

2021-11-02

**REQUEST FOR QUOTATION  
ASPHALT REPAIR SERVICES  
RFQ 127 (2021-10)  
ADDENDUM #4**

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This addendum shall be incorporated into, and form part of RFQ 127 (2021-10) and take precedence over all requirements of the previously issued bid documents including plans. This addendum must be signed by the bidder (signing officer) in the appropriate space and must be attached to the Form for submission by the bidder. This Addendum consists of three (3) pages.

1. Specifications - Green Mantra Specifications  
Attached Green Mantra Specifications  
**Note:** Zoo (via Green Mantra) will provide the Ceranovus waxes.  
The Ceranovus waxes has to be mixed into the asphalt  
Although easiest to mix the waxes into the asphalt at the asphalt plant, Green Mantra is capable of just mixing it in the truck.
  
2. Submission form  
Delete – Submission Form (REV. 1)  
Replace with: Submission Form (REV. 2)

Receipt of the Addendum shall be acknowledged as part of your submission.

The Board of Management of the Toronto Zoo reserves the right to reject any or all Tenders or to accept any quotation, should it deem such action to be in its interests.

If you have any queries regarding this matter, please contact Mr. Peter Vasilopoulos, Supervisor, Purchasing & Supply, at 416-392-5916 or by email [pvasilopoulos@torontozoo.ca](mailto:pvasilopoulos@torontozoo.ca).

Yours truly,

Peter Vasilopoulos  
Supervisor, Purchasing & Supply

I/we hereby acknowledge receipt of this addendum and make allowance in my bid.

Signed (Must be Signing Officer of Firm)

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Name of Firm

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Date:

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I have the authority to bind the corporation

**4.1 QUOTATION PRICING (REV. 2)**

Unit price bid shall include all costs including labour, equipment, materials and supervision associated with the removal & disposal of existing asphalt, the supply, preparation, placement and compaction of new hot mix asphalt and the restoration of the site as specified

<b>PRICING</b>		
<b>ESTIMATED QUANTITY (for evaluation purposes only)</b>	<b>DESCRIPTION</b>	<b>Unit price, HST extra</b>
10,000 SQ Metres	To supply labour, material, and equipment necessary to provide asphalt repairs for the 2021/2022 season,	\$ /sq. metre

<b>OPTIONAL PRICING</b>		
<b>ESTIMATED QUANTITY (for evaluation purposes only)</b>	<b>DESCRIPTION</b>	<b>Unit price, HST extra</b>
1000 LM	To supply labour, material, and equipment necessary to supply and apply hot-pour rubberized crack filler for the 2021/2022 season,	\$ /LM
400 SQ Metres	GREEMANTRA's CERANOVUAS waxes CERANOVUS A115	\$ /sq. metre

<b>DISCOUNT</b>	<b>Discount</b>	<b>Days</b>
Discount allowed for prompt payment and period within which invoice must be paid to qualify.	%	

**PRODUCT INFORMATION**

GREENMANTRA's CERANOVUS® waxes are specialty waxes that are engineered to enhance the performance and sustainability profile of bitumen and asphalt products. The National Center for Asphalt Technology (NCAT) has demonstrated that CERANOVUS waxes enhance rutting resistance and reduce fatigue damage without negatively affecting the low-temperature performance of the asphalt mix.

Please see the **attached** FREQUENTLY ASKED QUESTIONS Bulletin for common questions regarding the use of CERANOVUS waxes in asphalt.

**PRODUCT SPECIFICATION**

CERANOVUS A115 polyethylene wax is recommended for this project. CERANOVUS waxes are similar to other typical waxes used in asphalt but are derived from recycled plastics instead of virgin petrochemicals.

Please see the **attached** product bulletin for information on the typical drop point, penetration, and viscosity.

**DOSAGE AND MIXING INFORMATION**

- CERANOVUS A115 wax is typically used at a 2% level (by weight of liquid binder) in neat asphalt products and a 1% level in polymer-modified asphalt systems.
- CERANOVUS A115 should be added to the liquid binder and require a minimum mixing temperature of ~135degC.
- High shear mixing and/or special equipment is not required. CERANOVUS A115 completely mixes with the liquid asphalt binder using low shear mixing or recirculation for ~30 minutes.
- Once the initial mixing step is complete, CERANOVUS waxes remain storage stable in the liquid binder for 2+ weeks, with no additional mixing required, for 2+ weeks.

END OF ADDENDUM 4