

ROBERT J. ROSA, CHAIR  
JAMES BOWERS, VICE CHAIR  
TED MICK, MEMBER  
MATT SKEELS, MANAGER



11318 MAIN STREET  
P. O. BOX 68  
HONOR, MI 49640-0068  
(231) 325-3051  
(231) 325-2767 FAX

Your Local Road Professionals

---

## REQUEST FOR BIDS HMA CRACK TREATMENT, CHIP SEAL AND FOG SEAL

**NOTICE TO BIDDERS:** Sealed proposals will be received by the Benzie County Road Commission (BCRC) at 11318 Main Street, PO Box 68, Honor, MI 49640 until **9:00 a.m. on Thursday, March 12, 2020**. All bids will be publicly opened and read at the regularly scheduled meeting of the Board of Road Commissioners to be held at 9:30 a.m. on Thursday, March 12, 2020. Bids shall be in accordance with the specifications obtainable from the road commission office. Bids shall be submitted on the forms provided, in sealed envelopes plainly marked as to the contents, and shall include the name of the bidder. Emailed, faxed, telephoned or texted bids will not be accepted. **Bids sent through the US Mail MUST include the PO Box number. The USPS does not assure delivery of our current day's mail until 11:00 a.m.** *The US Postal Service does not forward improperly addressed mail; this could result in bids not arriving on time.*

Bids will be tabulated and a recommendation will be made to the Board of County Road Commissioners at their next regular meeting, tentatively scheduled for March 26, 2020.

**See enclosed list of roads and estimated quantities.**

See enclosed Special Provisions for: HMA Crack Treatment; Single Chip Seal; and Fog Seal for all specifications related to this bid.

Bid prices may be extended to other projects if it is mutually agreeable to both the Road Commission and the successful bidder.

**INSURANCE REQUIREMENTS** – Throughout the time work is being performed under this Agreement, Contractor shall obtain and maintain public liability insurance in the sum of not less than ONE MILLION and 00/100 DOLLARS (\$1,000,000.00) for damages relating to any one person or for damages relating to any one occurrence. This insurance policy shall name the Road Commission as an additional named insured and shall contain a provision that the policy cannot be terminated, canceled, or substantially altered without thirty (30) days written notice to the Road Commission. Contractor shall provide notice of compliance with this insurance provision before beginning the work to be performed under this Agreement.

**INDEMNIFICATION** - Contractor shall indemnify and hold harmless the Road Commission, its officers, board members, assigns, agents, servants, employees, and insurance companies from any and all damages, legal fees or expenses, losses, claims and actions which may arise out of performing the services contemplated by this Agreement.

**Benzie County Road Commission  
2020 Chip Seal Bid**

HMA Crack Treatment	47.26	Road Bed Miles @ \$ _____ / Mile
Single Chip Seal	108,462	Square Yards @ \$ _____ / Syd
Fog Seal	108,462	Square Yards @ \$ _____ / Syd

**ACKNOWLEDGMENT**

The bidder's signature on this proposal shall constitute full knowledge and acceptance of the terms contained herein and the special provisions. The successful bidder shall enter into a contract with and provided by the road commission, a copy of which is enclosed for informational purposes only.

I acknowledge that I have thoroughly read all the pages of this document and if awarded the work will be done in full accordance with same.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Print Name & Title: \_\_\_\_\_

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_

Telephone Number: \_\_\_\_\_ Fax Number: \_\_\_\_\_

Email Address: \_\_\_\_\_ Federal EIN: \_\_\_\_\_

Label bid "**CRACK SEAL, CHIP SEAL AND FOG SEAL BID**" plainly on the outside of a sealed envelope.

