Mitigation

A. The footprint of the proposed disturbed area shall be minimized as much as possible.
   - In the event an animal is encountered during construction and does not move from the construction zone, the Contract Administrator shall be notified. If the construction activities are such that continuing construction in the area would result in harm to wildlife, construction activities in that location shall temporarily stop and the MNRF shall be contacted for direction.
   - If temporary perimeter exclusion fencing is used at a location such as adjacent to McIntyre and Lamont Creeks, it shall be installed to allow wildlife to leave the fenced area during vegetation clearing. Once the work area has been cleared, it can be securely fenced to prevent wildlife from returning.
   - The excluded area shall be searched immediately following fencing installation for any wildlife (including SAR) that may have become trapped. Any wildlife shall be safely relocated, or permitted to escape, to a suitable habitat. All works shall stop immediately and MECP contacted should a SAR be encountered within a construction or operational area to ensure compliance with the ESA.

- Avoid vegetation clearing during sensitive times of the year for local wildlife, such as spring and early summer (when many animals bear their young or migrate between wintering and summer habitats).

B. To reduce the risk of contravening the federal Migratory Bird Convention Act, 1994 (MBCA), timing constraints shall be applied to avoid any limited vegetation clearing (including grubbing) and/or structure works (construction) during the active window for breeding birds, broadly from April 1 to August 31 for most species (every year).

- Active nests (with eggs or young birds) of protected migratory birds, including SAR protected under the ESA, cannot be destroyed at any time of the year.
- If a nesting migratory bird (or SAR protected under ESA) is identified within or adjacent to the construction site (or during operations and maintenance activities) and the activities are such that continuing works in that area would result in a contravention of the MBCA or ESA, all activities shall stop and the Contract Administrator (with assistance from an Avian Biologist) shall discuss mitigation measures with the Township. Should SAR be identified, all activities shall stop and MECP, responsible for administering SAR under the ESA, shall be contacted immediately to ensure compliance with the ESA. The Contract Administrator shall instruct the Contractor on how to proceed based on the mitigation measures established through discussions with the Township, the MECP and/or Environment Canada.
- If construction works occur during the active window for breeding birds, an Avian Biologist must review trees and an Environmental Inspector shall monitor the tarped or netted structure every two to three days to ensure that no bird nests are established on vegetation to be cleared.

C. Exclusion fencing shall be erected around active work areas, such as temporary storage/equipment areas and soil stockpiles.

- If designated areas are created during construction for the stockpiling of materials, especially fill, soil and gravel, the Contractor shall install fencing around the perimeter of these areas adjacent to MacIntyre and Lamont Creeks to prevent any turtle species from entering the area and attempting to nest (turtles are attracted to these materials for nesting). Please refer to MNRF Best Practices Technical Note - Reptile and Amphibian Exclusion Fencing (Version 1.1) July 2013 (MNR, 2013). The active period for reptile species is generally considered to be from spring (April) to mid-October.

D. Minimize removal of trees within the Naturalized Deciduous Hedgerow (FODM11) to reduce impacts to potential SAR bat roosting habitat. An assessment of potential candidate bat roosting habitat should be completed during the detailed design phase once extent of clearing is determined. If avoidance of candidate bat roosting habitat is not possible, consultation with MECP will occur to confirm the recommended mitigation measures to avoid negative impacts to candidate SAR bat habitat.

- Tree removals shall be completed outside of the active window for bats, between April 1 and October 31 of any calendar year.

E. Consideration for including milkweed seed in the seed mix that is used to reinstate the work zone, where appropriate.

4.5 Fish and Fish Habitat

Effect

A. In-water works may be required, and the proposed works could potentially result in harmful alteration, disruption and/or destruction of fish habitat and the death of fish by means other than fishing.

