

May 20, 2026

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Planning Coordinator, Approvals
The Corporation of the County of Prince Edward
Shire Hall – 332 Picton Main Street
Picton ON, K0K 2T0

Regarding: Adolphus Reach Resort
Application for Zoning By-law Amendment
Response to Technical Comments

On behalf of the landowner and proponent, please find enclosed the Response to Zoning By-law Amendment Comments for Adolphus Reach Resort Technical Circulation. Enclosed are:

- This Response Letter
- Revised Servicing Report

The following provides a response in **bold** from Forefront Engineering to the outstanding technical comments. For reference, the comments from PEC staff and Quinte Conservation staff are identified in *italics* below.

Planning Comments

1. *An Environmental Compliance Approval (ECA) will need to be issued by the Ministry of Environment, Conservation and Parks for the sewage system. A Holding (-H) symbol appears necessary in order to ensure adequate servicing is provided. Issuance of the ECA should be a condition for removal of the Holding (-H) provision. Additional information should be provided to support the ZBA in regards to the proposed packaged sewage system, including but not limited to:*

i. the location of the system on the property;

Refer to the Servicing Report, Figure 2 Preliminary Servicing Plan in the Appendix. The preliminary proposed system is shown on the plan, including the gravity sewer alignment, location of the wastewater treatment plant, and outfall location.

ii. the type and manufacturing specifications of the system that is proposed;

Refer to the revised Servicing Report for the preliminary MBR specifications. A Newterra MBR system has been selected as a representative system for the purposes of the ZBA submission. The final system may be Newterra MBR or an approved equivalent, subject to detailed design.

iii. the discharge point of the treated sewage;

Refer to the Servicing Report Figure 2 Preliminary Servicing Plan in the Appendix, a preliminary outfall location is identified in the northeast corner.

- iv. *the method of conveyance from the development located on top of the escarpment to the discharge point on Adolphus Reach, including the location of any piping, measures to prevent freezing in the winter, and if the pipe will be buried; and*

Refer to the Servicing Report, Figure 2 Preliminary Servicing Plan in the Appendix for servicing details. Gravity sanitary sewers are proposed (as detailed on the plan) to collect wastewater from the Pod Villa's, discharging to the packaged treatment plant. Underground facilities will be buried at below frost depth.

- v. *details about the volumes necessary to ensure proper operation.*

Refer to the Servicing Report, Average Day Demand and Maximum Day demand are provided, with required volumes of MBR unit and any required tanks.

County – Engineering Comments

1. *It is understood a Permit to Take Water (PTTW) will be required from the MECP. In addition to the PTTW, will an ECA for water also be required?*

An ECA for the drinking water system is not anticipated at this stage. Based on the proposed use, the water supply system is expected to be regulated by the local Public Health Unit under O. Reg. 319/08, as a small drinking water system, classified as a small non-municipal non-residential system, subject to confirmation by the PHU. A site-specific PHU risk assessment will be required for the system, which will establish the applicable treatment, operational, sampling, and monitoring requirements.

An ECA will be required for the wastewater Package Treatment Plant.

2. *Please provide more information regarding the Package Treatment Plant (PTP) including but not limited to:*
 - a. *the types of Package Treatment Plants (PTP) systems are being considered? An example of one of the systems mentioned in the report was the Membrane Bioreactor (MBR) system, is this the only PTP being considered? Please provide a description of how the systems being considered work.*

The MBR has been identified as the preferred preliminary package treatment plant technology. Additional details are provided in the Appendix of the Revised Servicing Report. The final treatment system will be confirmed during detailed design and the MECP ECA process.

Refer to the revised Servicing Report with a discussion on how the MBR system works.

