



MEMORANDUM

TO: Crack Sealing Contractors

FROM: Justin Yuen, Department of Public Works

SUBJECT: RFQ Crack Sealing of Various Streets

DATE: April 18, 2019

REQUESTED ITEMS:

The City of Brisbane is requesting a quotation from qualified contractors for the following work item described below. The quotation shall incorporate all items in this RFQ. Quotes will be accepted until **May 2, 2019 @ 12:00 PM.**

Direct any questions to Justin Yuen at (415) 508-2130.

PROJECT DESCRIPTION:

The work item consists of crack sealing the following streets.

| Road Name | Begin Location | End Location | Length (ft) | Width (ft) | SY |
|---|------------------------|----------------|-------------|------------|----------------|
| Bayshore Blvd | 650' s/o Old County Rd | Geneva Ave | 7728 | 73 | 62,683 |
| Cypress Ln | Valley Dr | End | 554 | 38 | 2,339 |
| Main St | Bayshore Blvd | City Limit | 1094 | 32 | 3,890 |
| San Benito Rd | Sierra Point Rd | Glen Park Way | 900 | 22 | 2,200 |
| Silverspot Dr | Golden Aster Ct | Lily Ct | 420 | 34 | 1,587 |
| Glen Pkwy | Humboldt Rd | Lake St | 707 | 20 | 1,571 |
| Humboldt Rd | Placer Way | Kings Rd | 1515 | 22 | 3,703 |
| Monterey St | Solano St | Visitacion Ave | 511 | 23 | 1,306 |
| Solano St | Monterey St | Mendocino St | 311 | 19 | 657 |
| Visitacion Ave | Alvarado St | Klamath St | 390 | 25 | 1,083 |
| Guadalupe Canyon Pkwy - north side (WB) | City Limit | Bayshore Blvd | 6334 | 33 | 23,225 |
| Valley Dr | Bayshore Blvd | West Hill Dr | 6102 | 62 | 42,036 |
| TOTAL | | | | | 146,279 |

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SPECIFICATION:

SEAL RANDOM CRACKS IN EXISTING SURFACING

Cracks in the existing asphalt concrete surfacing of the traffic lanes and shoulders shall be prepared and filled with crack sealant and covered with sand in accordance with these special provisions.

Cracks in the existing asphalt concrete surfacing and shoulders that are 6-mm {1/4 inch} wide and wider shall be prepared and sealed. The limits of the lanes and shoulders to be prepared and sealed shall be as directed by the Engineer.

Crack sealant shall not be placed over any pavement vegetation. All pavement vegetation, organic, or foreign materials within cracks to be sealed shall be removed prior to application.

The Contractor shall provide the Engineer with a Certificate of Compliance conforming to the provisions in Section 6-2.03C, "Certificate of Compliance," of the Standard Specifications with each shipment of crack sealant. Said certificate shall also certify that the sealant complies with the specifications and shall be accompanied with storage and heating instructions and cautions for the material.

MAINTAINING TRAFFIC

Attention is directed to Sections 7-1.03, "Public Convenience," 7-1.04, "Public Safety," and 12, "Temporary Traffic Control," of the Standard Specifications. The provisions in this section will not relieve the Contractor from his responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety," of the Standard Specifications.

The Contractor shall be responsible for providing proper 72 hour advance notification for any parking restrictions and provide proper traffic control per CALTRANS standards. Road closures are not allowed and the Contractor shall allow a minimum of 10 feet of travel for thru traffic at all times on two lane roads. For four lane roads, the Contractor shall maintain at least one 12-foot traffic lane in each direction open at any time construction is in progress. Lane closures on Bayshore Blvd shall not be allowed except between 9 a.m. and 4 p.m. When traffic cones or delineators are used to delineate a temporary edge of traffic lane, the line of cones or delineators shall be considered to be the edge of traffic lane, however, the Contractor shall not reduce the width of an existing lane to less than 12 feet without written approval from the Engineer.

Personal vehicles of the Contractor's employees shall not be parked on the traveled way or shoulders.

Whenever vehicles or equipment are parked on the shoulder within 6 feet of traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (ROAD WORK AHEAD) or C24 (SHOULDER WORK AHEAD) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the Engineer.

The Contractor shall pay fully the cost of furnishing all flaggers, including transporting flagmen to provide for passage of public traffic. Contractor shall make provisions for emergency vehicle access during closures. Pedestrians and cyclists shall be provided safe access during the entire length of the contract. Cyclists shall be allowed to share the full travel lane with motor vehicles. Signs that indicate full use of the travel lane by cyclists and direct motorists and cyclists to share the road shall be placed in the work zone and in advance of lane closures. Cones, signing, and flagging shall conform to the requirements of the Manual on Uniform Traffic Control Devices (MUTCD).