Mitigation Measures

B. A qualified professional aquatic ecologist will determine whether causing harmful alteration, disruption and/or destruction (HADD) to fish habitat can be avoided based on project design and mitigation. Fish also cannot be killed by means other than fishing. If one cannot be avoided, the DFO will be consulted through a Request for Project Review to determine appropriate next steps.
   - Trenchless technologies will be used to the extent possible, particularly at high traffic areas and road crossings, to minimize the disturbance to traffic and for watercourse crossings to mitigate impacts to fish and fish habitat. Tunneled watermain should have a minimum of 2m vertical separation from the obvert of the watermain to the invert of the watercourse.
   - During Detailed Design, correspondence shall be maintained with a qualified professional aquatic ecologist to determine appropriate mitigation measures and whether the proposal has potential to pose HADD to fish habitat and/or if the proposal has the potential to kill fish. Preferred mitigation measures include work zone isolation while maintaining flow downstream and fish salvage from the isolated work area. Efforts will be made, in consultation with the DFO to mitigate should HADD to fish habitat occur.
   - A fish salvage must occur in the isolated work zone prior to the commencement of in-water works. A Licence to Collect Fish for a Scientific Purpose must be obtained from the Midhurst District MNRF for the fish salvage.
   - Near-water work and work below the annual high-water mark will adhere to the appropriate in-water work timing window to avoid potential impacts to resident and migratory fish species.
   - A permit from the NVCA under the Development, Interference, with Wetlands and Alterations to Shorelines and Watercourses Regulation (Ontario Regulation 172/06) will be required prior to conducting the proposed works as watercourse crossings are proposed within a Regulated Area.

4.6 Noise

Effect

A. Temporary nuisance noise during construction activities. Increased dust in air, carbon emissions from construction activities.

Mitigation

A. Noise control measures, such as restricted hours of operation, the use of appropriate machinery/mufflers, will be implemented where required. Vehicles/machinery and equipment shall be in good repair, equipped with emission controls, as applicable, and operated within regulatory requirements. If required, dust control measures may include the wetting of surfaces using a non-chloride-based compound to protect water quality.

4.7 Archaeological Resources

Effect

A. Potential for direct impacts to archaeological resources.

Mitigation

A. Lands within the Well Site and Watermain Route that exhibit archaeological potential as indicated in Figure 10 (Sheets 1 – 6) of the Stage 1 Archaeological Assessment Report, completed by Archaeological Services Inc. (December 2019), which is provided in Appendix A3 require Stage 2 archaeological assessment by test pit and pedestrian survey at five metre intervals, where appropriate prior to any proposed impacts to the property. The Stage 2 Archaeological Assessment shall be conducted during the detailed design phase of the project when the alignment of the Watermain Route is defined.

4.8 Cultural Heritage Resources

Effect

B. Potential for indirect impacts to cultural heritage resources.

Mitigation

A. The following mitigation is excerpted from the Cultural Heritage Evaluation Report, completed by Archaeological Services Inc. (Draft November 2019), which is provided in Appendix A4.

> *"Staging and construction activities should be suitably planned and undertaken to avoid negative impacts to identified cultural heritage resources (i.e. remain within the existing right-of-way). Suitable mitigation measures include establishing no-go zones adjacent to the identified cultural heritage resources and issuing instructions to construction crews to prevent impacts to existing structures.*

Once a Preferred Solution or detailed designs of the proposed work are available, this [Cultural Heritage Evaluation] report will be updated with a confirmation of impacts of the undertaking on the cultural heritage resources identified within and/or adjacent to the study area and will recommend appropriate mitigation measures. Mitigation measures may include, but are not limited to, completing a heritage impact assessment or documentation report, or employing suitable measures such as landscaping, buffering or other forms of mitigation, where appropriate. In this regard, provincial guidelines should be consulted for advice and further heritage assessment work should be undertaken as necessary.

Should future work require an expansion of the study area then a qualified heritage consultant should be contacted in order to confirm the impacts of the proposed work on potential heritage resources."

The Cultural Heritage Evaluation Report shall be updated to include confirmation of impacts of the undertaking on cultural heritage resources and recommendation of appropriate mitigation measures. This shall be completed during the detailed design phase of the project when the alignment of the Watermain Route and the resulting impact area is defined.

4.9 Traffic Management and Property Access

Effect

A. Potential for temporary traffic flow on roadways during construction.
B. Potential for temporary access disruptions during construction.

Mitigation

A. The contractor shall develop and implement a Traffic Management Plan (TMP) in coordination with Township and County of Simcoe prior to construction. Adequate signage to give noted of disruptions and detours (if applicable) shall be provided by the contractor.

B. Measures will be taken to ensure access is maintained to homes and business during the construction. This will be facilitated by communicating constructing timing and restoring access in a timely manner.

5.0 EA Addendum Consultation

5.1 Public Information Centre

The proposed changes to this project, which is the basis for this EA Addendum were presented in a Public Information Centre (PIC) held on March 5, 2020, from 4:00 p.m. - 7:00 p.m., at Township of Clearview Municipal Office 217 Gideon Street, Stayner Ontario. The Notice of PIC was advertised in the Stayner Sun on February 27 and March 5, 2020 and posted on the Township website (Appendix D1).

