

# STAFF REPORT

THE CORPORATION OF THE TOWN OF COBOURG



<b>Report to:</b>	Mayor and Council Members	<b>Priority:</b>	<input checked="" type="checkbox"/> High <input type="checkbox"/> Low
<b>Submitted by:</b>	Bill Peeples, Environmental Services Manager, Public Works Division, <a href="mailto:bpeeples@cobourg.ca">bpeeples@cobourg.ca</a>	<b>Meeting Type:</b>	Open Session <input checked="" type="checkbox"/> Closed Session <input type="checkbox"/>
<b>Meeting Date:</b>	January 10, 2022		
<b>Report No.:</b>	Public Works-081-22		
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**Subject/Title:** Raw Sewage Pump – Plant 2

## RECOMMENDATION:

**THAT** Council approve the purchase of a new Raw Sewage Pump and associated valving for Water Pollution Control Plant #2 from Hidrostral at a cost of \$167,384 including non-refundable HST.

**FURTHER THAT COUNCIL** approve the hiring of Peak Engineering on a time and material basis to conduct the installation with an upset limit of \$30,000.

### 1. STRATEGIC PLAN

N/A

### 2. PUBLIC ENGAGEMENT

Staff endeavor to have reports for Council at least 10 days in advance of a Committee of the Whole meeting in accordance with Council's policy. However urgent items are often required to be added late to the agenda to avoid detrimental circumstances or to improve efficiency in operations. All details related to the costs associated with the pump were not able to be obtained between the time period between having received budget approval and the December 23<sup>rd</sup> deadline for agenda items. The urgency of approving the purchase of this pump is the lengthy delivery period of over 36 weeks (9 months). The earlier that this pump can be ordered, the sooner that we can ensure that the pump is replaced before it requires further repairs or fails.

### 3. PURPOSE

#### 4. ORIGIN AND LEGISLATION

Environmental Services 2022 Capital Budget (\$200,000 approved for this project)

#### 5. BACKGROUND

The Headworks at Plant #2 was constructed in 1984. It included two raw sewage pumps, either of which could handle the average daily flow of the facility. These pumps are both 34 years old and neither one is currently capable of carrying the entire Plant flow on its own. The capacity loss has resulted in two sewage bypasses at Plant #2 in the past year. Both need to be replaced as soon as possible to prevent further bypasses.

#### 6. ANALYSIS

In 2017, Council approved funding to replace one of the two Raw Sewage Pumps at Plant #2. The loss of pump efficiency combined with higher inflow and infiltration (i.e. I&I) from the aging collection system, made it impossible to take either pump off-line for replacement. Even with both pumps on-line, Plant #2 bypassed twice in one year. Taking either pump off-line to replace it was therefore impossible. Instead, a new, third, pump was installed in one of the two empty (i.e. spare) pump channels. This third pump could then handle the full inflow capacity while each of the other two older pumps were replaced. One of the old remaining pumps was replaced in 2020. The new pump in 2022 will be the third of three.

Unlike most raw sewage wetwells, Plant #2 was designed with a shallow pre-rotation chamber in the wetwell preceding the pump. The presence of this chamber is to permit the pump to operate over a broader discharge range while still remaining within an acceptable pump curve (i.e. To prevent pump cavitation). The pre-rotation chamber allows a broader range (i.e. 0 to 26,000 m<sup>3</sup>/day) with a fewer number of pumps. While this an efficient design, it also limits expansion to a single type of pump, namely a Hidrostal pump. With no options for purchasing other types of pumps, there is little benefit to its inclusion in a tender because the bidder would invariably include their own markup costs. For this reason, the pump is proposed to be purchased directly from Hidrostal.

#### 7. FINANCIAL IMPLICATIONS/BUDGET IMPACTS

A quotation was obtained for a Hidrostal Pump from Directrik (Hidrostal distributor in Canada) and quotes for the required valves were obtained from Syntec.

Peak Engineering was the successful bidder when the completely new pump installation was tendered in 2017. They were then hired on a time and material basis to replace the first old pump in 2020. Peak is familiar with the existing pump and piping configurations and therefore deemed to be a more efficient choice than a contractor that has not previously worked on the system. Peak Engineering has agreed to install the new pump on a time and material basis with an upset limit of \$30,000.

<b>Item</b>	<b>Cost</b>
Pump Purchase	\$133,469
Valves	\$31,020
Total including Non-Refundable HST	\$167,384
Installation	\$30,000
<b>Total Project Cost</b>	<b>\$197,384</b>

The total project cost is \$197,384. Council has approved \$200,000 in the 2022 Environmental Services Capital Budget.

## **8. CONCLUSION**

THAT Council approve the purchase of a new Raw Sewage Pump and associated valving for Water Pollution Control Plant #2 from Hidrostal (Syntac for the valving) at a cost of \$167,384 (price includes non-refundable HST). FURTHER THAT COUNCIL approve the hiring of Peak Engineering on a time and material basis to conduct the installation with an upset limit of \$30,000. Council has approved \$200,000 in the Environmental Services 2022 Capital Budget for this project.

## Report Approval Details

Document Title:	Raw Sewage Pump 2 Replacement (Plant 2) - Public Works-081-22.docx
Attachments:	
Final Approval Date:	Jan 3, 2022

This report and all of its attachments were approved and signed as outlined below:

**Tracey Vaughan, Chief Administrative Officer - Jan 3, 2022 - 2:41 PM**