DELIVER OR MAIL TO: **Benzie County Road Commission**  
**11318 Main St.**  
**PO Box 68**  
**Honor, MI 49640**

**NOTE: For FedEx and UPS delivery of sealed bids, please use the street address above. For sealed bids sent via US Postal Service, please use the PO Box above. The USPS may return mail addressed to the street address only.**

<b>Road</b>	<b>Length</b>	<b>Width</b>	<b>Tangents</b>	<b>SYD</b>
<b>Chip seal / Fog Seal</b>				
Indian Hill <i>US-31 to Fowler</i>	31370'	28.5'	4600 Sft	99849.44
Fowler <i>Indian Hill to M-22</i>	2625'	28'	4010 Sft	8612.22

<b>Crack seal</b>		<b>Miles</b>
Platte Rd.	US-31 to M-22	5.2
Lake Ann Rd./ Cedar Run Rd.	Village limits to GT county line	3.36
Grace Rd.	US-31 to Forrester Rd.	3.1
N. Manistee CO Line Rd.	Kurick Rd. to US-31	6.2
Homestead Rd.	Marshall Rd. to Case Rd.	2.47
South Shore Rd.	Lobb Rd. to M-22	3.35
River Rd.	Benzonia Village Limits to M-22	5.88
Cinder Rd.	CR 669 to Bendon Rd.	5.09
Crystal Dr.	US-31 to M-22	6.19
Indian Hill Rd.	US-31 to Fowler Rd.	5.92
Fowler Rd.	Indian Hill Rd. to M-22	0.5

Benzie County Road Commission

SPECIAL PROVISION  
FOR  
HOT MIX ASPHALT CRACK TREATMENT

**Description** - The work consists of treating cracks in hot mix asphalt (HMA) surfaces using an overband process.

**Materials** - Provide materials in accordance with subsection 502.02 of the 2012 Standard Specifications for Construction with the following modifications:

1. Delete subsection 502.02.B.1 of the 2012 Standard Specifications for Construction and replace with the following: "Performance graded asphalt binder PG 58 -28 or PG 68 -28."
2. Add the following to the first sentence in subsection 502.02.B.2 of the 2012 Standard Specification for Construction: "and also meets ASTM D6690 Type II."

**Construction** - Ensure all construction is in accordance with subsection 502.03 of the 2012 Standard Specifications for Construction with the following modifications:

1. Delete the second sentence of the second paragraph of subsection 502.03.D.2 of the 2012 Standard Specifications for Construction and replace with the following: "Apply over band 4 inches wide,  $\pm$  1/4 inch, and from 1/8 inch to 3/16 inch thick."
2. Add the following to the end of subsection 502.03.D.2.c of the 2012 Standard Specifications for Construction: "Allow curing for a minimum of 7 days prior to placement of chip seal."

**Measurement and Payment -**

Pay Item

Overband Crack Fill, Roadbed

Pay Unit

Roadbed Mile

Benzie County Road Commission

SPECIAL PROVISION  
FOR  
**Chip Seal**  
1 of 4

**Description:**

The work consists of furnishing all materials, equipment and labor necessary for the surface preparation and application of a single chip seal. This work shall conform to the requirements of Section 505 of the Michigan Department of Transportation 2012 Standard Specification for Construction except as modified herein.

**Equipment:**

All equipment must meet the requirements under Section 505 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein:

Pressure Distributor:

The pressure distributor shall have a computerized application rate and speed control device interconnected with the liquid asphalt pump such that the specified application rate will be supplied at any speed. This control shall have a radar ground sensing device that controls the application rate regardless of ground speed or spray bar width. The pressure distributor shall be capable of maintaining the asphalt at the specified temperature. The spray bar nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Each pressure distributor shall be capable of maintaining the specified rate of application within +/- 0.015 gallons per square yard for each load.

Compacting Equipment:

Perform rolling within two minutes of placing the coarse aggregate and before the asphalt has begun to cool. Make a minimum of two complete passes over the coarse aggregate. A complete pass is one trip, forward and backward, over the same path. Overlap each pass by one-half the width of the roller. Use a minimum of two rollers and proceed in a longitudinal direction at a speed not greater than 5 mph.

