



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: March 11, 2008
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Meeting Date: April 1, 2008

TO: Vancouver City Council
FROM: General Manager of Engineering Services
SUBJECT: Fleet Additions - Sewer Operations Branch

RECOMMENDATION

- A. THAT Council approve the following:
- i. the allocation of \$318,000 from the Truck and Equipment Plant Account to add six equipment units to the Sewer Operations Branch fleet to replace five existing leased units
 - ii. the allocation of \$74,500 from the existing Sewer Operations Branch Operating Budgets to pay for annual operating costs associated with the new units, including repayment of the Truck and Equipment Plant Account.
- B. THAT Council authorize one currently unauthorized rodder truck at no cost to the Truck and Equipment Plant Account and operating costs of which to be funded from the existing Sewer Operations Branch Operating Budget.

COUNCIL POLICY

Council approves expenditures from Reserves, including the Truck and Equipment Plant Account.

Council approves all increases in service levels, including the addition of vehicles and equipment to the fleet.

PURPOSE

The purpose of this report is to seek Council approval to replace five leased units with six City-owned units and to authorize one currently unauthorized rodder truck unit. These units will be used by the Sewer Operations Branch.

BACKGROUND

In response to recommendations from a 2004 Truck & Equipment Rental Audit done by the Internal Audit Group there is an initiative underway by the Equipment Services Branch (EQS) to review all long-term leases and units that have been already replaced (duplicates) but not decommissioned for various reasons. The review is based on the operational need for the units and the cost effectiveness of converting leases to City owned units. When a review indicates that fleet additions are appropriate, staff will seek approval from Council for these additions.

DISCUSSION

Leased Units

The Sewer Operations Branch (SWOB) is currently leasing three vehicles and two trailer-mounted pumps. These leases were initiated between 1999 and 2005 to accommodate increased staffing levels, new equipment for infrastructure programs, and trials of new programs. Recently the SWOB and EQS reviewed SWOB's fleet requirements and determined that there was a demonstrated need for these units to maintain the efficiency and productivity of the branch (see Table 1). The operational requirements of the existing leases were assessed to determine appropriate type and size and it was determined that one of the five leased units, the leased sewer camera van, needs to become two units: a dedicated sewer camera trailer and a towing vehicle that can also be used as a maintenance van when necessary. Detailed descriptions of the unit functions and justifications for their continued use are listed in Appendix A.

Currently, the leased units are funded through the SWOB Operating Budget and are subsequently charged out by the SWOB to various capital and operating programs. By converting the five leased units to right-sized City-owned units the SWOB can reduce their annual costs by approximately \$51,100. The \$51,100 in savings will be distributed among the different services that Sewer Operations provides. The estimated \$25,000 of savings attributed to the capital program will assist in reducing the unit rate installation costs of new sewer mains allowing for an increase in the linear amount of sewer lines installed in future capital programs without incurring corresponding budget increases. The estimated \$26,100 of savings realized by the operations program will be used to offset rising charge-out costs to Sewer Operation's clients related to the investigation of service line conditions and problems.

Duplicate Unit

The SWOB is also currently operating an unauthorized rodder truck. The rodder truck was an authorized unit in the fleet, but it became a duplicate when it was not decommissioned upon its replacement being put into service. The rodder truck was replaced in 1996 with a flusher

truck because the flusher truck is generally faster to set up and therefore more efficient. Once the flusher truck was put into service it was found that a mechanical rotating/pushing (rodding) device would still be required on the odd occasion for the cleaning of stubborn sewer mains. The rodder truck was therefore held back from decommissioning and is now used in a limited capacity. The flusher truck and its subsequent replacement have been used on a full-time basis and the rodder truck has only been used to clean stubborn clogged sewer mains. As a result, the rodder truck only uses 510 litres of fuel and requires \$3,200 of maintenance per year. Because of its limited use, staff recommend that the current rodder truck (duplicate) be authorized and added back to the fleet, and continue to be used until the unit becomes economically unsustainable (this is expected to occur within ten years) and then at that time determine whether the equipment should be replaced. If it is determined that the equipment should be replaced, the rodder truck will be replaced by a smaller, trailer-mounted unit.

