

CONTRACTOR \_\_\_\_\_

PROPOSAL AND SPECIFICATIONS

FOR

CHIP SEAL, FOG COAT, SLURRY SEAL, AND CRACK SEAL ON VARIOUS ROADS  
IN ALLEGAN COUNTY, THE CITY OF ALLEGAN,  
AND THE CITY OF THE VILLAGE OF DOUGLAS

ALLEGAN COUNTY LOCAL ROADS

- Project #6701 – Allegan Township
- Project #6702 – Casco Township
- Project #6703 – Cheshire Township
- Project #6704 – Clyde Township
- Project #6708 – Gun Plain Township
- Project #6709 – Heath Township
- Project #6713 – Leighton Township
- Project #6717 – Otsego Township

**Do Not Separate  
or Remove Sheets  
From This Proposal**

ALLEGAN COUNTY PRIMARY ROADS

- Project #2005 – Dorr Township
- Project #2010 – Hopkins Township
- Project #2013 – Leighton Township
- Project #2014 – Manlius Township
- Project #2015 – Martin Township
- Project #2016 – Monterey Township
- Project #2017 – Otsego Township
- Project #2019 – Salem Township
- Project #2020 – Saugatuck Township
- Project #2021 – Trowbridge Township
- Project #2023 – Watson Township
- Project #2024 – Wayland Township

URBAN ROADS

- City of Allegan
- City of Douglas
- Village of Hopkins

April 26, 2017

BOARD OF COUNTY ROAD COMMISSIONERS  
OF ALLEGAN COUNTY, MICHIGAN

1308 Lincoln Rd., Allegan, MI 49010  
ALLEGAN COUNTY ROAD COMMISSION

ADVERTISEMENT FOR BIDS

CHIP SEAL, FOG COAT, SLURRY SEAL, AND CRACK SEAL ON VARIOUS ROADS  
IN ALLEGAN COUNTY, THE CITY OF ALLEGAN,  
AND THE CITY OF THE VILLAGE OF DOUGLAS

Sealed bids will be received by the Allegan County Road Commission at their office at 1308 Lincoln Road (M-89), Allegan, Michigan until 11:00 A.M., E.D.T., Wednesday, April 26, 2017, and at such time be publicly opened and read aloud for the following:

ALLEGAN COUNTY LOCAL ROADS	ALLEGAN COUNTY PRIMARY ROADS	URBAN ROADS
Project #6701 – Allegan Township	Project #2005 – Dorr Township	- City of Allegan
Project #6702 – Casco Township	Project #2010 – Hopkins Township	- City of Douglas
Project #6703 – Cheshire Township	Project #2013 – Leighton Township	- Village of Hopkins
Project #6704 – Clyde Township	Project #2014 – Manlius Township	
Project #6708 – Gun Plain Township	Project #2015 – Martin Township	
Project #6709 – Heath Township	Project #2016 – Monterey Township	
Project #6713 – Leighton Township	Project #2017 – Otsego Township	
Project #6717 – Otsego Township	Project #2019 – Salem Township	
	Project #2020 – Saugatuck Township	
	Project #2021 – Trowbridge Township	
	Project #2023 – Watson Township	
	Project #2024 – Wayland Township	

Complete specifications and bid forms are available at the Road Commission office and online at [www.alleganroads.org](http://www.alleganroads.org) under the Projects/Bids page. When accessing plans from the website, please send an email to [rcbeth@alleganroads.org](mailto:rcbeth@alleganroads.org) to be added to the plan holders list.

All bids must be submitted on forms furnished by the Road Commission and sealed in envelopes with the name and address of the bidder, and the item bid upon clearly marked thereon. **DO NOT SEPARATE THIS PROPOSAL!**

A bid deposit of at least 5% of the bid amount will be required. The bid deposit may be in the form of certified check, cashier's check or bid bond.

The Commission reserves the right to reject any or all bids, to waive minor technicalities, and to accept the bid that is deemed to be in the best interest of the County of Allegan.

BOARD OF COUNTY ROAD COMMISSIONERS  
OF ALLEGAN COUNTY, MICHIGAN

Robert Kaarlie, Chairman  
John Kleinheksel, Vice-Chairman  
James Rybicki, Member

## BID and AWARD

Date \_\_\_\_\_

Board of County Road Commissioners  
of Allegan County  
1308 Lincoln Road  
Allegan, MI 49010

Gentlemen:

The undersigned has examined the plans, specifications, and location of the work described herein and is fully informed as to the nature of the work and the conditions relating to its performance and understands that the quantities shown in the estimate are approximate only and are subject to either increase or decrease; and hereby proposed to furnish all necessary machinery, tools, apparatus and other means of doing the work, do all the work, furnish all the materials except as otherwise specified herein, and, for the unit prices named in the accompanying unit price schedule, to complete work in strict accordance with the plans and specifications therefore.