Broom/Sweeper:

The use of a rotary-powered broom is required to remove the loose material from the surface to be treated and for removing loose aggregate after the work has been completed.

**Pre-paving Meeting:**

A pre-paving meeting will be held at a location designated by BCRC before beginning work to discuss the following:

- Work schedule.
- Traffic control plan.
- Equipment calibration and adjustments.
- Condition of materials and equipment, including transport units.
- Mix design(s) including job-mix-formula (JMF); coarse aggregate gradation; application rate of asphalt emulsion and coarse aggregate (by stationing and course).
- Contractor's quality control plan (method of yield check, etc.).

**General Placement Operations:**

1. The Contractor shall establish 1000-foot intervals along the entire length of the project, prior to placing materials. The stations shall be clearly identified and maintained until project completion.
2. Keep all vehicles and equipment involved in the chip sealing operation as close to each other as practical. Keep the asphalt emulsion distributor within 100 feet of the chip spreader. Do not place cover aggregate on asphalt after it has cured.

3. Perform rolling within five minutes of placing the coarse aggregate and before the asphalt has begun to cure. Make a minimum of two complete passes over the coarse aggregate. A complete pass is one trip, forward and backward, over the same path. Overlap each pass by one-half the width of the roller. Use a minimum of two rollers and proceed in a longitudinal direction at a speed not greater than 5 mph.

**Quality Control:**

The following measures shall be taken by the Contractor to maintain quality control and uniformity. If the condition is identified that causes an unsatisfactory chip seal, all production work shall stop and corrective action must immediately be taken. The Contractor shall perform the corrective action at no additional cost to the contract. All truck demurrage will be the responsibility of the contractor.

1. **Liquid Asphalt.** The Contractor shall apply the liquid asphalt at a temperature between 260°F and 300°F.
2. **Visible Dust.** During normal traffic operations any dust that is a nuisance or slightly impairs visibility is unsatisfactory. The roadway must be wet broomed until the condition is eliminated.
3. **Loose Stone.** During normal traffic operations any stone picked off the surface by vehicles is unsatisfactory. The roadway must be wet broomed until the condition is eliminated.
4. **Bleeding or Tracking.** During normal traffic operations any bleeding or moderate tracking is unsatisfactory. The roadway must be sanded and swept clean. If the surface conditions call for further action, a heated aggregate meeting the physical properties of Table 902-8, shall be applied, rolled and broomed.
5. **Rough Joints.** Traverse and longitudinal construction joints from a chip seal application that creates a bump or poor riding joint is unsatisfactory. The bump shall be removed by grinding the surface and lightly applying a fog seal over the ground area.
6. **Surface Patterns.** Any asymmetric appearance seen in the chip seal surface characterized by longitudinal groves or ridges in the surface is unsatisfactory. The spray bar and nozzles must be readjusted to eliminate the surface pattern problem.

**Liquid Asphalt:**

The Liquid Asphalt to be used shall be CM-90. The asphalt must meet the requirements stated in Table 1. The Contractor shall apply the Liquid Asphalt at a temperature between 260°F and 300°F, followed by a uniform application of coarse aggregate. The CM-90 placement rate shall be within a residual target range of 0.29 to 0.31 gallons per square yard (after correction for temperature expansion and distillate loss). Construct a 100-foot test strip at the residual target rate of 0.30 gallons per square yard followed by a uniform application of coarse aggregate and review the application. If this target rate is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface condition of the pavement, the Contractor shall notify BCRC immediately and prior to any further application. Upon approval of adjustments to the application rate by BCRC, the Contractor shall then document the new JMF rate(s) by stationing and resume the application at the new rate. The Contractor shall continue to monitor the new application rate and report any noticeable changes to BCRC.

All truck demurrage will be the responsibility of the contractor.

