



City of Grand Island

Tuesday, November 8, 2016

Council Session

Item G-14

#2016-277 - Approving Purchase of a New Asphalt Roller for the Streets Division of the Public Works Department

Staff Contact: John Collins, P.E. - Public Works Director

Council Agenda Memo

From: Shannon Callahan, Street Superintendent

Meeting: November 8, 2016

Subject: Approving Purchase of a New Asphalt Roller for the Streets Division of the Public Works Department

Presenter(s): John Collins PE, Public Works Director

Background

The Streets Division performs a great deal of asphalt patching during construction season to maintain the asphalt roads in good condition. The last few years, Streets has averaged a placement of over 3,000 tons of hot-mix asphalt per season. The quality of the patches dictates how long they will hold up to traffic and extreme weather conditions. The most important criteria of placing asphalt is compaction; proper compaction and smoothness is achieved with a steel drum, vibratory roller.



Streets currently uses a 2005 Dynapac Roller with approximately 785 hours. The roller is a key component in Streets asphalt program and downtime should be limited as much as possible. The steel drums have divots and scars from heavy use which are decreasing the quality of the hot-mix asphalt patches. The divots and scars are mostly from rolling in cold-mix patches in the winter in which patching takes place on both concrete and asphalt streets.

If a new roller purchase is approved, the existing roller will continue being used for rolling in cold-mix patches in the winter to avoid this type of wear and tear on the new machine.

Discussion

The Streets Division has funds budgeted in the 2016-2017 fiscal year for a new steel drum, vibratory roller. In 2013, The Grand Island City Council approved the use of the Huston-Galveston Area Council (HGAC) with Resolution 2013-193.

To meet competitive bidding requirements, the Streets Division obtained contract pricing from HGAC Contract No. SM10-16 awarded to 4 Rivers Equipment LLC of Fort Collins, CO.

Public Works staff is recommending the purchase of a new Dynapac CC1300Plus Tandem Asphalt Roller from 4 Rivers Equipment of Fort Collins, CO in the amount of \$56,747.55.

Alternatives

It appears that the Council has the following alternatives concerning the issue at hand. The Council may:

1. Move to approve
2. Refer the issue to a Committee
3. Postpone the issue to future date
4. Take no action on the issue

Recommendation

City Administration recommends that the Council approve the purchase of a new Dynapac CC1300Plus Tandem Asphalt Roller from 4 Rivers Equipment of Fort Collins, CO in the amount of \$56,747.55.

Sample Motion

Move to approve the purchase of a new Dynapac CC1300Plus Tandem Asphalt Roller from 4 Rivers Equipment of Fort Collins, CO in the amount of \$56,747.55.

DYNAPAC TANDEM ASPHALT ROLLERS



Dynapac CC800, CC900, CC900S, CC1000
CC1100, CC1200, CC1300
CC1100C, CC1200C, CC1300C

Atlas Copco

DYNA

DYNAPAC IS THE WORLD'S MOST SPECIALIZED and experienced manufacturer of compaction and paving equipment. Our expertise has resulted in numerous successful innovations. To put it simply, we know this business and we've got the power to transform groundbreaking ideas into cost-efficient solutions and reliable machines.

BUILDING ON EXPERIENCE

That is why Dynapac is a winner when you compare overall profitability and life-cycle cost. In our lean and target-oriented organization, there are very short and straight paths between development, manufacturing and our worldwide service network. As a result, you benefit from quality products, exceptional maintenance

and service, and overall superior equipment performance.

Our small tandem vibratory rollers are a series of highly efficient rollers that can make your project more profitable and strengthen your reputation as a trustworthy working partner.

STREET-SMART COMPACT TANDEM ROLLERS

DYNAPAC'S SERIES OF ARTICULATED COMPACT TANDEM ROLLERS – the Dynapac CC1100, CC1200 and CC1300 – are designed for compaction on city streets where size and noise matter most. The series has an operating weight of 2.4 metric tons to 4 metric tons and is available with double steel vibratory drums or one vibration drum and four static rubber tires - a combi version. All models feature design improvements and an engine that is quieter than ever.

QUIETER THAN EVER

ON THE SURFACE

All three double-drum models feature vibration and drive on both drums. A large drum diameter makes them especially effective on soft asphalt. The optimum ratio of drum diameter to static linear load reduces the risk of cracks.