- b. *How much space is required for a PTP?*

Refer to the revised Servicing Report with additional discussion. For wastewater, the treatment system is expected to consist of a modular MBR package treatment unit, such as a Newterra MBR ST-35 series unit or

approved equivalent. The final model and capacity will be confirmed by the equipment supplier during detailed design, but the modular treatment unit itself is expected to require a footprint in the order of 2.5 m × 6.0 m. A small below-grade pre-cast concrete or FRP equalization tank of approximately 18,000 Litre (4,000 gallons), and a waste sludge storage tank in the order of approximately 18,000 Litre are also expected to be required. Waste sludge would be removed periodically by a licensed hauler and disposed of offsite at an approved facility. A typical 18,000 L tank is 2.5m (w) x 4.5 m (l) x 2.3 m (h). Example picture below.



- c. *Where will the discharge from the system be directed to and how?*

Refer to the Servicing report, discharge is directed to the Lake, a preliminary outfall location is provided on Figure 2 – Servicing Plan and Figure 3 – Sanitary Catchment Areas.

- d. *It was noted that a PTP might be the more appropriate option over a leaching bed system due to the significant daily flow and the depth of bedrock. Is there a minimum/maximum amount of flow required for a PTP system?*

The proposed design flow is well within the range of commercially available modular MBR package treatment systems. Standard modular MBR systems can be sized for flows exceeding 900 m³/day, which is well above the proposed 20 m³/day average flow and 55 m³/day maximum day flow. There is no MECP prescribed regulatory minimum or maximum flow for use of an PTP package treatment plant. The applicable regulatory trigger is the Permit to Take Water, total daily sewage design flow and the requirement for the selected system to meet the effluent criteria. Any operational low flow requirements will be determined at site plan and detailed design. Final unit selection, turndown capability, equalization requirements, and seasonal operating procedures will be confirmed during detailed design.

- e. *It is understood the intention is to operate the resort all year round (4-seasons). Since the system will be designed for the maximum sewage flow, how will the effectiveness of the system be impacted during the periods where all units are not occupied? What percentage of the maximum flow is required for the system to be effective?*

The proponent has not committed to either four season or three season at this point. If it is three season, the wastewater treatment system will be designed with appropriate seasonal operation, shutdown, and restart procedures, which will be confirmed during detailed design and documented in the Operations and Maintenance Manual required through the MECP ECA process.

As for the low-flow operation will be managed through flow equalization, controlled feed rates, recirculation/process controls, sludge wasting control, alarms, and operator oversight. The final low-flow operating procedures will be confirmed by the selected supplier during detailed design and reviewed through the MECP ECA process.

- f. If the intention is not to operate the resort all year round, how will that impact the PTP system if it is not used for a portion of the year?*

The system would be operated under a supplier/operator-approved seasonal shutdown and restart procedure. This would typically include sludge removal, cleaning/stabilization of process tanks, membrane cleaning or preservation where applicable, winterization of exposed piping and equipment, and securing of controls/alarms prior to shutdown. Restart would include operator inspection, refilling, equipment checks, re-establishing the biological process, gradual loading, and confirmatory sampling as required. A notice to the MECP may be required and would be a condition of the ECA. The final seasonal operation procedure will be prepared during detailed design and included in the Operations and Maintenance Manual required through the MECP approval process.

- g. In addition to a PTP system, will additional treatment/disinfection equipment be required for the effluent discharging from the PTP system? Such as tertiary filtration, UV systems, etc.*

