

**Finance & Corporate Services**  
Fax: (604) 276-4162  
Admin. 276-4219 Accounts Receivable 276-4277  
Payroll 276-4137 Purchasing 276-4097  
Tax 276-4145

February 22,2005  
File 2684Q

Dear Sir/Madame:

Re: REQUEST FOR QUOTATION CONTRACT 2684Q - ASPHALTIC CONCRETE

Your quotation is invited to supply and load Asphaltic Concrete products for the City of Richmond for the period March 15, 2005 to March 31, 2006. The approximate annual volume is 5,010 tonnes. Supply and loading is on an "as and when" required basis.

Sealed quotations, plainly marked on the envelope:

**CONTRACT 2684Q - SUPPLY AND DELIVERY OF ASPHALTIC CONCRETE**

will be received at the Information Counter, Main Floor, Richmond City Hall, addressed to the Purchasing and Insurance Department, 6911 No. 3 Road, Richmond, BC, V6Y 2C1, until 12:00 noon, Local time:

**Thursday, March 3, 2005**

Quoted prices are to be on a per metric tonne basis and will be firm for the period.

Bidders are advised that submissions of quotes shall be in compliance to the Freedom of Information and Privacy Act.

In the event the description shown on the City's form differs from that of your delivery tickets, please modify the City's description to match that shown on your delivery tickets.

Payments will be made to suppliers based on each delivery ticket. Transactions will be posted daily accumulating all the activity from a respective vendor. Cheques will be issued weekly from activity in the preceding week.

Quotations received will be posted to our casual asphaltic concrete supply system. The City may, throughout the year, call for the supply and delivery of asphaltic concrete. Please insure that the materials supplied to the City have been quoted and that a packing slip is left with our

representative. **Failure to ensure the materials supplied have been quoted to the Purchasing Department shall result in non-payment of invoices for those materials.**

The City will make an equitable adjustment to the Contract prices where the asphalt work is affected by the following defined energy-related material shortages or changes in price.

### **Cost Escalation of Energy-Related Materials**

During the Contract term, the Supplier shall advise the Purchasing Department, in writing, along with a copy of the supplier's change in posted published prices at the refinery. The unit price of asphalt concrete mix shall be adjusted for payment purposes from the date of receipt by the City of the supplier's change in posted published prices at the refinery, using the following proportions as a basis of calculation.

#### **Liquid Asphalt**

6% liquid asphalt by weight.

#### **Heating Oil**

15.0 litres per m. tonne of asphaltic concrete mix supplied.

#### **Natural Gas**

600 megajoules per tonne of asphaltic concrete mix supplied.

#### **Propane, Butane**

30.0 litres per m. tonne of asphaltic concrete mix supplied.

Should there be any decrease in the posted prices, the supplier is responsible for notifying the City with a copy of the posted prices at the refinery. The unit prices of asphalt concrete mix shall be adjusted for payment purposes from the date of the manufacturer's change.

The City will only consider increases or decreases in excess of 5% on the above related materials.

Increases in costs of other energy sources such as electricity, gasoline lube oil, diesel fuel for trucks, shall be allowed for in the supplier's unit prices and shall not be paid for by the City.

The lowest or any quotation not necessarily accepted.

For further information contact the undersigned at (604)276-4135.

Yours truly,

Sheryl Hrynyk  
Buyer II

SH:sah  
Enc.

## QUOTATION FORM

<b>Name of Firm Quoting:</b>	
Address of Dispatch Yard:	
Phone #:	
Contact Name:	
Email Address:	

ITEM #	MATERIAL	EST. ANNUAL QUANTITY (TONNE)	PRICE PER TONNE	G.S.T.	P.S.T.	TOTAL PER TONNE
376	# 2 Bin 85/100 Hot Mix	80				
377	# 3 Bin 80/100 Hot Mix	3350				
378	# 4 Bin 85/100 Hot Mix	1500				
379	# 3 Bin MC2 Cold Mix	85				
380	# 4 Bin MC2 C Cold Mix					
to come	QPR High Performance Cold Patch					

**SPECIFICATIONS  
INSTALLATION OF ROADS, LANES AND ASPHALT WALKS**

**SECTION 4 ASPHALTIC CONCRETE PAVEMENT**

**4.01 SCOPE**

This specification describes the materials, plant, equipment, construction procedure, workmanship and control required for the construction of hot-mixed, hot-laid, dense-graded asphaltic concrete pavement for roads, lanes and asphalt walks.