All models in the series are perfect for urban areas, streets and roads. The CC1300 is also suitable for compacting subbases and bases and has the capacity to follow a paver.

IN THE DRIVER'S SEAT

An optional sideways sliding seat and operator-friendly dual front and reverse controls improve visibility for better control and better compaction. The ample clearance at the edge of the drums makes this true even close to high curbs.

The series features a new control panel and low noise and vibration levels to reduce operator fatigue. A low center of gravity keeps the machines stable, and sturdy handgrips and steps enable safe boarding.

An interlock system prevents the engine from accidentally starting. An automatic brake lock is applied if the engine stops or if there is a problem in the hydraulic or electric brake circuits.

EASE OF MAINTENANCE

Three separate filters in the sprinkler water system ensure no clogged sprinkler nozzles. The entire system can be drained easily without special tools. Filters for hydraulic fluid, engine oil and fuel are easily accessible.

Modularity is a cornerstone when it comes to building Dynapac rollers, which are built from many existing common parts. This means parts are easily accessible and readily available, which reduces equipment downtime.

SUSTAINABLE PRODUCTIVITY

Dynapac develops and manufactures products with the goal of sustainability: low operating costs and long-lasting quality equipment that creates high-quality results for the companies who use Dynapac. These articulated small tandem asphalt rollers are no exception.

The rollers are powered by a water-cooled Kubota diesel engine. The Dynapac CC1100 and CC1200 feature a 35 hp engine, while the CC1300 features a 45 hp engine. The low noise level benefits the operator and the surroundings, especially during night work.

Long service intervals mean fewer oil changes and less money spent on routine maintenance. The corrosion-free water tanks are made of impact-resistant and recyclable polyethylene plastic. As an option, the machines can be equipped with biodegradable hydraulic oil.

DYNAPAC CC1100 CC1200 **CC1300**

ALL MODELS AVAILABLE AS COMBI VERSION

The combi rollers reduce the risk of marring newly laid asphalt when making sharp turns.

The rubber tires are operated in pairs by separate drive motors.



Hydraulic fluid, engine oil and fuel system filters are easy to reach and easy to change. Long service intervals means less downtime.

Safety interlock to prevent accidents – The operator must be in the seat before the engine will start.

Ergonomic F/R handle.

The corrosion-free and impact-resistant water tank is made of recyclable material. Large opening for easy filling.

Silent, water-cooled diesel engine.

Automatic brake lock if the engine stops or if there is a problem in the hydraulic or electric brake circuits.

Easily drained sprinkler system. No special tools required.

ATTENTION TO DETAIL - THE BASE OF PERFECTION



Silent and powerful water-cooled Kubota diesel engine. The large easy-to-open engine hood contributes to great accessibility.



The water tank has a large opening for easy filling.



Pressurized sprinkler system with a powerful water pump and self-draining sprinkler tubes and nozzles.



Fail-safe brakes on both drums (or drum + combi wheels), which apply automatically in the event of a failure in the engine, hydraulics or an electrical fault in the brake system.



Sturdy handgrips and ergonomic steps enable safe boarding.



High clearance of the edge of the drums facilitates compaction close to high curbstones. Excellent view over the drum edges for better control and compaction results.

CHOOSE BETWEEN CC AND CC PLUS PACKAGES



CC Package for Dynapac CC1100, CC1200 and CC1300 + combi versions

Included:

Backup alarm
Working lights
Foldable ROPS
incl. 3-inch seat belt

Options for CC package:

Canopy roof without ROPS
CE mark
and rotating beacon



CC PLUS Package for Dynapac CC1100, CC1200 and CC1300 + combi versions



Included:

Backup alarm
Brake release
CE Sign
Dual arm rest
Dual forward/reverse control
Foldable ROPS incl. seatbelt
Rotating beacon
Sprinkler timer
Spring-loaded scrapers

Slideable comfort seat
Vibration shut off, front drum
Working lights

Options for CC Plus package:

Driving lights, right-and-left handed
Dual frequency
Flow divider
Slidable lux seat

Options for CC and CC Plus Dynapac CC1100, CC1200 and CC1300

Biodegradable hydraulic fluid
Fire extinguisher
Footrest
Hearing protectors

License plate light
Rear-view mirror, traffic view
Service kit 50/500/1000H
Side direction lights (driving lights required)
Slow Moving Vehicle sign