The Notice was circulated to all contacts on the original Project Contact List from the 2008 EA (updated where appropriate) and all existing landowners adjacent to the Well Site and the Watermain Route (Appendix D2); and all potentially interested Indigenous communities (See Section 5.2). A total of 14 people attended the PIC and viewed the presentation boards (Appendix D3) with three comment sheets received at that time, with two additional emails received following the PIC (Appendix D4). Table 3 includes a summary of comments and responses of the three comment sheets and two emails.

Table 3: PIC Comments on EA Addendum and Study Team Responses

Comment ID	Comment Received	Study Team Response
Comment Sheet 1	March 5, 2020 Comment Sheet Please email copy of PIC boards	March 6, 2020 a copy of the PIC boards from PIC was emailed, and resident was informed that they would also be available shortly on the Township's website.
Comment Sheet 2	March 5, 2020 Comment Sheet When will Mowat St. have water? Will this well influence this?	April 13, 2020 an email was sent with the following response: The construction of the well will not influence the timelines for the unserviced portions of Mowat Street getting municipal water service. The planned route for the connecting watermain does not include Mowat Street. We cannot comment on the timing of water service on Mowat Street as this is outside the scope of the EA.
Comment Sheet 3	March 5, 2020 Comment Sheet Protect and monitor our wells. Would like to see the property and new well be fenced for security.	April 13, 2020 an email was sent with the following response: The risk of adverse effects to the operation of private wells in the vicinity of the proposed pumping wells at 1585 Klondike Park Road (the Site) is low. Nonetheless, a Permit To Take Water (PTTW) for the project will not be granted by the Ministry of Environment, Conservation and Parks (MECP) unless the proponent (Township of Clearview) has demonstrated that there will be no unacceptable impacts to private water supplies as a result of the proposed pumping at the Site. As such, private water supplies will be protected through the MECP permitting process. Township of Clearview is amenable to monitoring resident's private wells within the expected drawdown zone of influence until such time that it is clearly demonstrated that the municipal pumping is not having an adverse effect. Residents interested in having their wells monitored should contact the Township who, in conjunction with their hydrogeological consultants, will be preparing a monitoring plan that will become part of the PTTW approval.

Comment ID	Comment Received	Study Team Response
		Please note that residents who have already submitted a specific request to have their wells monitored via a Comment Sheet during the PIC on March 5, 2020 are already in consideration for the future monitoring plan and will be contacted by the Township or their hydrogeological consultant at an appropriate time during the PTTW process. Comments regarding fencing and security will be considered during the Detailed Design stage of the project.
Resident 1	March 5, 2020 emailed to be added to Project Contact List.	Acknowledged
Resident 2	March 30, 2020 emailed whether well was included in the baseline data collection? Will our water supply be affected? Would like to see landscaping planned for south edge of property, along the 12th, that experiences whiteouts/ snowdrifts (e.g., evergreens, a berm, use of earth dug up for the well/building).	March 30, 2020 an email was sent from Township with the following response: Defers to Hydrogeological consultant for reply on baseline well data question. Noted that landscaping has not been discussed at the Township at this point, but comment is acknowledged. Suggested some trees could be planted. Noted comment will be added to EA process. March 30, 2020 an email was sent from the Township's Hydrogeological consultant, Golder Associates, with the following response. Your property is 2 km from proposed well site, thus you were not contacted during the testing. There is no well record that can be directly attributed to that address (attached nearby well records). Asked resident to clarify which is there well. All of these wells are constructed in a good aquifer, which is approximately 75 ft shallower than test well. At normal domestic water taking rates (5 gpm) none of these wells are expected to experience adverse drawdown from the proposed water system. We appreciate your interest and if you can identify which of these wells is yours, we could discuss this further.

5.2 Indigenous Community Correspondence

On February 25, 2020 Indigenous communities were emailed the Notice of PIC for the Addendum to Long Term Water Supply to Clearview, Schedule B Class EA. The Notice was sent to all potentially interested Indigenous communities as follows Chippewas of Georgina Island, Beausoleil First Nation, Chippewas of Mnjikaning First Nation (Rama), Saugeen Ojibway Nation, Chippewas of Nawash First Nation, Nation Huronne-Wendat, Métis Nation of Ontario and Saugeen First Nation. Table 4 includes a summary of comments and responses from Indigenous communities over the duration of the project and Appendix D5 provides a full record of that correspondence.

