

Regional staff will investigate if steel pipes are better than concrete

By Bill Rea

Is it better to have watermain made of steel or concrete?

Peel Regional councillors had a spirited debate on that question recently, and resolved very little. In the end, they referred the whole matter back to staff.

The staff report that went to council recommended that future tenders for large diameter mains be written with dual specifications for both steel and concrete pressure pipe (CPP) in order to ensure best value for the Region.

Council had asked staff to look into this in July, to see if steel could be used as an alternate to CPP.

The report stated the Region owns and operates about 182 kilometres of large diameter pipe, which is the "backbone" for its water transmission network. It allows the bulk movement of water between 12 reservoirs and pumping stations, as well as servicing small sub-transmission and distribution mains.

The Region's current specifications call for using CPP for pipes with a diameter greater than 600 millimetres.

"CPP is constructed in accordance with several internationally recognized water works standards, including the American Water Works Association (AWWA) and the American National Standards Institute," the report stated.

Staff added more than 90 per cent of the Region's transmission system larger than 600 millimetres is made of CPP, as is about 80 per cent of the subtransmission network larger than 400 millimetres.

"When installed correctly, CPP has performed well," the report said.

It also said steel pipe is used in Peel's system, adding Peel's construction specifications for transmission infrastructure are consistent with those in neighbouring municipalities. It also stated Toronto has been using steel almost exclusively for large diameter pipes since 1953.

Councillors heard from representatives of both industries.

Benoit Tanguay, vice-president of engineering with DECAST Ltd. said CPP "is robust, rigid and completely made in a controlled environment. Steel pipe, he added, is flexible, and about 97 per cent of a steel watermain's strength comes from surrounding material. He added there have been three recent failures of steel mains in the Greater Toronto Area (GTA), and they would not have happened had the pipes been made of CPP.

Tanguay also said CPP "has a lower failure rate than any other material. Steel has a failure rate about 4.5 times higher than CPP. He wondered why the Region would consider changing from a proven product and put water delivery at risk.

Christopher Edwards, technical resource engineer with Forterra Canada, told councillors the company has been operating since the 1930s, providing CPP from seven manufacturing outlets in Ontario; five in the GTA. He added there are some 700 kilometres of infrastructure in Peel that uses CPP provided by the company.

He also stressed that CPP "makes up the strongest pipe available, and is delivered ready to install. There is also a much lower risk than with steel.

Edwards also cited a study from Utah State University that said there is more than a four-times greater failure rate in Canadian infrastructure made from steel than CPP.

Those arguing from the other side of the issue included Gary Lewis, sales representative from Northwest Pipe Company, which he said is the largest steel water pipe manufacturer in North America, providing pipe ranging from 600 to 3,200 millimetres in diameter. He added they are looking at expansion opportunities in the GTA.

Lewis argued the benefits of using steel include the fact it is manufactured to exacting AWWA standards. He also said having more options creates greater competition and less cost for the taxpayers.

He also referred to the staff recommendation advocating that both steel and CPP be considered.

"I'm sure they've done a great job of due diligence," he said.

As well, Lewis defended the reliability of steel.

"There's no way you could have a leak," he declared.

He told Mississauga Councillor Pat Saito the company doesn't have any plants in Canada, but it is interested in creating a Canadian footprint, possibly in the GTA. He also said the value of the Canadian dollar and possible impact from NAFTA would not impact on prices charged. They would be market driven locally.

Taish Seekwar, vice-president of Ewing Fabricators, told council they are a local and Canadian-owned manufacturer of steel pipe, which recently moved to a facility in Newmarket.

He argued steel pipe has a proven track record in the GTA, its high strength allows for higher operating pressures and it's designed to

withstand internal and external stress.

Company CEO Tony DiMillo said they have two projects on the go in Mississauga.

Public Works Commissioner Janette Smith told councillors the more competition in a tendering process means more value for the Region.

Caledon Councillor Annette Groves was concerned with the reported failure rates of steel, as well as possible environmental implications of using steel.

She also pointed out the Region dealt with this issue in 2012.

"I'm not sure why we're doing this," Groves remarked, pointing to indications that steel doesn't hold up as well under pressure. "I'm all for saving money, but not at the risk of safety."

Smith reminded her that council had asked staff to look into this. She added staff would not be recommending dual specifications if they didn't think the quality was there.

Brampton Councillor John Sprovieri was also concerned about the environment, adding if the impacts are different between steel and CPP, that should be a factor.

"I think the environment is more important than saving a dollar in the long-term," he commented.

Sprovieri added the failure rate is important, and he wanted to see more data on that, as he suggested the matter be referred back to staff.

Mississauga Councillor Ron Starr thought the staff report was too general and didn't provide enough information.