The undersigned further proposes to such extra work as may be ordered by you, prices for that are not included in the itemized bid, compensation therefore to be made on the basis agreed upon before such extra work is begun.

The undersigned agrees to complete all chip seal and fog coat on or before September 15, and all crack seal on or before November 1. The schedule for liquidated damages is located in the general specifications.

**NOTE: No work will be allowed in the City of the Village of Douglas between Memorial Day weekend and Labor Day weekend unless it is authorized by Max Rodgers (616)836-1263.**

The contractor shall submit a progress schedule subject to approval of the project engineer prior to the award of the contract.

The undersigned encloses a certified check, cashier's check, or Bid Bond, representing 5% of the bid, in the amount of \$\_\_\_\_\_, payable to the Allegan County Road Commission as a guarantee of good faith. If the contract is awarded to the undersigned, and the undersigned fails to furnish satisfactory bonds to the Road Commission within fifteen (15) days after being given notice of award said check will be forfeited to the Allegan County Road Commission as liquidated damage.

### THE CONTRACT

The Contract Documents consist of the bid documents, this Agreement, Conditions of the Contract (General Supplementary, Special and other Conditions), Drawings, Specifications, Addenda issued prior to execution of this Agreement, other documents listed in this Agreement and Modifications issued after execution of this Agreement; these form the Contract, and are as fully a part of the Contract as if attached to this Agreement or repeated herein. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiation, representations or agreements, either written or oral. If anything in the other Contract Documents is inconsistent with this Agreement, this Agreement will govern.

The undersigned bidder agrees that the following is a complete and accurate list of all sub-contractors to be utilized is awarded this contract and any change from this list will be permitted only with the consent of the Board of County Road Commissioners of Allegan County. **LIST NAME OF EACH SUB-CONTRACTOR AND BRIEF DESCRIPTION OF WORK TO BE DONE.**

---

---

---

---

I hereby state that all of the information I have provided is true, accurate and complete. I hereby state that I have the authority to submit this bid, which will become a binding contract if accepted by the Board of County Road Commissioners of Allegan County. I hereby state that I have not communicated with nor otherwise colluded with any other bidder, nor have I made any agreement with nor offered or accepted anything of value from an official or employee of the Board of County Road Commissioners of Allegan County that would tend to destroy or hinder free competition.

In case the bidder is a co-partnership, each member must sign this proposal.

In case the bidder is a Corporation, this proposal must be executed by its duly authorized officials in accordance with its articles of incorporation and a certified copy of such articles must be attached hereto.

I hereby state that I have read, understand and agree to be bound by all the terms of this bid document.

SIGNATURE: \_\_\_\_\_ NAME: \_\_\_\_\_  
(Type or Print)

TITLE: \_\_\_\_\_ DATE: \_\_\_\_\_

FIRM NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_  
(Street Address) (City) (State) (Zip)

**FOR COUNTY USE ONLY – DO NOT WRITE BELOW**

ACCEPTED BY: BOARD OF COUNTY ROAD COMMISSIONERS  
OF THE COUNTY OF ALLEGAN, MICHIGAN

\_\_\_\_\_  
Chairman

\_\_\_\_\_  
Vice-Chairman

\_\_\_\_\_  
Member

\_\_\_\_\_  
Date

ALLEGAN COUNTY ROAD COMMISSION

SPECIAL PROVISIONS

BITUMINOUS SURFACE TREATMENT-SINGLE OR DOUBLE CHIPSEAL

Proposals will be received from contractors having a current prequalification with the Michigan Department of Transportation (MDOT) for chipseal or that have performed (3) similar sized projects within the last year.

1 - DESCRIPTION

This work shall consist of one or more applications of bituminous material applied to the prepared surface with each application being covered with either course or fine aggregate before the next application of bituminous material. The work shall be done in accordance with this specification or in accordance with applicable drawings or plans of this contract. Any streets with curb and gutter will be swept by the owner. All traffic control will be included in the unit price for Rural Single Chip Seal, or Urban Single Chip Seal.

2 - CONSTRUCTION EQUIPMENT

All equipment used shall be sufficient size and in such mechanical condition as to produce a satisfactory job.

A. PRESSURE DISTRIBUTORS - The pressure distributor shall have a computerized application rate and speed control. 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 emulsion 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 application rate within  $\pm 0.015$  gal/syd for each load.

B. AGGREGATE CHIP SPREADER- The aggregate chip spreader shall be self-propelled and have a computerized spread control capable of spreading the cover material uniformly for widths of 1 to 20 feet and have a screen to remove oversized material.