Construction area traffic control devices shall be in accordance with the current Manual on Uniform Traffic Control Devices and supplemented by the current Work Area Traffic Control Handbook (Building News).

The Contractor shall furnish, erect and maintain all construction area traffic control devices within the project and at all public road entrances to the project.

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Full compensation for furnishing all labor, materials, tools, equipment and incidentals for maintaining traffic, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer, shall be considered as included in the prices paid for the lump sum item for crack seal and no additional compensation will be allowed therefore.

MATERIALS

Material #1

The emulsified crack sealant shall be furnished in accordance with the requirements specified for asphaltic emulsion in Section 94, "Asphaltic Emulsions," of the Standard Specifications, can be readily handled at ambient temperature, shall be capable of being stored for periods of up to 6 months, can withstand freeze-thaw cycles and shall contain no volatile organic compounds which may contribute to air pollution. The base material shall remain ductile with aging and provide resiliency under extreme climatic conditions.

The emulsified crack sealant shall conform to the following requirements:

| Property | Test Method | Requirements |
|---------------------------------|---------------------------|--------------|
| Viscosity @25°C, SFS | ASTM D 244 | 25-150 |
| Pumping stability | GB method, Note a | Pass |
| 5-day settlement test, % | ASTM D 244 | 5.0 max. |
| Cement mixing test, % | ASTM D 244 | 2.0 max. |
| Sieve test, % | ASTM D 244 | 0.1 max. |
| Particle charge test | ASTM D 244, Note b | Positive |
| Residue, % | ASTM D 244, Notes b and c | 64 min. |
| Test of Residue from ASTM D 244 | | |
| Viscosity @ 60°C cSt | ASTM D 2170 | 4,500-9,500 |

Notes:

a. Pumping stability is determined by charging 450 milliliters of emulsion into a one-liter beaker and circulating emulsion through a gear pump (Roper 29 B22621) having 6-mm inlet and outlet. The emulsion passes if there is not significant oil separation after circulating ten minutes.

b. Use test procedure ASTM Designation: D 244 except that distilled water shall be used in place of two percent sodium oleate solution.

c. ASTM D 244 Evaporation Test for percent of residue is modified by heating a 50 gram sample to 149°C until foaming ceases, then cooling immediately and calculating results.

Unless otherwise directed by the Engineer, a 2 liter {2 quarts} sample of emulsified sealant to be used in the work shall be submitted to the Engineer at least 10 days prior to beginning of the seal work.

Immediately following the application of the crack sealant material, sand shall be applied on the crack sealant material. Sand shall be free from clay or organic material and shall be of such size that 90 percent to 100 percent will pass a 4.75-mm {No. 4} sieve and not more than 5 percent will pass a 75- μ m {No. 200} sieve. Sand shall be spread uniformly with the exact spread rate to be determined by the Engineer during placement operations.

Material #2

The polyester fiber asphalt crack sealant shall be a mixture of paving asphalt and polyester fibers conforming to the following requirements:

- (1) Paving asphalt shall be Grade PG 64-10 conforming to Section 92, "Asphalt Binders," of the Standard Specifications.
- (2) Polyester fiber shall conform to the following:

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| Specification | Requirements |
|---------------------|--------------------|
| Denier | 3 to 5 |
| Length | ±6 mm |
| Color | Natural (white) |
| Crimps | None |
| Tensile Strength | 538 MPa to 607 MPa |
| Specific Gravity | 1.38 |
| Melt Temperature | 248°C to 254°C |
| Elongation at Break | 35-38 percent |

The polyester fibers shall be thoroughly mixed with the paving asphalt at the rate of $5 \pm 1/2$ percent by mass of the paving asphalt. The paving asphalt and polyester fibers shall be heated and mixed in a jacketed double boiler type melting unit which is equipped with both agitation and recirculating systems. The temperature of the heat transfer oil in the melting unit shall not exceed 218°C {425° F} when melting the asphalt and polyester fiber crack sealant. The melting unit must be capable of safely heating the crack sealant to 204°C {400° F}. Crack sealant shall be applied while the temperature range of the crack sealant is between 163°C {325° F} and 191°C {375° F}, and the ambient temperature is between 4°C {40° F} and 32°C {80° F}.

Material #3

The modified asphalt crack sealant shall be a mixture of paving asphalt and ground rubber or ground rubber and polymer.

The gradation of the ground rubber shall be such that 100 percent will pass a 2.36-mm {No. 8} sieve.