**4.02 DEFINITION**

Hot-mixed, hot-laid dense graded asphaltic concrete is defined as a paving material comprising essentially hot-mixed, hot-laid combination of coarse aggregate, fine aggregate, with or without mineral filler, uniformly coated and mixed with asphalt cement in a suitable and approved mixing plant.

**4.03 MATERIALS**

Course Aggregate: The course aggregate shall be crushed stone, crushed slag or crushed gravel conforming to the requirements of the Standard Specifications for Crushed Stone, Crushed Slag, and Gravel for Bituminous Concrete Base and Surface Courses of Pavements (ASTM Designation: D 692)

The Crush Factor, i.e., two or more surfaces fractured, shall be a minimum 60% by weight of aggregate retained on the 5 mm screen.

Fine Aggregate: The fine aggregate shall consist of natural sand, or sand prepared from stone, air-cooled from blast furnace slag, or gravel, or combination thereof, and shall conform to the requirements of the Standard Specifications for Fine Aggregate for Sheet Asphalt and Bituminous Concrete Pavements (ASTM Designation: D 1073, grading number 2)

Mineral Filler: The mineral filler shall conform to the Standard Specifications for Mineral Filler for Sheet Asphalt and Bituminous Concrete Pavements (ASTM Designation: D 242). Mineral filler, combined with the coarse and fine aggregates must meet the grading requirements of this paving mix specification.

Asphalt Cement: The asphalt cement shall conform to the Tentative Specifications for Asphalt Cement for Use in Pavement Construction (ASTM Designation: D 946). The penetration grade used shall be 85-100. Other penetration grades shall not be used without written permission from the Engineer.

Approval: All sources of materials shall be approved by the Engineer before they are used in the production of asphaltic concrete.

#### **4.04 MIX DESIGN**

- (a) General: The Contractor is required to submit to the Engineer a mix design and test results for each type of mix called for in the contract. Each mix design must meet the design criteria as set forth within these specifications.

The Engineer is to be informed of any change of aggregate course and any change in the combined blend of aggregates, also the screen sizes and bin weights used in each type of mix and each mixing plant. Any changes made by the Contractor must be substantiated by tests. Results are to be submitted to the Engineer as and when required.

- (b) Composition of Mixture: The finished asphaltic concrete mixture shall conform to one of the compositions by weight given in Table 4.04-1
- (c) Asphalt Content: The asphalt content selected for the paving mixture shall be the average of the asphalt contents provided by the following three criteria from the Marshall Test procedure:
- i) The median for the limits for per cent air voids specified in Table 4.04-2 for the category of traffic for which the paving mixture is being designed,
  - ii) the peak of the density curve, and,
  - iii) the peak of the stability curve.
- (d) Physical Requirements for Mixtures: The finished asphaltic mixture shall conform to the physical requirements of Table 4.04-2 for the traffic conditions that apply to the particular roadway type.
- (e) Tolerances: A job mix formula shall be selected that meets the requirements of Tables 4.04-1 and 4.04-2 and which is suitable for anticipated traffic conditions and climate. The allowable variation from the job mix formula in the grading of the aggregate, as shown by sieve analysis of materials in the plant bins, are + 2% in the total passing the 2.5 mm (#8) sieve, and + 1% in the total passing the 80 mm (#200) sieve. The allowable variation from the job mix formula in the asphalt content as indicated by extraction tests of the finished mixture is + 0.2%.