C. COMPACTION EQUIPMENT - Shall be self-propelled, vibratory, rubber tired, three wheel or tandem rollers. Rollers shall weigh not less than 6 ton nor more that 9 ton.

D. MISCELLANEOUS EQUIPMENT - Sufficient equipment for hauling of cover material shall be provided to insure continuance covering of bituminous material, hand tools, thermometers, etc.. Chain link fence drag shall be available for use when required by engineer.

### 3 - MATERIALS AND RATE OF APPLICATION

The materials will meet the following requirements as specified. All chip seal multi grade asphalt will conform to the following table:

#### CHIP SEAL MULTI GRADE ASPHALT

	CM-90	METHOD OF TEST
Viscosity @ 25°C, 1. Sec.-1, P.	2000-20,000	ASTM D-4957
Flash Point, °C	67+	ASTM D-93
Water % max	1.0-	ASTM D-95
Distillate Test		
Volume % of Total Distillate to 360° C		ASTM D-402-02
To 225° C	0-2	
To 260° C	0-3	
To 316°	10-65	
Residue from Distillate to 360° ,min	90	
Volume by Difference		
Test on Residue from Distillation		
Penetration @ 25° C, 100g, 5 sec, dmm.	80-140	ASTM D-5
Ductility at 25° C, cm. min	report	ASTM D 113
Float Test @ 60° C, sec.	1200+	ASTM D-139
Solubility %	99.0+	ASTM D-2042

The successful Contractor will be responsible to provide the above material delivered to the project location on a schedule determined by the Contractor. The contractor shall be responsible for proper heating of asphalt, needed storage facilities and for all truck demurrage charges that are incurred.

2. APPLICATION - The Contractor shall apply the multi grade asphalt at a temperature between 270° F and 300° F, followed by a uniform application of coarse aggregate.

3. MULTI GRADE ASPHALT - Application Rates:

CM-90 shall be within the range of 0.30-0.32 gal/syd. The JMF target rate for the asphalt shall be 0.31 gal/syd.

If the target rate of 0.30 gal/syd is not the optimum application rate due to the gradation of the course aggregate or due to existing surface conditions of the pavement, the Contractor shall notify the Project Engineer, immediately. The Contractor shall then document the new JMF rate(s) by stationing.

B. BITUMINOUS PRIME COAT - Shall be AE-PB

The prime coat over gravel shall be applied at a rate of 0.20 to 0.30 gallons/syd.

C. Coarse Aggregate

34-CS slag aggregate shall meet the following grading requirements:

GRADING REQUIREMENTS

MTM - 109-95

<u>Sieve Size</u>		<u>Percent Passing</u>
1/2"	(12.5 mm)	100
3/8"	(9.5 mm)	90 - 100
#4	(4.75 mm)	0 - 10
#8	(2.36 mm)	0 - 5
*#200	(75 mm)	2.0 maximum

\*LBW-Loss by Wash

PHYSICAL REQUIREMENTS

<u>TEST</u>	<u>DESCRIPTION</u>	<u>SPECIFICATION</u>
MTM - 102	L.A. Abrasion Resistance	45% Max.
MTM - 117	Percentage of Crushed Particles	95% Min.
*MTM - 110	Deleterious Particles in Aggregate	3.5% max.
*Includes the sum of shale, siltstone, structurally weak and clay-ironstone particles		

1. First application (bottom layer) shall be applied at 16 to 18 pounds per sq. yd.
2. Second application (top layer) shall be applied at 18 to 20 pounds per sq. yd.

34CS natural aggregate shall meet the following grading requirements:

GRADING REQUIREMENTS MDOT 34CS

(Page 752 2012 MDOT Standard Specifications for Construction)

<u>Sieve Size</u>		<u>Percent Passing</u>
1/2"		100
3/8"		90 - 100
#4		0 - 10
#8		0 - 5
#200		2.0 maximum

PHYSICAL REQUIREMENTS

<u>TEST</u>	<u>DESCRIPTION</u>	<u>SPECIFICATION</u>
MTM - 102	L.A. Abrasion Resistance	35% Max.
MTM - 117	Percentage of Crushed Particles	95% Min.
*MTM - 110	Deleterious Particles in Aggregate	3.5% Max.
MTM-112	Aggregate Wear Index	260 Min.
ASTM-D 4791	Flat & Elongated	12% Max.
*Includes the sum of shale, siltstone, structurally weak and clay-ironstone particles		

### CS-T TRAP ROCK

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	100
1/4"	85 - 100
#8	0 - 15
#20 (Loss by wash)	2.0 maximum

### PHYSICAL REQUIREMENTS

<u>TEST</u>	<u>DESCRIPTION</u>	<u>SPECIFICATION</u>
MTM - 102	L.A. Abrasion Resistance	35% Max.
MTM - 117	Percentage of Crushed Particles	100% Min.
MTM - 110	Deleterious Particles in Aggregate	3.5% Max.
MTM - 111	Aggregate Wear Index	>260
Moisture Content		4%

#### 4 - PREPARATION:

Work required on existing surface such as base repair and patching shall be done by the owner.