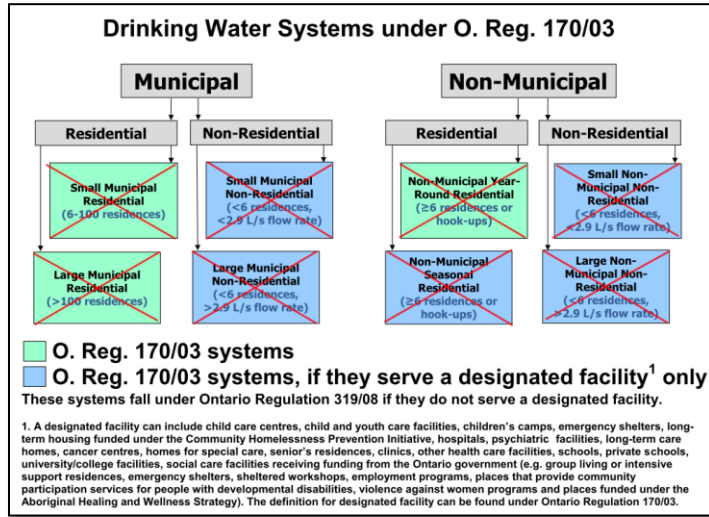
Additional treatment and/or disinfection may be required downstream of the PTP, depending on the final MECP ECA effluent criteria for the Lake Ontario/Adolphus Reach discharge. The typical Newterra MBR system provides biological treatment and membrane filtration, which functions as a tertiary solids-removal barrier. The final system may also require UV disinfection, chemical phosphorus removal, or tertiary polishing. These requirements will be confirmed during detailed design with input from the supplier through the MECP ECA process.

CCR Environmental – Peer Review Comments

- 1. We recommend that the consultant provide some information/feasibility assessment regarding available lake depth and routing of the water from lake level up significant height to the resort from below the escarpment during winter months – to prevent freezing.*

Assessment of available lake depth, intake configuration, frost protection, and protection from ice action will be completed during detailed design in support of site plan approval and the applicable review processes. This would require bathymetric survey, geotechnical input, mechanical design, and equipment supplier input, which are beyond the level of design normally required for zoning.

- 2. We are not convinced that the water supply treatment system can be operated under O.Reg.319/08 unless the resort is closed for 6-months of the year or there are less than five or fewer T-offs from the treated water main. We recommend further discussion, additional support and options regarding this matter.*



Taken from www.wcwc.ca (Walkerton Clean Water Centre)

The proposed drinking water system is a non-municipal system, non residential system. It will have a peak flow of less than 2.9 L/s, and does not serve a designated facility. At this stage, the proponent does not wish to restrict the zoning approval to a three-season operation only. The final operating season will be confirmed through detailed design and approvals. Section 4.1 of O. Reg. 170/03 provides that the regulation does not apply to non-municipal seasonal residential systems, large non-municipal non-residential systems, or small non-municipal non-residential systems unless the system serves a designated facility.

Based on these criteria, the system does not appear to meet the criteria for regulation under O. Reg. 170/03. The system is expected to meet the criteria for a “small drinking water system” under O. Reg. 319/08. Refer to the above decision tree from wcwc.ca.

O. Reg. 319/08 captures non-municipal drinking water systems that do not serve a major residential development (> 5 private residences), that do not serve a year-round trailer park/campground with more than five service connections, and that do not serve a designated facility. O.Reg 319/08 includes a seasonal provision for non-municipal systems that do serve a large residential development or a trailer park/campground with more than five service connections, provided the system does not operate to supply water for at least 60 consecutive days in each calendar year.

The development is proposed as a tourist commercial resort accommodation use, rather than a major residential development (> 5 private residence) or a trailer park/campground with five or more connections. O. Reg. 319/08 distinguishes between “campgrounds” and “places operated primarily for the purpose of providing overnight accommodation to the travelling public”. If the site ends up being proposed to be seasonal, then the proposed system is expected to be reviewed as a small drinking water system under O. Reg. 319/08. If year-round operation is advanced, the final site use as classified under the regulation will be confirmed with the Public Health Unit, including whether the site is considered transient resort accommodation or another regulated use under the regulation. The Servicing Report has been revised to include further discussion.

In either case, the final operating season and associated servicing requirements will be confirmed through consultation with the Public Health Unit and/or MECP, as applicable at detailed design. The water and wastewater systems will be designed to meet the requirements of the final approved operating model, whether seasonal or year-round. The Servicing Report has been revised to include additional discussion on this matter.

Sincerely,

FOREFRONT ENGINEERING INC.



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