Special color (one or two)
Tool set
Towing eyelet
Water tank cover, lockable

	CC800	CC900	CC900S	CC1000	CC1100	CC1200	CC1300
Drum width, in	31,5	35	35	39	42	47	51
MASSES							
Operating mass , lb (incl. ROPS)	3,475	3,500	3,600	3,700	5,200	5,750	8,600
Module mass, lb (front/rear)	1,630/1,845	1,650/1,850	1,700/1,900	1,730/1,970	2,500/2,700	2,800/2,975	4,200/4,400
TRACTION							
Speed range (mph)	0-6	0-6	0-6	0-6	0-6	0-6.2	0-6.2
Vertical oscillation (Deg)	±13	±13	±13	±13	±10	±10	±10
Theor. Gradeability (%)	40%	40%	40%	40%	49%	43%	37%
COMPACTION							
Centrifugal force, lb	3,820	3,820	3,800	3,820	5,170	6,070	7,420
Nominal amplitude, in	0,02	0,02	0,01	0,01	0,02	0,02	0,02
Static linear load lb/in (front/rear)	52/58	46/53	49/53	44/50	59/64	59/63	82/86
Vibration frequency, VPM (high/low amplitude)	4,200	4,200	4,200	4,200	3,420	3,420	3,120
Water tank, Gal	30	30	30	30	42	42	53
ENGINE							
Manufacturer/Model	KubotaD1105-E4B	KubotaD1105-E4B	KubotaD1105-E4B	KubotaD1105-E4B	Kubota D1701-M T4i	Kubota D1701-M T4i	Kubota V2203-M T4i
Rated power (hp), @ 2,600 rpm SAE J1995	24	24	24	24	35	35	44

	CC1100C	CC1200C	CC1300C
Drum width, in	42	47	51
MASSES			
Operating mass, lb (incl. ROPS)	5,075	5,350	8,300
Module mass, lb (front/rear)	2,500/2,575	2,775/2,575	4,275/4,025
TRACTION			
Speed range (mph)	0-6	0-6	0-6
Vertical oscillation (Deg)	±10	±10	±10
Theor. Gradeability (%)	68%	63%	37%
COMPACTION			
Centrifugal force, lb	5,170	6,070	7,420
Nominal amplitude, in	0,02	0,02	0,02
Static linear load lb/in (front/rear)	59/63	59/55	83/78
Vibration frequency, VPM (high/low amplitude)	3,420	3,420	3,120
Water tank, Gal	42	42	53
ENGINE			
Manufacturer/Model	Kubota D1701-M T4i	Kubota D1701-M T4i	Kubota V2203-M T4
Rated power (hp), @ 2,600 rpm SAE J1995	35	35	44
Fuel tank capacity, Gal	13	13	13

HYDRAULIC SYSTEM

Driving axial piston pump with variable displacement and servo.
 Two radial piston motors with constant displacement.
 Vibration gear pump/motors with constant displacement.
 Steering gear pump with constant displacement.
 Service brake hydrostatic in forward and reverse lever.
 Parking/ emergency brake, fail-safe brake in both drums.

COMMITTED TO SUSTAINABLE PRODUCTIVITY

We stand by our responsibilities towards our customers, towards the environment and the people around us. We make performance stand the test of time.

This is what we call - Sustainable Productivity.

Mining, Rock Excavation and Construction LLC

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RESOLUTION 2016-277

WHEREAS, the Houston-Galveston Area Council Buying Group (HGAC) was utilized to secure competitive bids for a new steel drum, vibratory roller by the Streets Division of the Public Works Department; and

WHEREAS, HGAC Contract No. SM10-16 was awarded to 4 Rivers Equipment LLC of Fort Collins, CO; and

WHEREAS, the Public Works Department has recommended the purchase of the new Dynapac CC1300Plus Tandem Asphalt Roller from 4 Rivers Equipment LLC of Fort Collins, CO for a purchase price of \$56,747.55.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF GRAND ISLAND, NEBRASKA, that a purchase order and subsequent payment for the purchase of the new Dynapac CC1300Plus Tandem Asphalt Roller from 4 Rivers Equipment LLC of Fort Collins, CO in the amount of \$56,747.55 is hereby approved.

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Adopted by the City Council of the City of Grand Island, Nebraska, November 8, 2016.

Jeremy L. Jensen, Mayor

Attest:

RaNae Edwards, City Clerk

Approved as to Form	☐ _____
November 4, 2016	☐ City Attorney