

**SUBMITTAL TO THE BOARD OF SUPERVISORS
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

849



FROM: Waste Management Department and Purchasing Department

SUBMITTAL DATE:
April 4, 2005

SUBJECT: Purchase of Al-Jon Advantage 600 Landfill Compactor

RECOMMENDED MOTION: That the Board approve the purchase of an Al-Jon Advantage 600 Landfill Compactor with Caron wheels at a total cost of \$750,150.

BACKGROUND: In the FY 2005 budget, the Board of Supervisors approved the purchase of a 126,000 pound landfill compactor. In July 2004, the County of Riverside Purchasing Department sent out Request for Quotes (RFQ). Three manufacturers submitted quotes for five different machine configurations. Attachment "A" presents the various bids in relation to the specifications contained in the RFQ. The Purchasing and Waste Management Departments have reviewed the proposed bid specifications extensively. The two lowest bids, the Caterpillar with standard wheels and the Bomag, are not acceptable as they each do not meet at least six of the specifications in the RFQ. While none of the five different machine configurations met all the requested specifications in the RFQ, the Al-Jon with Caron wheels met the specifications the closest and failed to meet only the ground clearance specification at the rear of the machine (at its center-point, the Al-Jon met the specification). (Cont'd)

Departmental Concurrence

[Signature]
Robert Howdyshell, Director, Purchasing Dept.

[Signature]
Hans W. Kernkamp, General Manager-Chief Engineer,
Waste Management Department

FINANCIAL DATA	Current F.Y. Total Cost:	\$ 750,150.00	In Current Year Budget:	Yes
	Current F.Y. Net County Cost:	\$ 0	Budget Adjustment:	No
	Annual Net County Cost:	\$ 0	For Fiscal Year:	2005

SOURCE OF FUNDS: Waste Management Enterprise Fund	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION: **APPROVE**

County Executive Office Signature *Bhonda King*

- Policy
- Consent
- Dep't Recomm.:
- Per Exec. Ofc.:
- Policy
- Consent

Prev. Agn. Ref.: **District: 5** **Agenda Number:**

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The Al-Jon, due to its higher overall weight, delivers a superior compaction ratio, which in turn, results in a considerable savings in landfill space. Even though the Al-Jon with Caron wheels costs approximately \$36,000 more than the Caterpillar with Caron wheels, the Al-Jon weighs approximately 10,400 pounds more than the Caterpillar. This weight difference translates into an estimated additional 35,000 cubic yards of landfill space per year or, based on the current ratio of contract tonnage (\$23.41/ton) versus direct haul tonnage (\$30.54/ton) at the landfills, or a dollar equivalent of saved space in one year of approximately \$523,000. Attachment "B" shows the calculation of landfill space saved based on industry standard compaction curves on an annual basis.

The Waste Management Department currently uses Al-Jon compactors at its two major landfills. The experience with these machines has been positive regarding ease of maintenance and few repairs which minimizes downtime and maximizes time spent in the trash. Al-Jon has been responsive with establishing a local vendor to warrant and service their equipment and in providing free training for Waste Management mechanics.

Also, one of the most common reasons for downtime on compactors is wire wrapping which occurs when various forms of wire and other refuse gets caught on the wheels or body of the machine and eventually gets wrapped on the axle. This wrapping causes a decrease in performance and can cause significant damage to the machine. Our experience with the Department's Al-Jon machines, and speaking with other jurisdictions operating Al-Jon compactors, is that wire wrapping rarely occurs and in the rare occasions when it does happen it is easily corrected. This is partially due to the design of the machine where the space between the wheels and the frame is approximately 24 inches compared to the 8 inches space on the Caterpillar machine. Al-Jon is the only bidder that offers a 5 year or 10,000 hour wire wrap warranty. In addition, a new wheel design by Caron Wheels that is included on the proposed configuration may further address this problem.

Also, the Al-Jon has full-time, all-wheel drive as well as hydrostatic drive. Full time all-wheel drive and hydrostatic drive reduces wheel spin. Wheel spin reduces trash compaction and increases wear on the machine. Hydrostatic drive systems have fewer moving parts and have fewer parts exposed to trash, therefore experiencing reduced wear and requiring less maintenance.

WMD management requests that the Board of Supervisors approve the purchase of the Al-Jon Advantage 600 Compactor with Caron wheels.

