



**CITY OF RICHMOND**

**REPORT TO COMMITTEE**

*To PW & T - Sept 19, 2001*

**TO:** Public Works and Transportation Committee  
**FROM:** Steve Ono, P.Eng.  
Manager, Engineering Design & Construction

**DATE:** August 21, 2001  
**FILE:** ~~6060-01~~  
6060-03-01

**RE:** Approval for Additional Ageing Sewer Pipe Assessment Work

**STAFF RECOMMENDATION**

That \$320,000 of excess sewer utility funding from 2000 Sanitary Sewer Trunk Utility Bylaw No. 7084 be allocated for assessment of an additional 40 kilometres of ageing sanitary sewer in the Shellmont area in 2001 for identification of necessary repairs to the sewer network.

Steve Ono, P.Eng.  
Manager, Engineering Design & Construction

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Budget.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

## STAFF REPORT

### ORIGIN

In 2000, Council approved \$1,087,000 for rehabilitation of 8.5 km of ageing sanitary sewers in the Steveston area. Specialist Contractors and City forces have completed this project well within budget at an estimated final cost of \$330,000.

The purpose of this report is to obtain Council approval to advance the next phase of sewer assessment in the Shellmont sewerage area.

### ANALYSIS

The funding surplus of \$757,000 for the Steveston sanitary sewer rehabilitation project is attributable to efficiencies realized during the detailed design stage of this project. During the detailed design stage staff recognized that the assistance of a consultant with expertise in the area of sewer condition assessment and trenchless technology for sewer rehabilitation could benefit the City and the Steveston residents by minimizing construction disturbance and cost.

The specialist consultant found that the Steveston fibre re-enforced plastic (FRP) sanitary sewer pipe condition was not as poor as it initially appeared to be on the closed circuit television camera (CCTV) video inspection reports. In fact, the consultant found that much of the sewer pipe could continue to function effectively after selective repairs were completed, rather than undertaking extensive replacement of much of the sewer pipe.

The specialist consultant's evaluation and prescribed solutions for rehabilitation of the sewers in Steveston has resulted in significant reductions in cost and scope for sewer repairs and final site restoration. The majority of the sewers were repaired using trenchless technology. Photographs showing some of the repair methodology are appended.

Now that sanitary sewer rehabilitation work in Steveston is complete, other areas of Richmond with ageing sanitary sewers must be assessed to determine the extent of sewer rehabilitation work necessary. The Shellmont area generally between Garden City Road to the west, and No. 5 Road to the east, and south of Francis Road, is one such area.

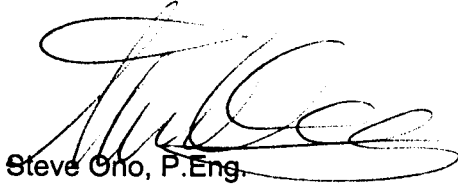
The Shellmont sanitary sewer area generally comprises some 40 kilometers of asbestos cement (AC), poly-vinyl chloride (PVC) and FRP sewer pipes. Preliminary CCTV inspections have shown that many of these sewer pipes are now leaking and allowing groundwater to infiltrate. There are also many problems with cracked pipes and leaking pipe joints. The proposed sanitary sewer assessment is the first step in planning rehabilitation of the Shellmont sanitary sewers.

### FINANCIAL IMPACT

The 2000 Steveston Sanitary Sewer Rehabilitation project is complete and a balance of \$757,000 remains unspent. Utilizing these funds for additional sanitary sewer assessment in the Shellmont area will not impact the current capital program..

CONCLUSION

The City has completed rehabilitation of ageing sanitary sewers in the Steveston area with extensive use of trenchless technologies. This has resulted in significant cost savings. Accordingly, staff recommend that some of the remaining funds be dedicated to advance the assessment of ageing sanitary sewers in the Shellmont area in preparation for rehabilitation of the sewer piping in that area.



Steve Orto, P.Eng.  
Manager, Engineering Design & Construction

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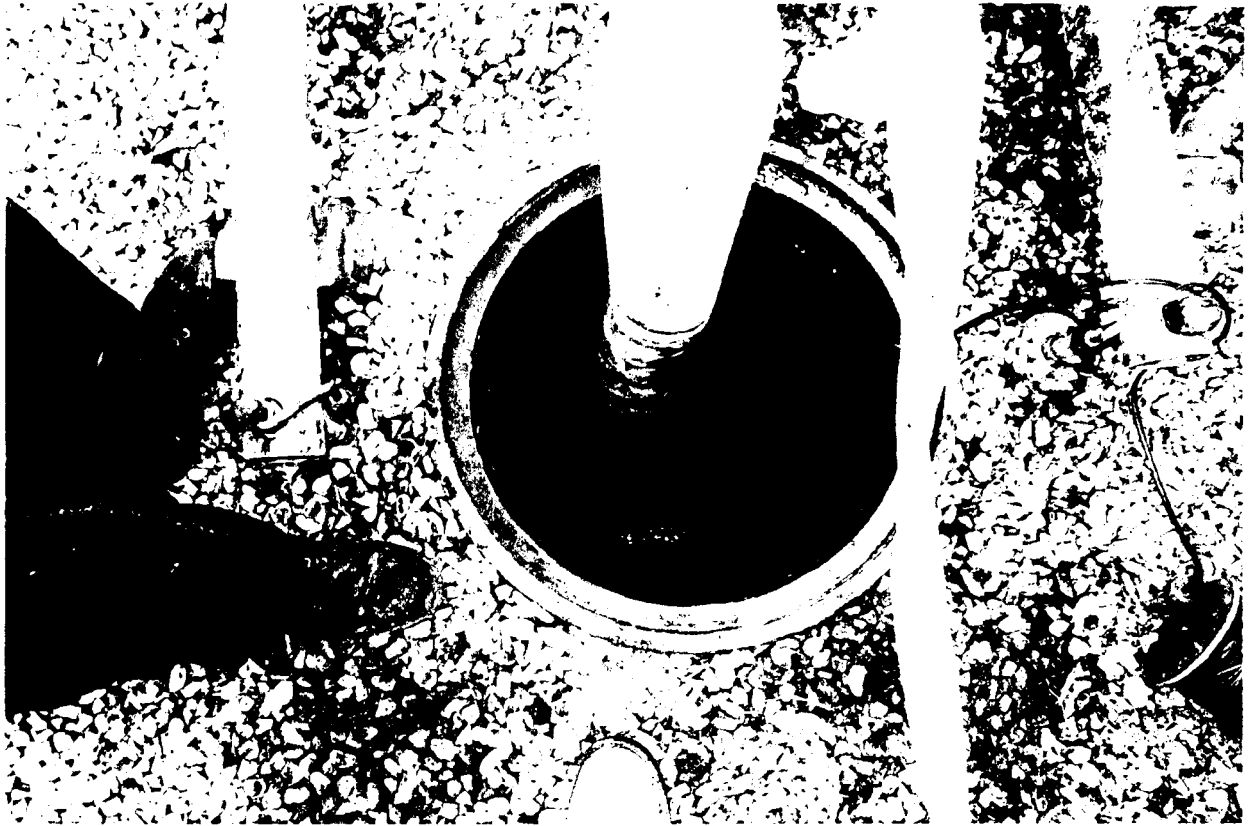
## APPENDIX A



Existing structures built along right-of-way above sewer which was repaired using liner pipe installed by trenchless technology.



Installation of new sewer pipe lining via manhole.



New sewer pipe lining inserted in pipe.



Conventional open cut sewer point repair.