#### 5 - CONSTRUCTION:

EXISTING SURFACE - The bituminous material shall be applied at the rate specified immediately followed by the self-propelled chipper covering the bituminous material with aggregate. In no instance shall the chipper be more than 400 ft. behind the distributor. The aggregate should be compacted into the bituminous material by a self-propelled roller directly behind the chipper. At no time shall the aggregate cover material be left unrolled for more than 10 minutes. The second application shall be applied as soon as it can reasonably be expected.

#### 6 - WEATHER LIMITATIONS:

No bituminous material shall be applied during rainy weather or when the air temperature in the shade is less than 50 F. and rising except by the approval of the contracting officer.

#### 7 - METHOD OF MEASUREMENT:

Field measurements of the areas seal coated in square yards shall be determined by the engineer in the presence of the contractor and or with his concurrence.

#### 8 - BASIS OF PAYMENT:

Single or Double seal coat will be paid for at the contract price per square yard, (as described above) which price shall be payment in full for furnishing, heating, hauling and applying the bituminous material, furnishing, hauling and placing the cover material, dragging, rolling, replacing disturbed material; maintaining traffic and constructing the surface complete. A double seal coat will be paid for as two "single seal coats".



## FOG COAT SPECIFICATIONS

### Description:

A fog coat is a light application ( $\pm 0.15$  gal/syd) to an existing surface of a slow-setting asphalt emulsion diluted with water, similar to a tack coat, and applied at the required application rate. The application locations will be as shown in the plans, specifications or as directed by the Engineer. All traffic control will be included in the unit price for Rural Fog Coat or Urban Fog Coat.

### Materials:

Bituminous Materials shall conform to the following:  
Emulsified Asphalt SS-1h, CSS-1h

### Equipment:

1. A properly calibrated emulsion distributor or a hand sprayer shall be used for spraying emulsions. ASTM D2995 can be used for distributor calibration. The distributor shall be free of any contaminants which can harm the emulsion. A pump for circulation of emulsion through the spray bar shall be provided. Pumps should have clearance of at least 0.030 in. to prevent over-shearing. Pressure created within the distributor should be as low as possible. Heat applied to the tank or spray bar shall not exceed 185°F at any point.
2. Recommended spray nozzle sizes are 1/8 to 3/16 inch. Spray nozzle angles and spray bar height should be adjusted to produce correct overlap. A hand sprayer should be used for applying small amounts of fog seal to small areas which cannot be sprayed by the distributor.

### Construction Methods:

1. Before the application of fog coat the Contractor shall clean the surfaces.
2. The Contractor shall furnish and apply the fog seal materials per the following requirements:

<b>Dilution</b>		<b>Tight Surface*</b>	<b>Open Surface**</b>
<b>% Original Emulsion</b>	<b>Rate</b>	<b>gal/sq.yd</b>	<b>gal/sq.yd</b>
50	1:1	0.03-0.11	0.09-0.22

\* A tight surface is a low absorbance and relatively smooth

\*\* An open surface is relatively porous and absorbent with open voids

The material shall be mixed at the plant and delivered at 140-185°F.

3. Upon over application and at the discretion of the supervising Engineer, a light cover of clean, fine sand may be applied onto the uncured fog seal.
4. The fog coat should be allowed to completely cure before opening to traffic.

### Basis of Payment

Bituminous material will be measured by the number of gallons used in the accepted work, as determined by the Engineer, at the temperature of application.

Fog Coat will be paid at the Contract unit price per gallon and shall be full compensation for all work, materials, labor, and incidentals required to complete the work in accordance with the plans and specifications. All traffic control will be included in the unit price for this item.

## OVERBAND CRACK SEALING SPECIFICATION

A. DESCRIPTION: This work consists of furnishing all labor, equipment, and materials necessary for application of a **field blended** fiberized joint and crack sealant. Bidders will be MDOT prequalified or give (3) references of similar sized jobs. All surface preparation and crack sealing shall be done in accordance with these special provisions. Only field blended (no box material) will be accepted. All traffic control will be included in the unit price for Rural Overband Crack Seal.

B. MATERIALS: PG 64-22, POLYESTER FIBER, LATEX RUBBER ADDITIVE.

1. General - All joints and cracks will be waterproofed using the following hot asphalt based crack sealant. The material shall be extruded under high temperature [275-325 degrees F] and high pressure [100 P.S.I. max.] directly into and over the joints and cracks.

