



CITY OF VANCOUVER

ADMINISTRATIVE REPORT

Report Date: June 11, 2008
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VanRIMS No.: 08-2000-20
Meeting Date: July 8, 2008

TO: Vancouver City Council
FROM: General Manager of Engineering Services
SUBJECT: Fleet Additions - Dump Truck and Wheel Loader for Engineering Services

RECOMMENDATION

- A. THAT Council approve the allocation of \$548,000 from the Truck and Equipment Plant Account to add one dump truck and one wheel loader to the Engineering Services fleet.
- B. THAT the \$104,000 required to repay the Truck and Equipment Plant Account for annual capital costs and operating costs for the new truck and wheel loader be provided from the existing Engineering Services Operating Budgets.

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

This report seeks approval for the purchase of one dump truck and one wheel loader for the Engineering Services fleet.

BACKGROUND

There is currently an initiative underway by the Equipment Services Branch to bring all non-authorized corporate fleet resources, such as units that have been already replaced (duplicates), to the attention of Council for approval, if appropriate.

DISCUSSION

The Kent Construction Yard produces approximately 115,000 tonnes of asphalt each year, handles approximately 500,000 tonnes of aggregate each year, and is the site for the Material Testing Lab and the Concrete Pre-Cast Plant.

Dump Truck Addition

One of the vital units to the asphalt operation is a dump truck that shuttles plant materials during plant production from the dryer to the material piles within the yard. The shuttling of asphalt material is necessary several times throughout the day to ensure high quality of asphalt and to facilitate the change of production from one asphalt mixture to another.

Although the dump truck is required on a frequent basis, the distances it travels are quite short, totalling approximately 1,100 kilometres per year. Because of the unique usage of the truck, the Kent Construction Yard has historically used a dump truck that has been retired from regular service (a duplicate unit). The existing duplicate unit is now in need of complete overhaul and beyond the point of justifiable repair because of the constant heavy loading and dumping of very abrasive materials. As such, it is recommended that this unit be replaced. Placing a new unit in this low-use application is not recommended, however, for economic reasons and staff therefore recommends that the new unit be put into service in the Sewer Operations fleet and a high-use unit nearing scheduled replacement be reassigned from Sewer Operations to the Kent Asphalt Plant. This will allow for optimization of use across the City fleet.

Wheel Loader Addition

Another vital unit to the Kent Construction Yard is the wheel loader for the materials recycling area. This current unit is also a duplicate unit. The wheel loader moves materials from the separation area to the crushing area, and from the crushing area to the various stock piles. It is also used for organizing the material piles to facilitate dumping and truck traffic in the area.

In addition to being used in the recycling area, the duplicate wheel loader is also used as a backup to the primary wheel loader. The primary wheel loader is used for loading trucks and inputting material for the asphalt plant. If there were no backup loader and the primary unit went down, the asphalt plant would have to be shut down because it would have no input materials, and trucks waiting for fill material would have to be redirected to external, more expensive, material providers. Based on historical data for recent years, plant shutdowns due to wheel loader downtime would result in lost material sales of approximately \$140,000 per year and higher City costs of approximately \$13,000 for external material purchases. Rental machines of the size and capacity of the existing unit would cost approximately \$8,000 per

year. Rental machines are also difficult to obtain and can take several days to arrive, resulting in unacceptable service levels and additional costs for Kent Yard customers. It is vital therefore to have a backup unit when the primary wheel loader is out of service.

The duplicate wheel loader was put into service in mid-1989 and currently has 20,000 service hours. The typical service life of a machine of this class is nine years or 10,000 hours. The current unit has far surpassed its economic life and requires frequent repairs and downtime. Staff therefore recommend that a unit be authorized and added to the fleet to replace this duplicate unit. The service life of the new unit will be set to 12 years at which time it is expected to reach the 10,000 hour expected service use.

FINANCIAL IMPLICATIONS

Dump Truck Addition

There will be a one-time charge of approximately \$178,000 to the Truck and Equipment Plant Account for the new dump truck assigned to Sewer Operations, and internal rental rate charges (capital and maintenance) to Sewer Operations of approximately \$32,000 per year. This rate is the same as what the branch is currently paying for the truck to be reassigned to Kent Construction (i.e., the rate for a dump truck that is used full time). The internal rental rate to be paid by Kent Construction for the reassigned truck will decrease to approximately \$11,500 per year, reflecting the fact that the truck will not be used full time (i.e., only 1,100 kms per year).

The maintenance cost of the current unauthorized duplicate dump truck in Kent Construction is \$7,000 per year. (Since it is a duplicate unit, there is no capital cost.) The Kent Construction operating budget will therefore increase by \$4,500 (\$11,500 for the reassigned Sewer Operations truck vs. the \$7,000 cost of the existing duplicate truck), this increase to be recovered through construction materials sales revenues.

Wheel Loader Addition

There will be a one-time charge of approximately \$370,000 to the Truck and Equipment Plant Account for the new wheel loader, which will be repaid by the Kent Construction Yard over the 12 year life of the loader through internal rental rate charges for capital of approximately \$42,000. Maintenance required for this unit will be billed at cost (rather than a fixed rental rate for maintenance) since the unit's usage is highly dependent on the amount of recycling material handled in a given year. Over the life of the unit, the average maintenance cost is expected to be \$30,000 per year, for a total rental rate of approximately \$72,000 per year. The maintenance cost of the current unauthorized duplicate wheel loader is \$55,000 per year. (Since it is a duplicate unit, there is no capital cost.) The Kent Construction operating budget will therefore increase by a net \$17,000 (\$72,000 new capital and maintenance vs. \$55,000 old maintenance); this increase will be recovered through construction materials sales revenues.

The addition of the new dump truck to Sewer Operations and the new wheel loader to Kent Construction will result in total internal rental rate charges of \$104,000 as shown in Table 1.

Table 1. Total Internal Rental Rate Charges For New Units

Unit	Department	Capital Cost	Internal Rental Rate (Capital and Maintenance)
Dump Truck	Sewer Operations	\$178,000	\$32,000
Wheel Loader	Kent Construction	\$370,000	\$72,000
Total		\$548,000	\$104,000

ENVIRONMENTAL IMPLICATIONS

The new dump truck and the new wheel loader will comply with the most recent and very stringent emission standards and this will result in significant reduction in regulated emissions.

CONCLUSION

This report seeks approval to purchase one dump truck for \$178,000 and one wheel loader for \$370,000 from the Truck and Equipment Plant Account to meet the operational needs of the Kent Construction Yard, with funding to come from the existing Engineering Services Operating Budgets.

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