Table 4: Indigenous Community Comments and Responses

Indigenous Community	Comment	Response
Chippewas of Mnjikaning First Nation (Rama)	March 2, 2020 Sharday James responded that at this time, we have no comments, please continue to contact us on any future projects.	February 25, 2020 Notice of PIC emailed.
Nation Huronne-Wendat	February 25, 2020 Maxime Picard emailed, please keep Nation updated if any further archaeological stages are initiated as part of the next project phases. February 25, 2020 M. Picard emailed, Thanks for information, please. let us know if there will be any archaeological investigation as part of EA Addendum?	February 25, 2020 Burnside emailed that the Nation would be kept informed of any further archaeological stages. February 25, 2020 Burnside emailed, that a Stage 1 Archaeological Assessment (AA) was completed by ASI for this Addendum, where a licensed archaeological visited to assess archaeological integrity; however, no intensive archaeological investigation was undertaken. Further investigation may be required if the final design for project shows construction activity entering into the areas of archaeological potential that ASI noted in the Stage 1 AA Report. We have provided a copy of the Stage 1 AA Report with this email for your information. February 25, 2020 Notice of PIC emailed.

Indigenous Community	Comment	Response
Saugeen First Nation	March 2, 2020 Lester Anoquot, emailed thanked and acknowledged Notice of PIC.	February 25, 2020 Notice of PIC emailed
Chippewas of Georgina Island		April 1, 2020 left message for Natasha Charles; April 14, 2020 left message for Natasha Charles. February 25, 2020 Notice of PIC emailed.
Beausoleil First Nation	April 1, 2020 was asked to call back again.	April 13, 2020 called but was holiday for community so couldn't speak to anyone. April 14, 2020 put through to Crystal; however, no one picked up call. February 25, 2020 Notice of PIC emailed.
Saugeen Ojibway Nation (SON)		April 1, 2020 and April 14, 2020 left messages for Doran Ritchie asking whether email was received and if community had any comments/ issues/ concerns (both SON and Chippewas of Nawash First Nation. February 25, 2020 Notice of PIC emailed.
Chippewas of Nawash First Nation	As per Chief Greg Nadjiwon of the Chippewas of Nawash First Nation, Doran Ritchie is to be sent correspondence	February 25, 2020 Notice of PIC emailed
Métis Nation of Ontario	April 14, 2020 left message for Jesse Fieldwebster	February 25, 2020 Notice of PIC emailed

5.3 Agency Correspondence

On February 25, 2020, all agencies were emailed or mailed the Notice of PIC for the Addendum to Long Term Water Supply to Clearview, Schedule B Class EA. The Notice was sent to all potentially interested agencies as follows: federal, provincial, municipal, conservation authority, utilities, and local interest groups.

Table 5 includes a summary of comments and responses over the duration of the project and Appendix D6 provides a full record of that correspondence.

Table 5: Agency Comments and Responses

Agency	Comment	Response
Fisheries and Oceans Canada (DFO)	February 25, 2020 emailed confirmation of receipt of submission.	February 25, 2020 Notice of PIC was emailed.
Ministry of the Environment, Conservation and Parks (MECP) Environmental Resource Planner & EA Coordinator	December 9, 2020 MECP sent the following comments: CWA-General Overview of SWP Requirements; and Specific Comments on draft Addendum (see letter for detail).	January 27, 2021, Burnside responded to acknowledge comments and that the comments would be addressed in the final EA Addendum Report.
	November 25, 2020, MECP emailed noting that some study timing and information was unclear. MECP requested clarification as follows: (1) When were the vulnerable area mapping predictions completed and available? (2) Did the proponent include source protection information in discussions with public? (3) It is not clear, that this final document incorporates this source protection information – if there was not discussed in March but do have information now it should be incorporated for circulation for public review.	On November 30, 2020, Burnside responded to MECP questions as follows: (1) The vulnerable area mapping was finalized by Golder in October of 2020. Whereas earlier predictions of WHPA (capture zones) were presented to the public in March of 2020. The model underwent further refinements in the fall of 2020 in response to: [1] Assessment Report and Plan Amendments under s.34 of *Clean Water Act* – Internal Process for Implementing Regulatory Requirements in SGBLS Region (July 2019), released by Source Protection Authority after the initial modelling had been completed; and [2] discussions of draft modelling results with MECP & NVCA, August 2020. (2) Capture zones were presented at PIC in March 2020, where a distinction was made between initial capture zone predictions (March 2020), which would form the basis for future WHPA, versus prospective final WHPA (October 2020). The transition to "completed" WHPA in October 2020 included additional model refinements and uncertainty analysis which were (again) predicated on: [1] Assessment Report and Plan Amendments under s.34 of CWA – Internal Process for Implementing Regulatory Requirements in SGBLS Region (July 2019), released by SPA after initial modelling had been completed; and [2] discussions on draft modelling results with MECP & NVCA in August 2020. (3) EA document sent for review did not contain October 2020 report conclusions, as it was not yet available; however, conclusions from October 2020 report, including those related to Source Protection Policy implications, will be excerpted from Golder report and included in main document. Golder reports will also be included as appendices. Golder's October 2020 report concludes, amongst other items, that: Klondike Park Rd. wellfield AVI mapping indicates a Low vulnerability classification with Low uncertainty in the area of the Site. The level of uncertainty related to WHPA delineation and vulnerability scoring is considered Low. The Klondike Park Rd. wellfield has no Drinking Water Issues identified. Klondike Park Rd wellfield vulnerable areas (i.e., WHPAs) have no Significant Drinking Water Threats identified. Thus, in the absence of Drinking Water Issues and Significant Drinking Water Threats in the newly defined vulnerable areas, and with WHPA-A lying entirely within the proponent's Site boundary, we are not aware of any policy implications that would adversely effect current landowners in the context of the Class EA.
	October 28, 2020, MECP acknowledged the status update on the hydrogeology modelling report, and that SPPB staff have been informed and will wait for updated report. Staff will provide comments in November.	November 2, 2020, Burnside sent MECP the most current hydrogeology investigation and modelling reports for review.