2. Composition

Liquid Rubber Compound            5.0% +/- 1/2% by weight of asphalt

The liquid rubber compound shall be able to be blended rapidly with asphalt cements in bituminous pressure distributors and crack sealing kettles without special equipment. It shall not cause boiling or foaming when blended with liquid asphalt at 300 degrees F.

The liquid rubber compound shall be a virgin unvulcanized synthetic rubber compound which meets the following requirements:

Ash, % of total rubber solids ASTM D297	2.0 max
Volatile Content, 2 hrs. @ 105 degrees C. %	5.0 max
Coagulum on 80-mesh screen, %	0.2 max
Mooney Viscosity of polymer (M/L 4 @ 212 degrees	95 min
Brookfield Viscosity @ 77 degrees F., cps	20,000-80,000
Flash point, degree F., Pensky-Martin method ASTM D93	300 min

The manufacturer shall furnish certification that the liquid rubber compound furnished meets the above specification.

Polyester Fibers (HY-Tech, Bonifiber or approved equal). . . 5.0% +/- 1/2% by weight of asphalt

The fibers shall be polyester fibers meeting the following requirements:

Denier; ASTM D 1577*	3.0 to 6.0
Length, inch	0.25 +/- 0.02
Crimps; ASTM D 3937	None
Tensile strength, minimum, psi; ASTM D 2256*	70,000
Specific gravity	1.32 to 1.40
Minimum melting temperature	475 F
Ignition temperature	1000 F min.

Note: The 5.0% fibers shall be a dry weight adjusted for moisture content.

3. Ingredient Specifications

Asphalt            PG 64-22

#### 4. Membrane/Sealant Physical Properties

Thickness	0.065" minimum 0.125" maximum
Width	Variable (5" to 12")

#### C. Construction Methods

1. Preparation of Surface - The surface shall be thoroughly clean and dry when the sealant/membrane is applied. Cleaning of cracks will be with minimum 100 P.S.I. compressed air and hand tools as necessary to remove dust, dirt, moisture, vegetation, and foreign materials that would prevent bonding of the material. Cleaning work is to be done concurrently with the application process. Air compressors shall be portable and capable of furnishing not less than 100 PSI air pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

2. Mixing Procedures - The material shall be blended in an oil-jacketed double wall kettle equipped with an agitator (reversing rotary auger action) and separate thermometers for the oil bath and the blending vat. A 2-inch recirculating pump is required to provide circulation of the materials when not applying the crack sealant. The unit shall be capable of mixing 2,500 pound minimum batches of material. The temperature of the material shall be maintained between 275-350 degrees F. Automatic temperature controls and an automatic safety shutoff system shall be used. Weight tickets for the asphalt cement shall be used in determining the specified weight of fiber and liquid rubber compound to be blended into the asphalt cement. The fibers and liquid rubber compound shall be added to the asphalt cement and thoroughly mixed in the kettle.

3. Application - The material is to be applied to the crack and pavement surface with specially designed applicator heads which are round and concave. The diameter of these heads determine the width of the band of material on the pavement surface. These heads should range in size from 5" to 12" in diameter. The contract owner shall specify the head sizes to be used after discussion with the contractor. The 5" diameter head shall be used whenever possible. The applicator wand is to be equipped with a material shutoff control operated by the applicator person. This control is necessary for a neat job and prevents excess material from being applied.

4. Weather Limitations - No material shall be applied unless the ambient air temperature is 40 F and rising. No material shall be applied while the surface is wet.

5. Opening to Traffic - Traffic shall be kept off the newly placed sealant until it has cooled and set enough to prevent tracking and/or pullout of the sealant

#### D. Basis of Payment

Payment for this work shall be made at the contract unit price per pound (#) of crack sealant. The unit price includes all materials, equipment, tools, and labor incidental to the preparation and sealing of cracks (unless otherwise specified). The paid quantity will be the number of pounds of hot applied sealant in place, completed, and accepted. All traffic control will be included in the unit price for this item.

<u>Pay Item</u>	<u>Pay Unit</u>
Overband Crack Sealing	Pounds Mixed Material

## SLURRY SEAL SPECIFICATION

### 1. SCOPE:

The work covered by this specification consists of furnishing all labor, equipment and materials to perform all operations necessary in connection with the application of an emulsified asphalt slurry seal surface upon the designated surface, in complete and strict accordance with this specification. All traffic control will be included in the unit price of Rural Slurry Seal.

### 2. CONTRACTOR'S QUALIFICATION:

- A. The contractor shall have performed satisfactory Slurry Seal in at least four (4) communities or sites of similar type work.
- B. The bidder's general questionnaires attached to this specification shall be completed to the satisfaction of the engineer.

