



Staff Report

Report Title: 2023 Pavement Preservation RFQ

Prepared By: John Yungblut, Director of Public Works

Department: Public Works

Date: Aug. 9, 2023

Report Number: PW-2023-08-45

File Number: C11 PW 23

Attachments: Report PW-2022-02-14, FiberMat Document, BWC Document, Miller Letter, Walker FM Quote, Walker BWC Quote, Miller MS Quote

Recommendation:

THAT the Township of Huron-Kinloss Committee of the Whole hereby receives for information Report Number PW-2023-08-45, prepared by John Yungblut, Director of Public Works;

AND accepts the quotation from Walker Construction Ltd. in the amount of \$735,073.50 plus HST for application of Bonded Wearing Course on Concession 4 and Concession 8;

AND FURTHER authorizes the appropriate by-law comes forward.

Background:

From 2007-2009 the Township paved hot mix asphalt on 60 centreline kilometres of roads. These projects were funded by several sources, but the most significant source was from wind turbine operators. The heavy loads from constructing these structures greatly accelerated the wear and tear on our roads, so it was common practice for these companies to compensate municipalities accordingly.

While the investment in paving our roads was greatly beneficial at the time, it does present a problem that we are expecting that these roads will need to be replaced within the next 5-10 years. At current pricing, staff estimate that the total cost to pulverize and pave hot mix asphalt is \$8.4 million.

Report PW-2022-02-14 was brought forward during the 2022 Budget Meeting, regarding a proposal to apply a preventative treatment on some paved roads that

are still in relatively good condition but are nearing their end of their useful life. The 2022 report is attached to this report.

The 2022 Capital Budget allocated \$300,000 for a pavement preservation project, however, when we discussed pricing with contractors it became clear that a larger project would be considerably more cost effective. The main reason for this is contractors that specialize in these types of treatments are either in the Greater Toronto Area or the Niagara Region, which results in higher mobilization costs than a hot mix asphalt project.

During the 2023 Budget Meeting, Township staff recommended transferred the budgeted amount in 2022 with an additional \$450,000 for a total budget of \$750,000, which was approved by Council.

Township staff reviewed a selection of roads that we thought would benefit from a preventive maintenance project with the two contractors that specialize in these projects, Miller Paving and Walker Construction. After discussing various options, Township staff decided to pursue three treatment options: Micro-Surfacing, FiberMat and Bonded Wearing Course.

Micro-Surfacing is explained in the 2022 report and in the letter from Miller Paving. FiberMat and Bonded Wearing Course are explained in the document from Walker Construction. These contractors specialize in different treatments, so we are only able to receive a single quote for each treatment.

Township staff requested quotations for Con. 4 from Hwy 21 to Bruce Road 7 (8km) and Con. 8 from Hwy 21 to Lake Range Dr. (2.8km). The pricing we received is as follows (not including HST):

Road	FiberMat (Walker)	Bonded Wearing Course (Walker)	Double Micro- Surfacing (Miller)
Con. 4 and Con. 8 (10.8km)	\$535,783.50	\$735,073.50	\$604,768.50

Discussion:

Based on the quotes submitted, it appears that FiberMat is by far the most economical solution, however, these treatments have different life expectancies, which have to be factored into our analysis. For comparison purposes, hot mix asphalt is also included in the table below:

Treatment	Life Expectancy	Cost per year
FiberMat (Walker)	8 years	\$66,972.94
Bonded Wearing Course (Walker)	10 years	\$73,507.35
Double Micro-Surfacing (Miller)	8 years	\$75,569.06
Hot Mix Asphalt	20 years	\$76,650.00

The life expectancy used in the calculation is considered conservative and these treatments have lasted five more years than expected in many cases.

The FiberMat product that has been quoted does not include a wearing course, so the surface will have a layer of stone on the surface and look similar to a surface treatment (also known as tar and chip). Township staff see this product working well on roads that are in slightly worse condition than Con. 4 and Con. 8 and if a wearing course was applied with 2-3 years, the road surface could surpass the lifespan of a single lift asphalt road. This product also needs to be applied in warm weather, so the contractor may not be able to use this product on our roads this year. Another issue with this product is not suitable for areas with horse drawn vehicles.

Micro-Surfacing will leave the appearance of a newly paved road, but it is designed for higher traffic roads that typically have multiple layers of asphalt. Township staff see this product working well on Lake Range Dr. This product is currently being used by Bruce County and the Municipality of Kincardine.

Bonded Wearing Course will also leave the appearance of new asphalt, but it can be applied in cooler temperatures, so the contractor will be able to apply this product this year. This product will work well on roads that have minor rutting and cracking.

Township staff see the value in all these products, and we have received positive reviews from the municipalities that have used them. We are currently working on a multi-year plan to use them on the right road at the right time. Not all the roads paved between 2007 and 2009 are appropriate for these treatments and may need to be allowed to deteriorate until the end of their useful life before they are pulverized and paved with new asphalt.

Financial Impacts:

The 2023 Capital Budget allocated \$750,000 for a pavement preservation project.

Strategic Alignment / Link:

We are a prosperous community that continues to grow in a sustainable manner by investing in infrastructure.

Respectfully Submitted By:

John Yungblut, Director of Public Works, C.E.T.

Approved By:

Mary Rose Walden, Chief Administrative Officer