Agency	Comment	Response
	October 26, 2020, MECP emailed that SWP staff have not reviewed/ comment on any technical documents and recommended that all issues should be addressed during draft EA stage. MECP informed Burnside that staff have been circulated the draft EA for the SPPB review and will review as soon possible.	October 26, 2020, Burnside informed MECP that the SPPB had not reviewed technical documents, as they were still in progress until very recently, and asked that MECP hold off on the request to SPPB staff to review anything until we send the most recently updated reports.
	October 23, 2020, MECP emailed that staff were in the process of completing review and will provide soon. MECP, also noted that they assume all SWP issues have been addressed through EA process.	October 22, 2020, Burnside requested whether MECP had any comments, and if so, when to expect them.
	August 12, 2020, MECP emailed that the concerns raised in July 22/20 email have been addressed. MECP also discussed and noted information on changes to the Act, regarding Part II orders.	September 28, 2020, MECP was emailed a link to the draft submission for review and comment. August 28, 2020, Burnside responded MECP that the report would be updated to reflect the changes to the Part II Order process. Burnside requested, to expedite the review process, would MECP be open to receiving and reviewing draft report? Staff have generally completed all portions of the study with the exception of the SWP/ groundwater modelling aspects which, some recently received comments from SWP MECP, require work and updates.
	July 22, 2020, MECP emailed Burnside information regarding the one window contact for the streamlined EA, and that Chunmei Liu would be the contact and to add to Project Contact List. Inquiry was made whether Addendum had been issued and whether Indigenous communities had been consulted in accordance with the “Code of Practice for Consultation in Ontario’s Environmental Assessment Process”.	August 10, 2020, Burnside responded to MECP by email and voicemail through a letter. Burnside acknowledged recommendations regarding additional reporting. It was noted that, prior to Golder’s Klondike Site drilling and aquifer testing, another study was completed of aquifers and soil conditions in the vicinity of the Site and geologic mapping was improved due to this work. Burnside requested further clarity on MECPs position regarding the Wasaga Beach vulnerable areas.
		February 25, 2020, Burnside sent to MECP a Notice of PIC by emailed.
Ministry of the Environment, Conservation and Parks Conservation and Source Protection Branch	July 29, 2020, the MECP, Conservation and Source Protection Branch (SPPB) emailed NVCA, with technical staff comments as follows. It is our understanding that final WHPA delineations, vulnerability scoring of the WHPAs, discussion of uncertainty and threat assessment will be provided for review during update of Nottawasaga Valley Assessment Report portion of SGB-LS SPP. The updated hydrogeological information has strongly influenced the model particle tracks that will form the basis for the WHPA delineation. The particle tracks for the existing Wasaga Beach wells differ greatly from the approved WHPAs (2004). A more robust discussion should be included that clearly indicates what new information was used to update the model, how the hydrogeological parameters have changed (a comparison table would be helpful), the influence on the model calibration and why there is more confidence in this modeling effort than the previous model. It was noted that on page 221 of the pdf package, the text refers to four wells for the Stayner system but on Figure 1 a different number of wells are shown. Please clarify. Plain-language explanation about why the WHPA delineations have changed so significantly would be beneficial to maintain clarity and public trust.	August 8, 2020 Burnside emailed MECP, SPPB the recommendations regarding additional reporting. Burnside noted that, prior to Golder’s Klondike Site drilling and aquifer testing, Riley Mulligan, Quaternary Geoscientist from Earth Resources and Geoscience Mapping Section, Ontario Geological Survey, Mines & Minerals Division, Ministry of Energy, Northern Development completed a study of aquifers and soil conditions in the vicinity of the Site. Geologic Survey of Canada seismic profiling lead to the Golder test drilling. Geologic mapping was improved due to this work. At this time we seek further clarity on MECP, SPPB’s position regarding the Wasaga Beach vulnerable areas with the following question: (1) Golder’s memo dated April 27, 2020; (2) NVCA’s follow-up response dated June 10, 2020; (3) MECPs email dated July 29, 2020.