### 3. APPLICABLE SPECIFICATIONS:

The following specifications and methods form a part of this specification:

ASTM - American Society for Testing and Materials  
ISSA - International Slurry Surfacing Association

#### AGGREGATE AND MINERAL FILLER

ASTM D75 - Sampling Stone, Slag Gravel, Sand and Stone Block for use as Highways Materials.

ASTM C136 - Sieve Analysis of Fine or Coarse Aggregate.

ASTM C117 - Amount of Material Finer than No. 200 Sieve in Aggregate.

ASTM D2419 - Plastic Fines in Graded Aggregate and Soils by use of the Sand Equivalent Test.

ASTM C128 - Specific Gravity and Absorption of Fine Aggregate.

ASTM C29 - Unit Weight of Aggregate.

ASTM C131 - Abrasion of Coarse Aggregate by use of the Los Angeles Machine.

ASTM C183 - Sampling Hydraulic Cement.

ASTM D546 - Sieve Analysis of Mineral Filler.

ASTM D242 - Mineral Filler for Bituminous Paving Mixtures.

#### EMULSIFIED ASPHALT

ASTM D140 - Sampling Bituminous Materials.

ASTM D244 - Testing Emulsified Asphalt.

ASTM D977 - Specifications for Anionic Emulsified Asphalt.

ASTM D2397 - Specifications for Cationic Emulsified Asphalt.

ASTM D2172 - Bitumen Content of Paving Mixture by Centrifuge.

ISSA T100 - Measurement of Wear of Slurry Seal Mixtures by Wet Tract Abrasion.

4. DESCRIPTION:

The slurry seal surface shall consist of a mixture of emulsified asphalt, mineral aggregate, and water, properly proportioned, mixed and spread evenly on the surface as specified herein and as directed by the engineer. The cured slurry shall have a homogeneous appearance, fill all cracks, adhere firmly to the surface and have a skid resistant texture.

5. MATERIALS:

A. ASPHALT EMULSION. The emulsified asphalt shall conform to the requirement of International Slurry Surfacing Association Specification, for type CSS-1H.

B. AGGREGATE. The mineral aggregate shall consist of natural or manufactured sand, slag, crusher fines, and others, or a combination thereof. Smooth-textured sand of less than 1.25 percent water absorption shall not exceed 50 percent of the total combined aggregate. The aggregate shall be clean and free from vegetable matter and other deleterious substances. When tested by ASTM D2419, the aggregate blend shall have a sand equivalent of not less than 45%. When tested according to ASTM C88 the aggregate shall show a loss of not more than 15%. When tested according to ASTM C131 the aggregate shall show a loss of not more than 30%.

Mineral fillers such as portland cement, limestone dust, fly ash, and others shall be considered as part of the blended aggregate and shall be used if required by the mix design. They shall meet the gradation requirements of ASTM D242. The combined mineral aggregate shall conform to the following gradation when tested by the previously mentioned test.

TYPE II	
SIEVE SIZE	PERCENT PASSING
3/8	100
No. 4	90-100
No. 8	65-90
No. 16	45-70
No. 30	30-50
No. 50	18-30
No. 100	10-21
No. 200	5-15

Theoretical Asphalt Content  
% Dry Aggregate 7.5-13.5

TYPE II. This aggregate blend is used when it is desired to fill surface voids, correct severe surface conditions, and provide sealing and a minimum wearing surface. An application rate of 15 (plus or minus) 2 pounds per square yard based on dry aggregate weight is used when standard aggregates are utilized. If applying over chipseal increase application to 18 (plus or minus) 2 pounds per square yard.

C. WATER. All water used with the slurry mixture shall be potable and free from harmful soluble salts.

D. LABORATORY TESTING. Sources of all materials shall be selected prior to the time the materials are required for use in the work. All samples shall be taken according to procedures previously mentioned. All materials shall be pretested in a qualified laboratory as to their suitability for use in slurry. The theoretical asphalt content shall be determined. The laboratory shall also determine if a mineral filler is required, and if so how much should be used. Test samples shall be made and tested on Wet Track Abrasion Machine. A complete laboratory analysis and test report accompanied by abraded and un-abraded slurry test samples shall be submitted by the Contractor before the job starts.

E. STOCKPILING OF AGGREGATES. Precautions shall be taken to insure that stockpiles do not become contaminated with over-sized rock, clay, silt, or excessive amounts of moisture. The stockpile shall be kept in areas that drain readily. Segregation of the aggregate will not be permitted. Owner will provide yard site for stockpiling aggregates and keeping emulsion storage tanks within one mile of the projects, or closer when possible.

