



**To:** General Purposes Committee  
**From:** Dave Semple  
 Director of Parks & Public Works Operations  
**Re:** Supply & Delivery of Two (2) Backhoe Loaders

*To General Purposes - Feb 20, 2006*

**Date:** February 10, 2006

**File:** 03-1000-20-2711Q

**Staff Recommendation**

That the City of Richmond award the purchase of Two (2) Backhoe Loaders to Finning (Canada) for a price of \$146,401.08 per unit for a total purchase cost of \$292,802.16.

Dave Semple  
 Director of Parks & Public Works Operations  
 (3350)

Att. 2

FOR ORIGINATING DIVISION USE ONLY					
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>		<b>CONCURRENCE OF GENERAL MANAGER</b>		
Budgets .....	Y	<input checked="" type="checkbox"/> N	 (ACTING)		
<b>REVIEWED BY TAG</b>	YES	NO	<b>REVIEWED BY CAO</b>	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>		<input checked="" type="checkbox"/>	<input type="checkbox"/>

## Staff Report

### Origin

Council approved the acquisition of Two (2) Backhoe Loaders from the Vehicle Replacement Reserve for 2004 and 2005, as the current equipment has reached the end of their life cycles.

This report deals with the purchase of the Two (2) Backhoe Loaders as approved.

### Findings Of Fact

The RFQ's (2711Q) went out on August 15, 2005 and three (3) bids were received; Terratech Equipment at \$118,520.28 (Komatsu Model # WB150-2N), Wajax Industries at \$105,142.20 (JCB Model # 214) and Finning Canada at \$146,401.08 (CAT Model # 430D).

Fleet Operations organized a review committee consisting of the Equipment Operators, Fleet Mechanics and the User Groups to assist in evaluation of the equipment to be purchased.

Departmental operational needs required Fleet Operations to spec a larger style, type and size of machine (310-430D) to place manholes into position without having an additional machine on site.

A summary of the evaluation is as follows:

#### 1. Terratech Equipment (Komatsu)

The bid provided by the vendor Terratech Equipment (Komatsu) met 54 requirements of the specifications, including the following criteria:

- Curb weight, overall dimensions, instrumentation, ride control, engine ratings, transmission, vandal protection, hydraulic system, all weather cab, operator safety and warranties.

The bid provided by the vendor Terratech Equipment (Komatsu) did not meet 19 requirements of the specifications including the following:

- Make, model, size, wheelbase, seat, noise levels, transmission dis-connect, all wheel drive, demo unit and the excavator style boom.

The Operators found the Komatsu operation to be uncomfortable and difficult. This is based on their evaluation during the demonstration phase of the process.

Terratech Equipment has provided fair customer service and support for the current equipment we have purchased.

#### 2. Wajax Industries (JCB)

The bid provided by the vendor Wajax Industries (JCB) met 54 requirements of the specifications including the following:

- Overall dimensions, all weather cab, instrumentation, noise levels, vandal protection, ride control, engine ratings, transmission, hydraulic system and warranties.

The bid provided by Wajax Industries (JCB) did not meet 20 of the requirements of the specifications including the following:

- Make, model, size, wheelbase, curb weight, transmission disconnect, excavator style boom, operator safety, demo unit and hydraulic stabilizer width.

The Operators found the JCB design overall to be not suitable to the tasks we perform based upon their evaluation during the demonstration phase of the process.

Wajax Industries has provided fair customer service and support with equipment we have purchased. In regards to the JCB product we have experience parts availability and delivery to be a challenge around timelines.

### 3. Finning Canada (CAT)

The bid provided by the vendor Finning Canada met or exceeded 65 requirements of the specifications including the following:

- Make, model, size, wheelbase, curb weight, all weather cab, instrumentation, operator safety, HVAC system, ride control, transmission, transmission disconnect, all wheel drive, wiring system, operator controls, excavator style boom, and warranties.

Finning (Canada) did not meet the following criteria of the specifications:

- Parking brake engagement.

The Operators found the Finning (Canada) CAT machine design, layout, comfort and controls to be excellent based upon their evaluation during the demonstration phase of the process.

In addition, the City of Richmond has previously purchased four (4) backhoe loaders from Finning (Canada) as well as the parent manufacture CAT.

Finning (Canada) has consistently provided exceptional product support, in-field 24/7 repair and maintenance service, parts commitments and on-going positive customer service on a continuous basis.