SUSTAINABILITY IMPLICATIONS

The operational requirements of the existing leases were assessed to determine appropriate type and size. As a result, one of the leased vehicles will be right-sized to a more operationally suitable unit. Although this unit will be larger than the existing leased unit (a cargo van with a high roof towing a trailer instead of just a cargo van), the green house gas emissions are expected to decrease due to the higher efficiency of the engine (diesel instead of gas) and the use of bio-diesel. The remaining 4 units were reviewed and it was determined they are of appropriate size capacity.

FINANCIAL IMPLICATIONS

Leased Units

Table 1 lists the existing leased units, their annual usage and the associated external lease costs. Also listed in Table 1 are the City-owned units that are proposed to replace the external leases and the anticipated internal rate for repayment of capital costs. For leased units, the client pays the lease rate as billed by the supplier. Equipment Services maintains the leased units, and maintenance is charged as it occurs. For City-owned units, the total rental rate includes a portion for capital and a portion for maintenance. The maintenance service level/frequency is the same for leased and City-owned vehicles.

Approximately \$51,100 in annual savings can be achieved by purchasing City-owned vehicles and by right-sizing one vehicle. This will be realized by the SWOB through Capital Program savings of \$25,000 and Operating Program savings of \$26,100.

Table 1: Unit Information and External Lease Rate vs. Internal Capital Rate Comparison

| Vehicle Number | Lease Vehicle Class | Leased Since | Average Annual Usage | External Lease Rate | Proposed City-Owned Vehicle Class | Internal City Capital Rate | Potential Savings |
|----------------|---|--------------|----------------------|---------------------|---|----------------------------|-------------------|
| A5157 | Pump, Trash, Non-Sub, Centre, Trailer, Diesel, 4" | 7/2003 | 550 hr | \$26,600 | Pump, Trash, Non-Sub, Centre, Trailer, Diesel, 4" | \$6,600 | \$20,000 |
| A5158 | Pump, Trash, Non-Sub, Centre, Trailer, Diesel, 6" | 7/2003 | 400 hr | \$32,000 | Pump, Trash, Non-Sub, Centre, Trailer, Diesel, 6" | \$8,400 | \$23,600 |
| A5305 | Truck, Dump, 1 Yard | 2/2004 | 11,000 km | \$13,300 | Truck, Dump, 1 Yard | \$7,500 | \$5,800 |
| A5273 | Van, Panel, Heavy | 2/2004 | 23,000 km | \$9,100 | Van, Panel, Heavy | \$4,700 | \$4,400 |
| A5397 | Van, Panel, Heavy | 4/2006 | 19,000 km | \$10,300 | Van, Panel, Heavy | \$6,500 | -\$2,700 |
| | | | | | Trailer, Sewer Camera | \$6,500 | |
| Total | | | | \$91,300 | | \$40,200 | \$51,100 |

Table 2 lists the cost breakdown of the proposed City-owned units, including the estimated one-time capital costs and annual rental rates. There will be an estimated one-time charge to the Truck and Equipment Plant Account of \$318,000. This will be repaid over the economic lives of the units through annual capital rates totalling \$40,200. The annual operating costs of the units will total \$34,300. The total annual capital and operating costs are estimated to be \$74,500 and will be funded by existing SWOB budgets.

Table 2: Anticipated Vehicle Capital and Operating costs for City-owned vehicles

| Vehicle Number | Proposed City-Owned Vehicle Class | Expected Vehicle Life | One-Time Capital Costs | Annual Rental Rate | | |
|----------------|--|-----------------------|------------------------|--------------------|-----------|----------|
| | | | | Capital | Operating | Subtotal |
| A5157 | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 4" | 11 years | \$55,000 | \$6,600 | \$4,200 | \$10,800 |
| A5158 | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 6" | 11 years | \$70,000 | \$8,400 | \$3,800 | \$12,200 |
| A5305 | Truck, Dump, 1 Yard | 8 years | \$53,000 | \$7,500 | \$8,700 | \$16,200 |
| A5273 | Van, Panel, Heavy | 10 years | \$40,000 | \$4,700 | \$4,600 | \$9,300 |
| A5397 | Van, Panel, Heavy | 10 years | \$50,000 | \$6,500 | \$8,000 | \$14,500 |
| | Trailer, Sewer Camera | 10 years | \$50,000 | \$6,500 | \$5,000 | \$11,500 |
| Total | | | \$318,000 | \$40,200 | \$34,300 | \$74,500 |

Duplicate Unit

The rodder truck requires \$3,200 of maintenance per year, funded from the existing SWOB operating budget, and will be kept in service until the annual costs exceed the annual costs of a new trailer-mounted unit, which is expected to occur within ten years. When that happens, EQS in consultation with SWOB will determine if the unit needs to be replaced and with what type of equipment.