F. STORAGE. The contractor shall provide suitable storage facilities for the asphalt emulsion. The container shall be equipped to prevent water from entering the emulsion. Suitable heat shall be provided if necessary to prevent freezing.

G. SAMPLING. Samples of materials and of the finished slurry surfaces shall be furnished by the Contractor as directed by the Engineer during progress of the work. Test reports may be requested from the Contractor as additional materials arrive.

H. DESIGN. The bidder shall submit to the Engineer a complete laboratory design made in a qualified laboratory before the work commences. A complete analysis of the materials and Job Mix Formula proposed for use in the performance of the work shall be made in accordance with procedures outlined in the current issue of International Slurry Surfacing Association Technical Bulletin No. 111 as indicated by the engineer. The Engineer shall select from the data presented by the bidder the optimum design for the materials selected by the Contractor. The bidder shall follow the recommendations and calibrate their machines to apply the materials including mineral filler if called for by the mix design for better mix performance. The Engineer may waive the design submittals provided the bidder has previously applied in this subdivision a satisfactorily designed and applied slurry with substantially the same materials proposed for this work. In any case, untried materials may not be introduced into this work without complete analysis and design of a Job Mix Formula for each new material approved by the Engineer.

## 6. EQUIPMENT:

All equipment used in the performance of this work shall be maintained in satisfactorily working order at all times.

A. SLURRY MIXING EQUIPMENT. A minimum of two (2) continuous flow slurry machines, minimum capacity of eight (8) tons shall be provided. They shall be capable of delivering accurately a predetermined proportion of aggregate, water and asphalt emulsion to the mixing chamber and to discharge the thoroughly mixed product on a continuous basis. The aggregate shall be pre-wetted immediately prior to mixing with the emulsion. The mixing unit of the mixing chamber shall be capable of thoroughly blending all ingredients together. No violent mixing shall be permitted.

The mixing machine shall be equipped with an approved fines feeder that provides an accurate metering device or method to introduce a predetermined proportion of mineral filler into the mixer at the same time and location that the aggregate is fed. The feeder shall be used whenever added mineral filler is a part of the aggregate blend.

The mixing machine shall be equipped with a water pressure system and fog type spray bar adequate for complete fogging the surface preceding spreading equipment with a maximum application of 0.05 gallons per square yard.

B. CALIBRATION. Each material delivery function (a) fines feed, (b) aggregate feed, and (c) emulsion feed, shall be independently operated and monitored with digital counters capable of giving accumulated readings of the material usage on a daily basis.

All instruments, gauges and meters shall be accurate within +5% of the operating range required. All instruments and controls shall be centrally mounted in a protected console and shall be readily accessible during operation to the Engineer or his designated representative.

The bidder will submit calibration sheets for each machine to substantiate meter readings and aggregate openings (gal/count, #/count). Daily counter readings will be supplied to the inspector with yardage applied to verify application rates. If readings do not confirm correct application rates, recalibration on site will be required before additional work is applied.

C. SLURRY SPREADING EQUIPMENT. Attached to the mixer machine shall be a mechanical type squeegee box equipped with flexible material in contact with the surface to prevent loss of slurry from the box. It shall be maintained so as to prevent loss of slurry on varying grades and crown by rotating at center of box. There shall be a steering device and a flexible strike-off. The spreader box shall have an adjustable width from 8 to 12 feet. The box shall be kept clean, and buildup of asphalt and aggregate on the box shall not be permitted. The use of burlap drags or other drags shall be approved by the Engineer.

D. CLEANING EQUIPMENT. Power brooms, power blowers, air compressors, water flushing equipment, and hand brooms shall be suitable for cleaning the surface and cracks of the old surfaces.

E. AUXILIARY EQUIPMENT. Hand squeegees, shovels and other equipment shall be provided as necessary to perform work.

#### 7. PREPARATION OF SURFACE:

The contractor will sweep the streets before the slurry seal application.

A tack coat will be applied if the slurry is being placed over a brick or concrete surface, highly absorbent asphalt surface, or over a surface where the aggregate has become exposed and is polished and slick, a 1 part emulsion, 3 part water, tack coat of the same asphalt emulsion type and grade as specified for the slurry is recommended. This can be applied with an asphalt distributor or slurry machine adapted to apply tack coat. The normal application rate of 0.05 to 0.10 gallons of the diluted emulsion per square yard of surface. The Engineer should give final approval.

#### 8. COMPOSITION AND RATE OF APPLICATION OF THE SLURRY MIX:

The amount of asphalt emulsion to be blended with the aggregate shall be that as determined by the laboratory report after final adjustment in the field. A minimum amount of water shall be added as necessary to obtain a fluid and homogeneous mixture. The Engineer shall give final approval to the design and rate of application used.