**TABLE 4.04-1****Composition of Asphaltic  
Concrete Paving Mixtures****COMBINED AGGREGATE IN THE DRY MIX - PERCENT PASSING**

SIEVE SIZE	TYPE I BASE MIX	TYPE II BASE OR LEVELLING MIX	TYPE III SURFACE MIX	TYPE IV FINE SURFACE MIX
40 mm (1 ½")	100			
28 mm (1 1/8")	72 - 100			
20 mm (3/4")	60 - 90	100		
14 mm (½")	50 - 82	80 - 100	100	
10 mm (3/8")	42 - 75	70 - 94	80 - 100	100
5 mm (#4)	30 - 62	50 - 80	55 - 80	91 - 100
2.5 mm (#8)	20 - 50	35 - 65	35 - 65	69 - 88
1.25 mm (#16)	12 - 40	25 - 52	25 - 52	50 - 72
630 um (#30)	6 - 30	18 - 40	18 - 40	29 - 50
315 um (#50)	5 - 26	15 - 35	15 - 34	20 - 40
160 um (#100)	2 - 15	8 - 20	8 - 20	7 - 18
80 um (#200)	1 - 8	2 - 10	3 - 10	4 - 10
Max. Size Aggregate	40 mm	20 mm	14 mm	10 mm
Min. Thickness Per Course	65 mm	40 mm	25 mm	20 mm
Max. Thickness Per Course	130 mm	80 mm	50 mm	40 mm
Nominal Asphalt Content (Approx. Range)	3.7% - 4.7%	4.7% - 5.7%	5.7% - 6.7%	6.7% - 7.7 %

**TABLE 4.04-2****Physical Requirements for Dense-Graded Asphaltic Concrete Paving Mixtures for Roads, Lanes and Walks**

Property of Lab Compacted Paving Mixture	Test Requirements for the Category of Traffic Condition			
	Lanes Walks & Courts	Residential Streets & Parking Areas	Industrial Roads	Section-line Roads
Number of Blows, each face of test specimen	75	75	75	75
Marshall Stability lbs. @ 60 degrees C	750	1000	1200	1500
Flow Index * (Units of 0.01")	6 - 20	6 - 18	6 - 16	6 - 14
Percent Air Voids **				
Surface Course	2 - 5	2 - 5	3 - 5	3 - 5
Percent Air Voids **				
Base Course	--	--	3 - 5	3 - 5

\* Measure at pint where load just begins to decrease.

\*\* Portion of asphalt cement absorbed into aggregate to be allowed for when calculating Percent Air Voids.

#### **4.05 MIXING PLANT OPERATIONS**

- (a) Aggregate Storage: The different sizes of aggregates used shall be kept separate and adequate provision shall be made to keep them from becoming mixed or otherwise contaminated.
- (b) Preparation of Asphalt Cement: The selected mixing temperature of the asphalt cement shall be that temperature which will cause the Saybolt Furol Viscosity of the asphalt cement to be within the range 75 - 100 seconds @ 60 degrees C (Kinematic Viscosity 150 to 310 Centistokes)
- (c) Preparation of Mineral Aggregates: The coarse and fine aggregates shall be fed by feeders to the cold elevator or elevators in their proper proportions and at a rate to permit correct and uniform temperature control of the heating and drying operation. The aggregates shall be dried and delivered to the mixer at a temperature between 135 degrees C and 165 degrees C. Immediately after heating they shall be screened into appropriately segregated bins. If aggregates contain sufficient moisture to cause foaming in the asphalt mixture, they shall be removed. In no case shall the moisture content exceed 0.25% by weight.
- (d) Preparation of Mixtures: Each size of hot aggregate, mineral filler, if employed, and the asphalt cement, shall be measured separately and accurately to the proportions in which they are to be mixed. The aggregates shall be mixed dry for a period of approximately 15 seconds. The asphalt cement shall then be added in an evenly spread sheet over the full length of the mixer box, except that with continuous mixers the asphalt cement shall be evenly spread across the mixer box. The mixing shall be continued for a period of not less than 30 seconds. For continuous mixing plants, the total mixing time shall be not less than 45 seconds when calculated by the formula in paragraph 4 (d) of ASTM D 947.
- (e) Mixing Plant Inspection: The Engineer or his authorized representatives shall have access at any time to all parts of the mixing plant.