**Table 1 – Chip Seal Matrix Modified Asphalt (CSMMA) – CM 90 Amend table 904-2**

TESTS	Requirements
	CM 90
Modified Koppers Vacuum Viscosity, 25°C, P, ASTM D 4957	2,000 to 20,000
Flash Point, ° C:	
Tag Flash Point, ° C, min, ASTM D 3143-98	65.5
Water in Petroleum, ASTM D 95-05, %, max	1.0
Cut-Back Distillation, ASTM D 402-02	
Distillate, % by Vol of Total Distillate to 360° C	
To 225° C	0-2
To 260° C	0-5
To 315.5° C	10-65
Residue from Distillation to 360° C, min	90
Test on Residue from Distillation, ASTM D 402	
Penetration, 25° C, 100 g, 5 sec, ASTM D5-05a	90 to 150
Ductility at 25° C, cm, min, ASTM D 113	Report
Solubility in Trichloroethylene, %, min, ASTM D 2042-01	99.0
Softening Point, °C, min, ASTM D 36-95	76.7
Float Test, 60° C, sec, min, ASTM D 139-95	1200

**Coarse Aggregate:**

Cover material to be used will be 25A Slag. The aggregate shall be tested material or provided by a prequalified aggregate supplier. The 25A placement rate shall be within the range of 16 to 19 pounds per square yard with a target rate of 17 pounds per square yard. If the target rate is not the optimum application rate due to the gradation of the coarse aggregate or due to existing surface conditions of the pavement, the Contractor shall notify BCRC immediately and prior to any further application. Upon approval of changes by BCRC, the Contractor shall then document the new JMF rate(s) by stationing and resume the application at the new rate. The Contractor shall continue to monitor the new application rate and report any noticeable changes to BCRC.

**Maintaining Traffic:**

The Contractor shall provide all equipment, labor, and materials to properly control traffic throughout the length of the project. All traffic control features shall be in accordance with the current Michigan Manual of Uniform Traffic Control Devices (MMUTCD) to protect the traveling public, their workforce and the work. Payment for maintaining traffic and minor traffic control devices shall be included in other pay items

**Delayed Acceptance:**

The delayed acceptance will not occur until after 30 days from the time of placement of the fog seal, if required, otherwise from the time of placement of the chip seal.

**Measurement and Payment:**

Completed work, as measured, will be paid for at the contract unit price for the following contract items:

<u>Pay Item</u>	<u>Pay Unit</u>
Seal, Single Chip	Square Yard

Payment for the Seal, Single Chip includes all equipment, labor and all material for placement of a single application of liquid asphalt and coarse aggregate, traffic control, surface preparation, brooming, establishment of yield intervals, documentation and delayed acceptance inspection.

No adjustments in the unit price will be made for approved rate of liquid asphalt and/or coarse aggregate that is within the ranges identified in the Liquid Asphalt and Coarse Aggregate Application.

## Benzie County Road Commission

### SPECIAL PROVISION FOR FOG SEAL

1 of 3

#### **Description:**

The work consists of furnishing all materials, equipment and labor necessary for the surface preparation and application of a fog seal. This work shall conform to the requirements of Section 505 and 904 of the Michigan Department of Transportation 2012 Standard Specification for Construction except as stated within.

#### **Equipment:**

All equipment must meet the requirements under Section 505 of the Michigan Department of Transportation 2012 Standard Specifications for Construction, except as modified herein:

##### Pressure Distributor:

The pressure distributor shall have a computerized application rate and speed control device interconnected with the asphalt emulsion pump such that the specified application rate will be supplied at any speed. This control shall have a radar ground sensing device that controls the application rate regardless of ground speed or spray bar width. The pressure distributor shall be capable of maintaining the asphalt at the specified temperature. The spray bar nozzles shall produce a uniform fan spray, and the shutoff shall be instantaneous with no dripping. Each pressure distributor shall be capable of maintaining the specified rate of application within +/- 0.015 gallons per square yard for each load.