Agency	Comment	Response
	July 21, 2020, the MECP SPPB emailed that technical staff are currently reviewing the documents and working to finalize comments as soon as possible.	July 20, 2020, Burnside followed up asking whether there was any more information regarding the next steps and/or a meeting date for this project?
	July 2, 2020, the MECP, SPPB emailed informing that the information package to discuss Clearview Township proposed updates request had been forwarded to the appropriate staff.	June 29, 2020, Burnside emailed MECP SPPB an information package for scheduled meeting.
		June 22, 2020, NVCA emailed MECP, that the Township had submitted a Sch B EA, for the Long-Term Water Supply MCEA, to add an additional municipal well(s), to the existing groundwater-based system for Stayner to meet future population demands. NVCA noted that there are a few outstanding items regarding the modelling, required to update SSP and requested a meeting, to outline technical work completed to date in case any flags are raised and in order to avoid costly rework should further revisions to the model construction or calibration be required by the MECP.
Ministry of Heritage, Sport, Tourism and Culture Industries	January 25, 2021, MHSTCI Emailed a letter commenting that report sections refer to built heritage resources and cultural heritage landscapes collectively as “cultural heritage resources”. MHSTCI recommend that built heritage resources and cultural heritage landscapes be referred to as such, or by appropriate acronyms. Aside from these matters of terminology, we have no substantial concerns with the CHRA.	January 26, 2021, Burnside acknowledge comment and noted it would be forwarded to ASI. The revised CHRA report is provided in Appendix A4 of this EA Addendum Report. December 18, 2020, Burnside emailed MHSTCI further to December 3, 2020 discussion and requested to receive technical, cultural heritage studies prior to issuing the revised NOCp for EA Addendum.
	March 6, 2020, MHSTCI emailed a letter to Burnside acknowledging receipt of notice, noting that the ministry’s interest relates to mandate of conserving Ontario’s cultural heritage, including: Archaeology resources, including land and marine; Built heritage resources, including bridges and monuments and Cultural heritage landscapes. Following that MHSTCI requested on March 6, 2020 a copy of the initial EA that the addendum refers.	March 6, 2020, Burnside emailed MHSTCI requested report.
Nottawasaga Valley Conservation Authority Manager Watershed Science	January 8, 2021, NVCA emailed Burnside, that NVCA was satisfied with response outlined in the attached document; and requested GIS files in support of NVCA comment #2.	January 6, 2021, Burnside emailed NVCA in response to December 4, 2020 email question two that Golder Report is AODA compliant and sent a link as requested.
	December 4, 2020, NVCA sent comments on two recently submitted Golder and Associates reports as follows: (1) confirmation that re-modelling has been addressed and that approval of WHPAs is up to MECP. (2) asked for GIS shapefiles of new well, vulnerable areas and vulnerability scoring including the percent impervious, percent managed lands, and livestock density, etc. (3) Advise on methodology used for percent managed lands. (4) Advise why the WHPAs were delineated using the ADD instead of the MDD. (5) Asked for clarification regarding configuration of wells. (6) Are Golder reports AODA compliant? (7) ensure “Appendix F- Supplemental items to facilitate Ministry’s review” is filled out.	January 4, 2021, Burnside sent a response with attached response from Golder to NVCA comments. Burnside noted that NVCA comments had been circulated to MECP.

