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TECHNICAL MEMORANDUM

DATE: October 8, 2026

TO: **Mustapha Arkadan**

FROM: Marc Pichette P.Eng.

SUBJECT: **Richmond South – Serviceability Review**

OUR FILE: 20-1184

ATTACHMENTS 1) Caivan Concept Plan dated October 5, 2026

1.0 INTRODUCTION

David Schaeffer Engineering Limited (DSEL) was retained by Caivan (Richmond South) Limited to complete an adequacy of servicing review in support of its application for Official Plan Amendment.

The property in question, referred to as Richmond South, is situated within the Village of Richmond's Western Development Lands (WDL) at 6305 Ottawa Street West, spanning approximately ***7.26 hectares*** (refer to ***Figure 1*** for the site location). The contemplated development consists of single-family homes, townhomes, and servicing / pathway blocks.



Figure 1 - Site Location

Water and Wastewater servicing for the subject lands were described in the ***2011 Village of Richmond Water and Sanitary Master Servicing Study*** prepared by Stantec. Stormwater servicing was described in the ***2026 Master Drainage Plan*** prepared by DSEL.

1.1 EXISTING CONDITIONS

The ***7.26ha*** site is currently undeveloped with existing ground elevations between 94.00 m to 97.15 m. The general terrain is relatively flat with a land gradient to the northwest.

The Paterson Group were retained by Caivan (Richmond South) Limited to conduct a geotechnical investigation.

Soils were described as a thin layer of topsoil overlying a layer of silty sand to sandy silt which is further underlain by glacial till. Bedrock was encountered between 2 and 5 m below existing grade. Soils were found to have infiltration rates between 22 to 104.5 mm/hr with an average of 54.2mm/hr. And the long-term groundwater level was estimated to be between 2.5m and 3.0m below ground.

1.2 DEVELOPMENT LAYOUT

DSEL understands that the proposed development will consist of approximately 126 single family and 101 townhomes, servicing/walkway blocks, a block dedication for a watercourse, and 18.0m right-of-ways (see proposed concept plan attached).

2.0 WATER SERVICING

Water servicing for the subject lands was contemplated in the Village of Richmond Water and Sanitary Master Servicing Study prepared by Stantec Consulting Ltd. (July 2011). The Western Development Lands are supplied through a communal well system known as the Richmond West Pump Station (RWPS) located at 1045 Showman Street. This system was intended to provide potable water to the entire WDL area, including Richmond South.

The RWPS was constructed in 2019 and currently has a firm supply capacity of 28 L/s, defined by the output of the two active wells with the largest well out of service. An expansion of the RWPS reservoir storage was completed and commissioned in 2025. Stantec was retained by the WDL developers to design the associated civil, process, electrical, and instrumentation works required to activate a dormant well (Well #3). Construction of this expansion is currently underway with commissioning scheduled for Fall 2027. Once completed, the RWPS will have a firm capacity of 41.85 L/s and will provide sufficient water capacity for the proposed development.

3.0 WASTEWATER

Wastewater in the Village of Richmond is conveyed to an existing pump station located at 63 Royal York Street. Sewage is conveyed approximately 14km along the Jock River, North on Eagleson, to the Hazeldean Road intersection where it discharges into the Glen Cairn Trunk Sewer. Sewage is ultimately conveyed to the ROPEC treatment plant where treated water is discharged into the Ottawa River.

The City of Ottawa engaged Parsons to assess wastewater servicing requirements to support growth in the Village of Richmond. Technical Memorandums (***TM No.1 – Richmond Population and Wastewater Flow Projections (March 2019)*** and ***TM No.2 – Proposed Richmond Pumping Station Upgrade (May 2019)***) were prepared and Parson's completed their ***Village of Richmond Wastewater Collection System Upgrades Functional Design Study*** in September 2019. Parson's TM No.1 forecasted a peak wet weather flow between 300 and 350 L/s for the Village including the growth areas at the time. Leaving between 10 to 60L/s to support additional growth.

DSEL understands from City staff that work has commenced to upgrade the Richmond Pump Station and associated forcemains to accommodate WDL and future development.

- **Phase 1** ***(Completed 2019)***
  - Martin Street Sewer and 1.2 km of Forcemain Twinning
  - Gravity trunk sewers on Martin Street established for western development lands
  - 1.2 km of 600 mm dia. PVC sanitary forcemain constructed from Richmond PS to Lagoon Cell C
- **Phase 2** ***(Completed 2026)***
  - Pumping Station Upgrades
  - Increase Richmond PS pumping capacity for current and future development
  - Four identical dry pit submersible pumps replacing existing pumps
  - Increases capacity to 195 L/s
- **Phase 3** ***(Completed 2026)***
  - Forcemain Twinning (2nd Stage)
  - 5.9 km of 600 mm dia. twinned forcemain along Eagleson Road to Fallowfield Road
  - Enhances system reliability and adds 45 l/s, total capacity of 240 L/s
- **Phase 4**
  - Forcemain Twinning (3rd Stage)
  - 6.4 km of 600 mm dia. twinned forcemain from Fallowfield to Glen Cairn Trunk Sewer
  - Completes forcemain twinning for 360 L/s capacity

Based on the upgrades completed to date, there is sufficient downstream sanitary capacity to service the proposed development.

4.0 STORM SERVICING

4.1 EXISTING STORMWATER SERVICES

Stormwater runoff from the subject property is tributary to the Jock River via road side ditches.

As discussed in Section 1.1, the subject lands are undeveloped, relatively flat with a land gradient to the northwest.

4.2 POST-DEVELOPMENT STORMWATER MANAGEMENT

Stormwater management for the subject lands was contemplated in the approved ***Master Drainage Plan 2026 Update*** prepared by DSEL.

The subject property is expected to be serviced by an internal gravity storm sewer system discharging to an existing trunk storm sewer within the Ottawa St. right-of-way which outlets to the Jock River. The existing trunk sewer has sufficient capacity for the proposed development.

Similar to the surrounding community, the proposed centerline of road grades does not allow for standard basements with a gravity connection to the storm sewer system. Therefore, the subject lands will also be serviced by sump pumps due to the site constraints imposed. This is consistent with the original ***MDP*** and ***MDP 2026 Update***.

5.0 CONCLUSION

DSEL was retained by Caivan (Richmond South) Limited to complete an adequacy of servicing review for its proposed Richmond South development. Our review determined that that existing/proposed water, sanitary, and storm services can accommodate the contemplated development.

- Water – Potable water is delivered to the subject lands via the Richmond West PS. The Richmond West PS is currently being expanded to service the subject lands. Works are expected to be completed by Fall 2027.
- Wastewater – Local and trunk sewer have sufficient capacity to convey wastewater from the subject lands. Richmond PS and associated forcemain upgrades have recently been completed to support the development of the subject lands.
- Stormwater – The subject lands were contemplated in the MDP and 2026 MDP Update.

Yours Truly,
David Schaeffer Engineering Ltd.



Per: Marc Pichette, P.Eng.

CAIVAN

6305,6371 OTTAWA STREET WEST

DRAWING: BP-1
DATE: 2026-10-05
AUTHOR: TF
SCALE: 1:1100

RICHMOND SOUTH

Concept Site Plan

- Village Residential 4
- Deeper Lots
- Local Road
- Van Gaal Drain
- Pathway Block

Artist's concept for illustrative purposes only.
Subject to change without notice.

0 10 20 30 50 m

SCALE 1:1100 (11×17)

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