As a result of the evaluation and discussion with staff we have concluded the Finning (Canada) CAT Backhoe Loader is the best overall purchase for the City.

A complete evaluation comparison is provided on the attached spreadsheet. (Attachment 1)

There are two areas within the tender that required the vendors to meet the criteria in order for our customers to perform their tasks in a timely, effective and cost efficient manner.

1 – Wheelbase – to be within 83 inches

- Terratech Equipment Komatsu – 85 inches that does not meet to specification.
- Wajax Industries JCB – 89 inches that does not the meet the specification.
- Finning Canada CAT – 83 inches, that does meet the specification.

The wheelbase at 83 inches is required for crews to work in the alleys way and backyards within Richmond with minimum impact to properties.

2 - Rear Boom – backhoe must be configured with an “excavator” style curve boom and extendable stick.

- Terratech Equipment Komatsu – straight boom that does not meet specification.
- Wajax Industries JCB – straight boom that does not meet specifications.
- Finning Canada CAT – excavator curved boom that meets specification.

The excavator style curved boom allows for close in digging and loading during tight working conditions. The curve style allows for additional safety for the crews as the operator visibility is enhanced.

**Financial Impact**

Financial Impact	Vehicle Unit	Allocated Funding
Public Works Vehicle Replacement Program <b>2004</b>	Unit 834-1994 John Deere Backhoe	\$125,000.00
Public Works Vehicle Replacement Program <b>2005</b>	Unit 835-1994 CAT Backhoe	\$ 95,000.00
	Total Funds Available	\$220,000.00
2 Backhoe Loaders @ \$146,401.08 per unit	Total Funds Required	\$292,802.16
	<b>Balance Requested from the 2004 Budget</b>	<b>\$ 72,802.16</b>

Funding for this purchase shall be made available through the 2004 and 2005 Public Works Vehicle Equipment Replacement program. Due to purchase efficiencies in the 2004 Vehicle Equipment Replacement program, there are sufficient unappropriated excess funds available to cover the additional cost. The remaining allocations within the 2004 program remain the same.

Staff anticipate that hourly vehicle charges will be increased in 2007 for the backhoes from the current rate of \$59.96/hour to approximately \$70.00/hour.

The recommended total purchase amount is \$292,802.16.

A cost analysis summary has been completed from the three (3) bids received on the attachment provided. (Attachment 2.)

### **Conclusion**

It is our recommendation that the City of Richmond award the purchase of the two (2) backhoe loaders to Finning (Canada) for the submitted unit price of \$146,401.08 each including all options, levies and taxes.



Dave Semple  
Director of Parks & Public Works Operations  
(3350)

MJL:DS:smj

Supply and Delivery of Two (2) Backhoe Loaders  
 CONTRACT 2711Q

(All 1)

ITEM DESCRIPTION		TERRA TECH EQUIPMENT	MEETS SPEC	NOT M/S	EXCEED SPEC	WAJAX IND	MEETS SPEC	NOT M/S	EXCEED SPEC	FINNING	MEETS SPEC	NOT M/S	EXCEED SPEC
MODEL YEAR													
MAKE/MODEL		Komatsu WB150-ZN		X		JCB 214		X		CAT 430 D	X		
Wheelbase		85"		X		89"		X		83"	X		
Base Curb Weight		61,442 lbs	X			55,125 lbs		X		61,233 lbs	X		
Length		24'	X			23.7'		X		23.10"	X		
Height		11.8"	X			11.3"		X		12.4"	X		
Width (12" max)		12'	X			10.11'		X		12.1'	X		
All weather cab		complies	X			complies		X		complies	X		
Cab mount		cushion	X			cushion		X		cushion	X		
Door Access		complies	X			No separate windows		X		complies	X		
Windshield		Curved		X		Curved		X		complies	X		
Seat (arr)		Air- add \$50.00		X		Next compliant		X		Straight glass	X		
Instrumentation		Complies	X					X		9 way adj	X		
Mirrors		2 in/2 cup/no heat		X		Stand heated		X		Complies	X		
Int wipers		complies	X			complies		X		in/out heated	X		
Horn		complies	X			1 horn		X		complies	X		
Vandal protection		complies	X			Single key		X		Electric horn	X		
Operator Safety		complies	X			No Comment		X		Vandal protected	X		X
Heater/Defroster		41,000 BTU	X			No RTU's		X		Complies-spec	X		
Aux Power Socket		complies	X			complies		X		HVAC system	X		X
Noise levels		77 DBA		X		71 DBA		X		complies	X		
Operator Visibility		No Comment				Hood slope				73 DBA	X		
Steering Wheel		complies	X			Ad Tilt		X		Sloprd hood	X		
Beacon light		complies	X			complies		X		Adj Tilt	X		
Ride control		Load stab System	X			Smooth ride		X		complies	X		
Engine		269 CI	X			243 CI		X		Ride cont CAT	X		X
Engine Power		48 HP	X			92 HP		X		268 CI	X		
Turbo charger		complies	X			complies		X		98 HP	X		
Torque		275 ft lbs @ 1500	X			272 ft lbs		X		Yes 97 HP	X		
Fuel system (bio)		TBA				TBA		X		299 ft lbs	X		
Cooling system		complies	X			complies		X		Direct inj	X		