Agency	Comment	Response
	June 10, 2020, NVCA emailed Burnside and noted that the ultimate approval agency is the MECP under the CWA, not the NVCA. NVCA Although NVCA is supportive of the approach and findings of the modelling, they are not in the position to provide 'approval on the recent foundational model updates. Advised that the NVCA start early engagement with MECP; involving meetings between the Township, MECP, and NVCA in addition to other agents the Township would like present to outline the technical work completed to date in case any flags are raised and in order to avoid costly redos should further revisions to the model construction or calibration be required by the MECP. Provided additional clarification on the process.	
Nottawasaga Conservation Authority Manager, Planning Services	June 8, 2020, NVCA emailed Burnside with Ecology, Engineering and SWP staff comments on the draft EA Addendum Report. 1. NVCA staff are satisfied with the general impact and mitigation assessment, provided that all recommendations contained within are carried through to detailed design, and appropriately elaborated upon at that stage. NVCA want to see specific post-construction stabilization/re-vegetation measures and recommend these plans incorporate native seed mixes and plantings wherever possible. NVCA staff would like to be circulated on these materials for our review and comment, once available. 2. Additional detail with regard to species at risk [SAR] mitigation will be warranted during the detailed design stage. Noted that in-water works and associated Department of Fisheries and Oceans [DFO] submissions will be required, please provide us with copies of correspondence in this regard, once available.	
	May 12, 2020, NVCA provided further comments on the Township of Clearview Stayner Long Term Water Supply Schedule B Municipal Class EA Water Supply Exploration Addendum by Golder Associates (December 21, 2018). The wells should be constructed 100 m from the property boundaries to ensure municipal control of the land activities in the WHPA-A. It is noted that the property has an area of 38 ha allowing for a wells to be positioned in a variety of locations.	June 3, 2020, Burnside confirmed with NVCA that the wells will be constructed at least 100 m from the property boundaries to ensure municipal control of the land activities in the WHPA-A.
	April 30, 2020 NVCA sent comments on the new well site figures, natural heritage memo, aquatic habitat conditions memo and PIC slides. Noted that proposed location for the wells, reservoir, pumphouse, external diesel generator and the 600 mm diameter watermain pipe proposed at the northeast corner of Klondike Park Road and Concession 12 Sunnidale Road do not have any concerns with respect to flood or erosion hazard (in addition this proposed site is not regulated). However, the watercourse crossings for the	

Agency	Comment	Response
	proposed watermain alignment are regulated and a permit will be required from the NVCA for works in this area. **Engineering Comments:** **1. Watercourse Crossings** Consider the following: mounting the watermain on the side or underside of the existing bridge deck or if tunneling, ensure a minimal vertical separation of 2m is proposed between the obvert of the watermain and the invert of the watercourse. **2. Erosion and Sediment Control** Submit full-scale erosion and sediment control (ESC) plan(s) for each individual watercourse crossing. Ensure the Erosion and Sediment Control Guideline for Urban Construction", December 2006 is referenced. Choose acceptable ESC measures and the applicable design details from this guideline. **Ecology Comments:** **3. Natural Heritage memo** Does not outline the mitigation program, it references an EA Addendum Report, is a copy available? If not NVCA staff would recommend that NH-specific mitigation measures should be included in Memo. Given that noted NH constraints are primarily related to SAR, we might suggest that the proponent undertake some level of MECP consultation, if they have not so already. **4. Aquatic Habitat Conditions memo** Should also highlight appropriate mitigation measures for works in the vicinity of these watercourses, even if in-water works are not required, any mitigation measures specifically related to fish habitat protection should also be appropriately contained in the Memo. **5. PIC boards** It is noted on the final slide that one of the 'next steps' is to Finalize EA Addendum Report. NVCA staff would welcome the opportunity to review a report which comprehensively ties in all-natural heritage and aquatic-related considerations, as well as the above-noted mitigation concerns.	May 12, 2020, Burnside responded to NVCA comments: **Engineering Comments:** **1. Watercourse Crossings** Mounting the watermain on the bridge deck is not desirable as it poses operational difficulties such as freezing. We will ensure a vertical separation distance of 2 m is proposed at the tunneled crossings. **2. Erosion and Sediment Control** Detailed ESC plans will be provided as part of the detailed design phase, with referenced document. **Ecology Comments:** **3. Natural Heritage memo** Mitigation measures pertaining to potential impacts to natural heritage features are in Sections 3.1, 3.3 and 3.4 (*since revised to Sections 4.1, 4.3 and 4.4*). We do not intend to update the Natural Heritage Memo at this time because the mitigation measures are provided in the EA Addendum Report. We undertook a pre-screening (as per client) and have not contacted MECP. We do not anticipate impacts to SAR based on the site characteristics. Potential impacts to SAR can be mitigated through timing restrictions or work methods as noted in the mitigation measures provided in the EA Addendum Report. **4. Aquatic Habitat Conditions memo** Mitigation measures pertaining to potential impacts to aquatic features in Section 3.1 and 3.5 (*since revised to Section 4.1 and 4.5*). We do not intend to update the Aquatic Conditions Memo at this time because the mitigation measures are provided in the EA Addendum Report. Burnside has provided a draft copy of the EA Addendum Report to NVCA for review April 29, 2020, Burnside requested confirmation from NVCA whether comments will be provided. NVCA was notified on April 2, 2020 of the PIC and that comments were being incorporated into the report in preparation of issuance for 30-day public review period.
	April 2, 2020, NVCA requested a copy of the EA report and technical studies for review; also, the PIC slide deck; and Alternative Solutions/ Preferred Solution.	April 2, 2020, Burnside emailed NVCA noting that the PIC was held March 5, 2020, with comment period ending on March 27, 2020. Study Team is incorporating comments to finalize report for issuance for the 30-day public review period. Please see link to documents for review. April 2, 2020, Burnside notified NVCA of PIC and that currently comments were being incorporated. February 25, 2020 Burnside sent to NVCA a Notice of PIC by emailed.
Hydro One Networks Inc.	March 11, 2020 sent an email with attached letter, confirming that a preliminary assessment, shows there are no existing Hydro One Transmission assets in the subject area. If plans for the undertaking change or the study area expands beyond that shown, please contact Hydro One.	February 25, 2020 Notice of PIC was emailed.

