



TO: Mayor Bridge and Members of Council
FROM: Brian Hansen, Public Works Director
DATE: April 21, 2015
SUBJECT: Clifford Ultra Rib Pipe Sanitary Sewer Mains

STRATEGIC PLAN:

5.7 Adopt and maintain fair and transparent procurement policies and by-laws to ensure the Town receives competitive pricing on tenders and proposals, and that local business has equal opportunity to submit bids.

BACKGROUND

GM Blue Plan formerly known as Gamsby and Mannerow Limited was retained by the Village of Clifford back in the late 1980's to do an EA report to provide the Village of Clifford with a viable solution to their existing sanitary sewage disposal problem. This EA was completed and approved in 1992. Up until this time the entire Village relied upon individual septic tanks and tile fields for treatment and disposal.

Three certified main sewer pipes were recommended in this consultant's report to be acceptable for this project. They were:

- PVC Smooth Wall Pipe SDR 35
- PVC Smooth Wall Rib-Profile Pipe – Minimum strength 320 kPa, and
- Concrete pipe

The Contractor Re-Sar chose to use PVC Smooth Wall Rib-Profile Pipe known as “Ultra-Rib pipe” with pea stone bedding throughout the entire Village because of the huge cost savings at the time. The preferred pipe choice would have been the PVC SDR 35 with Class “B” bedding. The design life of this project in the mid 1990's was estimated to be 50 years at a cost of \$2,705,000.

During construction several issues with the Contractor arose including their filing for bankruptcy in October 1994. A second contractor, The Murray Group; was hired to complete the pavement portion of this project under the direction of Maple Engineering. The Village of Clifford's operators of the waste water system at the time was OCWA and they were signing off on the payment certificates. The project was secured by a performance bond posted by the original contractor upon reward.

COMMENTS

“Ultra-Rib pipe” is no longer a recommended installation in urban areas. When a connection is made to “Ultra-Rib pipe” installers must core into the wall to connect the laterals (PDC”S). This reduces the pipe's strength causing it to weaken, lose its conformity and eventually collapse. In these cases the design life is considerably less than 50 years especially when there are multiple connections and the sewer is very deep, which is the situation on many streets in Clifford.

In discussion with Triton Engineering who designed the watermain construction on Ann Street there is concern that some 30 or more connections 4 to 5 metres below ground will compromise the Ultra-Rib pipe. The sewer has only been installed for a little over 20 years, but it may be desirable to re-place it and begin a process to remove “Ultra-Rib Pipe” from Clifford where it is practical to do so.

In the case of the upcoming Ann Street construction starting in January, The Director of Public Works asked for a cost breakdown in having the existing sanitary replaced on Ann St in Clifford and the costs are shown below.

Allan Street to Geddes Street

Supply, Excavate for and Install 200mm Sanitary Sewer:

120.0m @ \$179.00/m =\$21,480.00

Connect to Existing Maintenance Hole

2 @ \$299.00/each =\$598.00

TOTAL=\$22,078.00

Geddes Street to Queen Street

Supply, Excavate for and Install 250mm Sanitary Sewer

141.0m @ \$190.00/m = \$26,790.00

Connect to Existing Maintenance Hole

4 @ \$299.00/each = \$1,196.00

TOTAL= \$27,986.00

To replace the main line sewer on Ann Street between Allan Street and Queen Street in Clifford adds an additional cost of \$50,064.00 + HST.

One option to removing “Ultra-Rib Pipe” in some cases is to place a lining inside the old sanitary sewer main over the next few years to help re-inforce these structures. The option of leaving the “Ultra-Rib Pipe” and installing a new parallel sewer is not recommended due to concerns the older pipe could collapse resulting in settlement and causing connections to separate from the main. This also causes unwanted road deterioration.

FINANCIAL IMPLICATIONS

Money for this project be included as part of the 2016 Capital budget.

RECOMMENDATION

That Council receives the report from the Public Works Director regarding Clifford Ultra Rib Pipe Sanitary Sewer Mains and approves adding an additional \$50,064 plus HST to the Ann Street reconstruction contract to replace the Ultra Rib Pipe; AND FURTHER that the Public Works Director develop a strategy to re-line and replace sanitary mains in Clifford over the next few years to help alleviate future threats of pipe failure.

Brian Hansen
Public Works Director