The modified asphalt crack sealant shall conform to the following requirements:

| Test | ASTM Designation | Requirements |
|-------------------------|------------------|-----------------|
| Softening Point | D 36 | 82°C min. |
| Cone Penetration @ 25°C | D 5329 | 30 dmm min. |
| Resilience @ 25°C | D 5329 | 40 percent min. |
| Flow | D 5329 | 3 mm max. |

The modified asphalt crack sealant material shall be furnished premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 30 kg {66 pounds} in mass.

The modified asphalt crack sealant material shall be capable of being melted and applied to cracks at temperatures below 204°C {400° F}. When heated, it shall readily penetrate cracks 6-mm {1/4-inch} wide or wider.

Material #4

The low modulus asphalt crack sealant shall be a mixture of paving asphalt and polymer.

The low modulus asphalt crack sealant shall conform to the following requirements:

| Test | Test Method | Requirements |
|---|--------------------------|--------------|
| Softening Point | ASTM D 36 | 82°C min. |
| Ductility @ 4° C., 1 cm./min., cm. | ASTM D 113 | 30 min. |
| Force Ductility @ 4° C. | Utah DOT Method Note (1) | 18 N max |
| Flow | ASTM D 5329 | 3 mm max. |
| Note: (1) The Utah DOT Test Method is available for review at the Transportation Laboratory, 5900 Folsom Boulevard, Sacramento, CA 95819 | | |

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The low modulus asphalt crack sealant shall be furnished premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 30 kg {66 pounds} in mass.

The sealant shall be capable of being melted and applied to cracks at temperatures below 204°C {400° F}. When heated, it shall readily penetrate cracks 6-mm {1/4-inch} wide or wider.

Cracks that are 25-mm {one inch} wide or wider shall be filled with sealant flush with the existing asphalt concrete surfacing and shoulders. While the sealant is still hot, these cracks shall be covered with crushed aggregate conforming to the provisions for Type II slurry seal in Section 37-3.02, "Materials," of the Standard Specifications and compacted with a wetted steel wheel roller or vibrating plate compactor large enough to compact the sealant.

PREPARATION

Cracks to be filled and adjacent asphalt concrete surfacing shall be cleaned and shall be free of dirt, vegetation, debris and loose sealant. Cleaning shall be done by air blasting. Old sealant which protrudes above the asphalt concrete surfacing shall be completely removed. Routing will not be required.

Hot compressed air or other means, approved by the Engineer, shall be used to clean and dry the crack immediately prior to application of material.

APPLICATION

The crack sealant material shall be applied only after the cracks and adjacent asphalt concrete surfacing have been cleaned.

Crack sealant material shall be spread with any type nozzle or device approved for use by the Engineer that will place the material within the specified temperature range.

All cracks shall be squeegeed when necessary after application of the crack sealant material.

Within 2 days after application of sealant, sealed cracks that reopen or in which the sealant material sags below the surrounding asphalt concrete surfacing and shoulders shall be resealed.

A light brooming shall be performed to remove loose excess sand prior to opening a lane to public traffic that is not controlled by a pilot car.

THERMOPLASTIC STRIPES & PAVEMENT MARKINGS

Thermoplastic traffic stripes (thermoplastic traffic lines) and pavement markings shall conform to the provisions in Section 84-1, "General," and 84-2, "Traffic Stripes and Pavement Markings," of the Standard Specifications and these special provisions.

Contractor shall install new thermoplastic striping over locations where crack sealant material covers existing striping and/or markings. Where striping and/or markings cover existing, the Contractor shall begin and end the overlap of the new striping and/or marking pattern over the existing striping and/or marking pattern a sufficient distance to ensure continuity of the striping pattern.

Thermoplastic materials shall comply with State Specification PTH-02SPRAY.

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INFORMATION REQUIRED OF THE BIDDER

1. Name _____
2. Address _____
3. Telephone _____
4. Fax _____
5. Type of firm - Corporation, Partnership or Individual

6. Corporation organized under laws of the State of

7. Names and addresses of all partners or names and titles of all officers of the corporation:

| Officer's Name and Address | Title |
|----------------------------|-------|
| | |
| | |

Replies to these inquiries must be full and explicit where applicable.

8. When, by whom, and in what manner was the site of this proposed work inspected on behalf of the bidder.

9. The bidder declares that the license listed below is his, is current and valid, and is in a classification appropriate to the work to be undertaken.

Contractor's License No. _____

License Expiration Date _____

10. Department of Industrial Relations Registration No. _____

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BID SHEET

| BID ITEMS | QUANTITIES | UNIT OF MEASURE | TOTAL COST |
|------------------|-------------------|------------------------|-------------------|
| Crack Seal | 1 | LS | |
| Striping | 1 | LS | |

TOTAL AMOUNT OF BID:

\$ _____

Signature of party authorized to bind Bidder to perform all the work described herein for the Total Amount proposed above:

Signature

Printed Name, Title