#### **General Placement Operations:**

1. Fog seal completed chip sealed areas after brooming. Allow chip seal to cure a minimum 24 hours before fog sealing. Remove the protective covers from the temporary pavement marker tab after the placement of the fog seal. Removal of the protective covers shall be done within a lane closure. Allow a minimum of 3 days before placing permanent pavement markings.
2. Fog seal shall not be applied when the air temperature is below 60° F. The fog seal shall be applied to a clean, dry pavement surface. Do not apply fog seal when precipitation is imminent. If precipitation occurs, prior to the emulsion breaking, the affected areas shall be reapplied at the Contractors expense.
3. The fog seal shall be applied so that there is a minimum of a 1-foot overlap at the centerline of the roadway.
4. Traffic shall not be allowed on the fog seal until the emulsion has fully cured.
5. The fog seal Emulsified Asphalt shall be applied at the temperature recommended by the Supplier.

#### **Fog Seal Application Rate:**

The fog seal shall be an Emulsified Asphalt, SS-1h (at 50% dilution) as specified in Table 904-4 of the Michigan Department of Transportation 2012 Standard Specifications for Construction. A Cationic Emulsified Asphalt, CSS-1h (at 50% dilution) as specified in Table 904-5 is also acceptable. The SS-1h shall be spread at a target rate between 0.12 and 0.15 gallons per square yard. Construct a 100-foot test strip at the target rate of 0.135 gallons per square yard and review the application. If this target rate is not the optimum application rate due to the gradation of the course aggregate or due to existing surface condition of the pavement, the Contractor shall notify BCRC immediately and prior to any further application. Upon approval of adjustments to the application rate by BCRC, the Contractor shall then document the new JMF rates(s) by stationing and resume the application at the new rate. The Contractor shall continue to monitor the new application rate and report any noticeable changes BCRC. All truck demurrage will be the responsibility of the Contractor.



**Submittals:**

Upon completion the Contractor shall provide an inspector’s daily report for each day work was performed containing the following information:

- Control Section / project number / Road Name
- Date / air temperature / pavement temperature / humidity
- Asphalt Emulsion temperature
- Beginning and ending stations
- Yield checks on asphalt emulsion
- Length / Width / Total Square Yards
- Contractor’s Signature

Provide the following additional materials documentation:

- Asphalt Emulsion: per current acceptance procedures.
- Bill of lading or delivery tickets for asphalt emulsion.

The above submittals shall be placed in order by date in a folder with the certification statement in the back.

**Protection of Motor Vehicles:**

The Contractor is responsible for claims of damage to vehicles until the roadways and shoulders have been swept free of loose aggregate, the Fog Seal has been applied and the permanent pavement markings have been applied.

**Maintaining Traffic:**

The Contractor shall provide all equipment, labor, and materials to properly control traffic throughout the length of the project. All traffic control features shall be in accordance with the current Michigan Manual of Uniform Traffic Control Devices (MMUTCD) to protect the traveling public, their workforce and the work. Payment for Traffic Control shall be included in the pay item for Fog Seal.

**Delayed Acceptance:**

A minimum of 30 days after placement of the fog seal, BCRC will inspect the project with the Contractor for surface flushing, surface patterns, or loss of stone. If these deficiencies are found, corrective work is required.

Complete all corrective work within seven working days of the review, or by an agreed upon date. All costs associated with completing this corrective work, to the satisfaction of BCRC, will be borne by the Contractor.

**Measurement and Payment:**

Completed work, as measured, will be paid for at the contract unit price for the following contract items:

**Pav Item**

Fog Seal

**Pav Unit**

Square Yard

Payment for the Fog Seal includes all equipment, labor, testing and materials for placement of an Emulsified Asphalt, SS-1h (at 50% dilution), traffic control, surface preparation, brooming, establishment of yield intervals, documentation and delayed acceptance inspection.

No adjustments in the unit price will be made for an approved rate of Emulsified Asphalt, SS-1h (at 50% dilution) that is within the ranges identified in Fog Seal application rate.

The contract unit price shall be payment in full for all labor and equipment needed to accomplish the work.