Attachment A - Waste Management Department Comparative Analysis Table of RFQ PUARC--00487

<u>Specifications</u>	Al-Jon Advantage 600 w/ standard wheels	Al-Jon Advantage 600 w/ Caron wheels	Caterpillar 836G w/ standard wheels	Caterpillar 836G w/ Caron wheels and Caron U-blade	Bomag Model BC1172RB	Comments
Cost : (includes freight & tax)	\$713,356.96	\$750,149.51	\$616,687.73	\$713,881.46	\$650,756.13	CAT 836G is no longer available. Caterpillar will hold price for 836H (this bid only).
Weight: 126k lbs	132,949	138,939	118,716	128,544 *	125,060	* Weight revised upward from original bid submission after discussion with company.
Ground clearance: (measured at center frame) 30"	32"	31.85"	23"	23.35"	30.1"	Al-Jon wheels are 64"+2-10" cleats Caron wheels are 67.7" + 2-8" cleats CAT wheels are 67" + 2-8" cleats
Engine: 600 gross hp, min. 2100 rpms	600 gross hp 2100 rpm	600 gross hp 2100 rpm	525 gross hp 1900 rpm	525 gross hp 1900 rpm	544 gross hp 2100 rpm	CAT is now mfgt the 836H w/ slightly higher hp & rpm - still below spec per M. Welch of CAT
Transmission & Torque: hydrostatic drive system or planetary power shift w/ 4 forward & 4 reverse speeds	Hydrostatic drive w/ full time all wheel drive 4 forward/4 reverse gears	Hydrostatic drive w/ full time all wheel drive 4 forward/4 reverse gears	CAT planetary shift 2 forward /2 reverse gears	CAT planetary shift 2 forward /2 reverse gears	CAT planetary shift 3 forward /3 reverse gears	
Final Drives: 4 final drives - planetary type; onboard mounted	Inboard final drives but 5yr/10k hr cable wrap warranty	Inboard final drives but 5yr/10k hr cable wrap warranty	No comment New axle guard system to protect finals	No comment New axle guard system to protect finals	Bid "as specified" no other info available	
Wheels: 4 Steel drums 55" wide, 81" high w/Caron Max II replaceable cleats.	55" wide drum, 84" high sub Al Jon MTrax 10" cleat replaceable - Al-Jon warrants wheel 5yr/10k hrs non-prorated	55" wide, 83.85" high w/ 8" Caron Max II cleat. Caron warranties wheel sep from Al-Jon warranty - 5yr only	CAT 55" wide, 78" high	55" wide, 83.85" high w/ 8" Caron Max II cleat. Caron warranties wheel 5yr only	Premium wheels - 55" wide, 86" diameter or will sub Caron wheels	

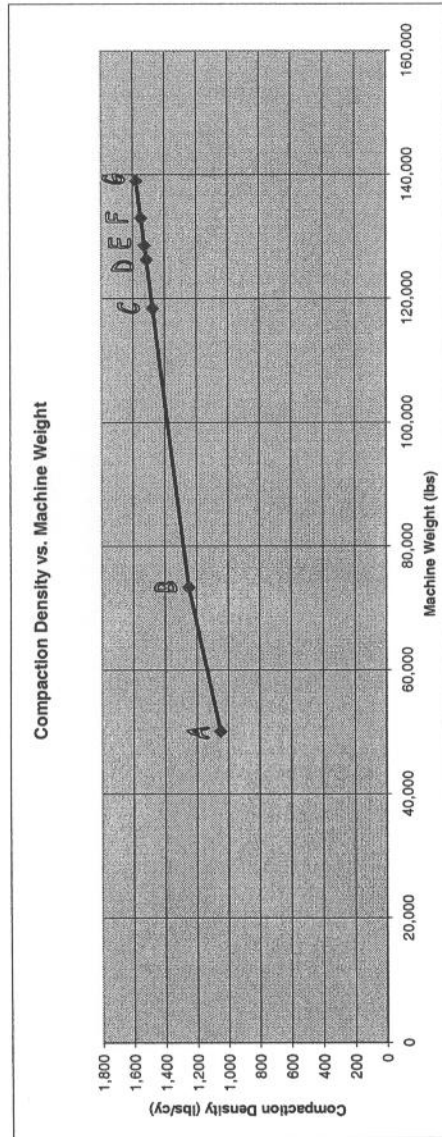
Attachment A - Waste Management Department Comparative Analysis Table of RFO PUARC--00487