CONCLUSION

There is an ongoing need for six new equipment units in the SWOB fleet. It is more economical to purchase City-owned units than it is to continue to lease as there is an estimated savings of \$51,100 that can be realized annually. There is also a need to make the existing rodder unit an authorized unit in the fleet. Therefore, it is recommended that Council approve the addition of six units at a total cost of \$318,000 from the Truck and Equipment Plant Account for the SWOB fleet and authorize the rodder unit.

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Appendix A: Vehicle Justifications and Usage

| Vehicle Number | Leased Vehicle Class | Replacement Vehicle Class | Vehicle Justification and Usage |
|----------------|--|--|--|
| A5157 | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 4" | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 4" | <p>These pumps serve an important function for the Sewer Operations Branch. They are used during sewer construction projects for by-passing of sewer systems, thus limiting sewer outflows and damage to private properties.</p> <p>These pumps are also required in emergencies. They can be used to control a sewer system that may be overwhelmed by storms or, in some cases, failure due to sewer collapses.</p> |
| A5158 | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 6" | Pump, Trash, Non-Sub, Centr, Trailer, Diesel, 6" | <p>This type of equipment is not always available for renting on short notice; therefore risk management issues that result from these events are minimized by having this equipment readily available.</p> |
| A5305 | Truck, Dump, 1 Yard | Truck, Dump, 1 Yard | <p>The Sewer Operations Cut Repair Program has proven to be successful. The cut crew has been performing permanent repairs since its creation in 2003 and is currently completing all of the sewer permanent cut repairs excluding arterial and concrete routes. Since 2003 the cut crew has performed approximately 4,000 repairs at an average cost of \$331/repair or \$51.03/m² unit. The cost savings realized by having a designated cut crew within the branch, as opposed to contracting out this work, has been estimated at 36 percent.</p> <p>In addition, the Sewer's asphalt crew temporarily repairs the damaged sections of sidewalk, eliminating the need for the connection crews to do a temporary repair resulting in additional savings of \$50 per location.</p> <p>As a result, the City has realized substantial cost savings as well as a more efficient process of completing service installations and therefore a one yard dump truck is required on a permanent basis to support this operation.</p> |
| A5273 | Van, Panel, Heavy | Van, Panel, Heavy | <p>This van has been used for the Sewer Line Maintenance Program to enable the Sewer Operations Branch to maintain the City's commitment to the public and their sewer connections. The precautionary program has grown from 600 to approximately 3,000 lines over the last four years. This program periodically inspects and cleans sewer lines that have a history of root infiltration, stagnant slope due to settlement, and other chronic problems that cause sewer blockages and flooding with potential liability to the City.</p> |
| A5397 | Van, Panel, Heavy | Van, Panel, Heavy & Trailer, Sewer Camera | <p>This van has been used as a camera vehicle to diagnose, troubleshoot, and inspect sewer lines for the past two years. The camera technology is essential for the pipe bursting and cured in place pipe processes, where it is necessary to inspect the existing sewer lines in detail before proceeding with maintenance/repair services. It has also proven invaluable for diagnosing and inspecting sewer lines and for deciding upon the best course of action for a successful sewer repair. Finally, the camera technology's recording ability has the potential to limit the City's liability claims.</p> <p>After the successful trial of the technology with a medium sized cargo van, the City is ready to right size to a fully outfitted camera trailer, along with a towing vehicle. The towing vehicle will be able to be used as a maintenance van in cases when a spare van is needed. The trailer will have a separate computer room and enough tool storage capacity and payload to support all the necessary camera equipment. The improved computer equipment will greatly improve the system with the added abilities of recording data and referencing the data to City's infrastructure system.</p> |