Supply and Delivery of Two (2) Backhoe Loaders  
CONTRACT 2711Q

(Att 1)

BIDDERS												
ITEM DESCRIPTION	TERRA TECH EQUIPMENT	MEETS SPEC	NOT M/S	EXCEED SPEC	WJ&X IND	MEETS SPEC	NOT M/S	EXCEED SPEC	FINNING	MEETS SPEC	NOT M/S	EXCEED SPEC
Water pump	No Spec	X			Belt driven				Gear driven	X		
Air cleaner	complies	X			complies				2 Stage dry	X		
Fuel Tanks	34.4 gals	X			42.5 gals				34.0 gals	X		
Power/weight ratio	169.5 to 1	X			169.7 / 92 HP				229 R4 - 1	X		
Maintenance	500 Hrs	X			500 Hrs				500 Hrs	X		
Transmission	complies	X			complies				complies	X		
Trans Disconnect	Pow. Shift add 5100.00	X			TBD				Autoshift	X		
Brakes	Wet Disc Self adj.	X			Multitwet/self				Wet/mult/self	X		
Parking brakes	No auto engagement	X			No auto engage				Hand control	X		
Trans Cooling	Heat exchanger	X			No comment				Compls	X		
Oil Reservoirs	complies	X			Yes				Compls	X		
All wheel drive	No on the go	X			No on the go				On the go	X		
Front axle	35.475 lbs	X			36.383 lbs				27,029 lbs	X		
Power steering	Power HYA	X			No comment				Double acting	X		
Alternator	80 amp	X			95 amp				120 amp	X		
Battery	12V - 850 CCA	X			12V - 950 CCA				12V - 800 CCA	X		
Wiring circuitry	complies	X			IP 60 conn				Sealed CAT	X		
Vehicle lights	complies	X			Yes				4 & 4 halogen	X		
Hyd Pump	variable 43.6 GPM	X			Dual gear 39 GPM				Torg limit 43 gal	X		
Hyd System	3200 PSI	X			3300 lbs				3300 PSI	X		
Hyd Tank	82 Liter	X			63 Liter				84 Liter	X		
Hyd Filter	Spin on	X			Spin on				Spin on - 5 MIC	X		
Hyd Hose	HP	X			XD5 rated				Lat XT 3 ES hose	X		
Add Hyd circuit	complies	X			Yes				complies	X		
Operator controls	Prologystick	X			Pilot/hyd				Pilot/Patt/Pods	X		
Bucket	1.3 yd - mult	X			1.4 yd				1.35 yd	X		
Loader Specs	8525 lbs	X			Complies				5968 lbs	X		
Quick coupler	complies	X			JLB quick				CAT - quick	X		
Backhoe Specs	No exc 3 Boom	X			No exc 3 Boom				Excavator boom	X		
Slab Cylinder	complies	X			No				Complies	X		
Tires wheels	Goodyear	X			Michelin				Goodyear	X		
Compliance	Yes	X			Yes				Yes	X		
Operators manuals	Yes	X			Yes				Yes	X		
Demo	Yes completed	X			Yes-completed				Yes	X		
Warranty	5 yr - 8000 hr-full	X			5 yr - 7500 Hrs				5 yr - 7500 hrs full	X		
Prevent Maintenance	complies	X			Yes				complies	X		
Delivery	60-80 days	X			12 weeks				12 - 16 weeks	X		