<u>Specifications</u>	Al-Jon Advantage 600 w/ standard wheels	Al-Jon Advantage 600 w/ Caron wheels	Caterpillar 836G w/ standard wheels	Caterpillar 836G w/ Caron wheels and Caron U-blade	Bomag Model BC1172RB	Comments
Blade: full U-blade 17'3" wide w/90" full width trash guard	17'3" wide, 90" high w/ trash guard	17'3" wide, 90" high w/ trash guard	17'5" wide, 89" high w/ trash guard	Caron U Blade 17'10" wide, 91.5" high w/ trash guard	Bomag U Blade - 19' wide, 87.6" high w/ trash guard	
Brakes: hydraulic applied w/spring release	Hydrodynamic braking	Hydrodynamic braking	As specified	As specified	Dual brakes	Hydrodynamic brakes are part of hydrostatic drive trans - each wheel individually
Charging system & Electrical: 24 volt, 100 amp alternator, 24 volt direct electric starter. 4 - 24 volt headlights on cab, 2 - 24 volt flood lights on rear of cab, dome light, backup alarm	24 volt elect sys w/master switch & maintenance free batteries 100 amp alternator, 6 forward /4 rear lights	24 volt elect sys w/master switch & maintenance free batteries 100 amp alternator, 6 forward /4 rear lights	24 volt elect sys 100 amp alternator, 6 forward /4 rear lights	24 volt elect sys 100 amp alternator, 6 forward /4 rear lights	24 volt elect sys 80 amp alternator, no comments on lights	
Steering: Center point frame, articulated hydraulic steering	Joystick steer w/ integrated speed selector	Joystick steer w/ integrated speed selector	Hydraulic load sensing. As specified	Hydraulic load sensing. As specified	Joystick steering w/ load sensing	
Radiator: trash resistant	As specified	As specified	As specified	As specified	As specified	
Cab: meet OSHA standards for noise, safety	As specified	As specified	As specified	As specified	As specified	
Gauges/Monitoring System: analog within easy view	As specified	As specified	ElecMonitor System	ElecMonitor System	As specified	
Paint: standard color	As specified	As specified	As specified	As specified	As specified	
Warranty: one year complete/ three year power train	As specified + wire wrap and wheel warranty	As specified	As specified (Note: 1 yr= 1500 hr; 3 yr = 5000 hr)	As specified (Note: 1 yr= 1500 hr; 3 yr = 5000 hr)	As specified	As specified

Attachment B
 Landfill Compactor Study
 Density - Machine Weight-
 Landfill Airspace Savings

Compactor	Operating Weight (lbs)	Average Compaction Density (lbs/cy)
CAT 816F Compactor	50,115	1,050
CAT826G Compactor	73,370	1,250
CAT836G Compactor	118,348	1,475
CAT836G Compactor w/ Caron Wheels & Blade*	126,256	1,515
CAT836G Compactor w/ Caron Wheels & Blade*	128,544	1,528
Al-Jon 600 Compactor w/standard Al-Jon wheels*	132,949	1,548
Al-Jon 600 Compactor w/Caron wheels*	138,939	1,578

* Avg Compaction Density calculated through interpolation of CAT Manual data



BADLANDS

Average daily tonnage during February 2005 at the Badlands Landfill = 2590
 Number of Days Landfill is Open per Year = 311

Compactor* (weight of machine is with all fluid levels full)	Average Compaction Density (lbs/cy)	Average Volume of Refuse space Filled (cy)	Volume of Airspace Saved each day (cy/day)	Volume of Airspace Saved in one year (cy/year)	Volume of Refuse space Saved in one year (cy/year) ²	Weight equivalent of space saved in one year (tons/year)	Dollar equivalent of space saved in one year ³
Al-Jon 600 Compactor w/Caron wheels*	G 1,578	3,283	111.9	34,788	26,091	20,586	\$523,091
Al-Jon 600 Compactor w/standard Al-Jon wheels*	F 1,548	3,346	48.3	15,027	11,270	8,724	\$221,666
CAT836G Compactor w/ Caron Wheels & Blade*	E 1,526	3,394	0	0	0	0	0

1) Assume surface area of compactor wheels in contact with trash are equal

2) Based on 3:1 fill to cover ratio

3) Assume current scaled tipping fee as: 72% @ \$23.42/ton and 28% @ \$30.54/ton \$25.41