6.0 Conclusions and Completion of EA Addendum

During Detailed Design and Construction of the Project, the following commitments are required:

- Mitigation measures as detailed in Section 4.0
- The Township shall secure all necessary Permits and/or Authorizations required for the Project, including but not limited to;
  - Consultation with the NVCA with respect to working within a Regulated Area and Source Water Protection Plans;
  - Letter of Advice through submission of a Request for Review from the DFO;
  - License to Collect Fish for a Scientific Purpose from the Midhurst district MNRF;
  - Permit to Take Water, Ministry of Environment, Conservation and Parks (MECP)
  - Amendment to the Drinking Water Works Permit, MECP
- In addition, and in consultation with the MECP during the PTTW process, a monitoring program shall be instituted to ensure that private water supplies are not adversely impacted by the water taking.
- A localized Site assessment examining any potential dewatering effects shall be completed to support future PTTW or Environmental Activity and Sector Registry (EASR) applications prior to construction.
- Huron Wendat Nation shall be informed of any further archaeological stages (e.g. Stage 2 Archaeological Assessments) that will be conducted for project.

As per the requirements of the Municipal Class EA, this EA Addendum is available for public review and comment for a period of 30 calendar days following the publication of the Notice of EA Addendum.

Interested persons may provide written comments to our project team within the 30-day comment period. All comments and concerns should be sent directly to either of the following Project Team members:

Mike Rawn, C.E.T.
Director of Public Works
Clearview Township
217 Gideon Street
Stayner, ON L0M 1S0
705-428-6230, ext. 243
mrawn@clearview.ca

Jennifer Georgas, P.Eng.
Project Engineer
R.J. Burnside & Associates Limited
3 Ronell Crescent
Collingwood, ON L9Y 4J6
705-797-4271
jennifer.georgas@rjburnside.com

In addition, a request may be made to the Ministry of the Environment, Conservation and Parks for an order requiring a higher level of study (i.e. requiring an individual/ comprehensive EA approval before being able to proceed), or that conditions be imposed (e.g. require further studies), only on the grounds that the requested order may prevent, mitigate or remedy adverse impacts on constitutionally protected Aboriginal and treaty rights. Requests on other grounds will not be considered. Requests should include the requester contact information and full name for the ministry.

Requests should specify what kind of order is being requested (request for additional conditions or a request for an individual/comprehensive environmental assessment), how an order may prevent, mitigate or remedy those potential adverse impacts, and any information in support of the statements in the request. This will ensure that the ministry is able to efficiently begin reviewing the request.

The request should be sent in writing or by email to:

Minister of the Environment, Conservation and Parks
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Requests should also be sent to the Project Team by mail or by e-mail.

If the Minister does not receive a request for a Part II Order within the 30 calendar days, then the project will move forward to detailed design, approvals process and subsequent implementation of the revised Preferred Solution.

R.J. Burnside & Associates Limited