#### 9. WEATHER LIMITATION:

The slurry seal surface shall not be applied if either the pavement or air temperature of 55 F or below and falling, but may be applied with both the air and pavement temperature is 45 F or above and rising. The mixture should not be applied if high relative humidity prolongs the curing beyond a reasonable time.

10. TRAFFIC CONTROL:

Suitable methods such as barricades, flag-men, pilot cars, etc., shall be used to protect the uncured slurry surface from all type of traffic, owner to do necessary barricading and/or flagging of traffic. Any damage to the uncured slurry will be the responsibility of the Contractor. The Engineer shall give final approval as to the method used. If damage occurs where suitable means have been made to protect the uncured slurry, violators will be prosecuted and the Contractor will be reimbursed for the amount of the damages. The Contractor shall coordinate the scheduling of street to be surfaced with the Project Engineer.

11. APPLICATION OF THE SLURRY SURFACES:

A. GENERAL. The surface shall be fogged with water directly preceding the spreader. The slurry mixture shall be of the desired consistency when deposited on the surface and no additional elements shall be added. Total time of mixing shall not exceed four (4) minutes. A sufficient amount of slurry shall be carried in all parts of the spreader at all times so that complete coverage is obtained. No lumping, balling or unmixed aggregate shall be permitted. No segregation of the emulsion and aggregate fines shall be permitted. If the course aggregate settles to the bottom of the mix, the slurry will be removed from the pavement. No excessive breaking of the emulsion will be allowed in the spreader box. No streaks such as caused by oversized aggregate will be left in the finished pavement.

B. JOINTS. No excessive buildup nor unsightly appearance shall be permitted on longitudinal or transverse joints.

C. HAND WORK. Approved squeegees shall be used to spread slurry in inaccessible areas to the slurry mixer. Care shall be exercised in leaving no unsightly appearance from hand work.

D. CURING. Treated areas will be allowed to cure until such time as the Engineer permits their opening to traffic.

E. INTERSECTION. Care should be taken to achieve a clean straight line as directed by the Engineer by use of 15 pound roofing felt or equal. All roofing felt will be removed at completion of work.

12. MEASUREMENT AND PAYMENT:

The slurry seal surface shall be measured and paid for by the square yards of work completed and accepted as designated by the Engineer. All traffic control will be included in unit price for this item.

13. NOTICE TO RESIDENTS:

It is recommended that the following advance public notice be made by the use of flyers:

“Residents shall be notified of the proposed application of a coat of slurry seal the day before it is to be applied by written notices being delivered to each place of residents.”

14. CONTRACT EXTENSION – This contract may be extended one year at a time for three years by mutual written agreement of both parties. Request for extension should be submitted no later than January 31, by the contract to be considered.



BIDDER'S GENERAL QUESTIONNAIRE

Please give the following information regarding your proposal for this bid:

1. Number of years experience in this work: \_\_\_\_\_

2. List number and types of equipment to be used if awarded this bid:

_____	_____
_____	_____
_____	_____

3. List the municipalities that you have contracted with during the past 10 years for this type work:

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. \_\_\_\_\_
- 4. \_\_\_\_\_

4. Name of your bank and other financial reference: \_\_\_\_\_

\_\_\_\_\_

5. Name of your insurance carrier:

PL/PD/BI Insurance Carrier: \_\_\_\_\_

Workmen's Compensation: \_\_\_\_\_

6. Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signed: \_\_\_\_\_

Title: \_\_\_\_\_

Name and Address of Firm:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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



<u>LOCAL</u>	<u>DESCRIPTION</u>	<u>LENGTH</u>	<u>WIDTH</u>	<u>TRAP ROCK (SYD)</u>	<u>SLAG (SYD)</u>	<u>NAT. AGG (SYD)</u>	<u>(GALLON)</u>	<u>(LB)</u>
<u>TOWNSHIP</u>		<u>LENGTH</u>	<u>WIDTH</u>	<u>CHIP SEAL</u>	<u>CHIP SEAL</u>	<u>CHIP SEAL</u>	<u>FOG COAT</u>	<u>CRACK SEAL</u>
ALLEGAN	122nd Ave, 26th St to the Watson Township Line	5400	30	18,000	0	0	2,430	0
ALLEGAN	26th St, 518' south (Loarraine Dr) of 121st to 122nd Ave	3200	22	7,822	0	0	1,056	0
ALLEGAN	122nd Ave, 28th to 26th (over new HMA)	5400	30	18,000	0	0	2,430	0
ALLEGAN	121st Ave, 36th to 34th St	5300	28	0	0	0	0	3,298
ALLEGAN	27th St, 120th to 121st Ave	1300	28	0	0	0	0	809
ALLEGAN	120th Ave, 27th to 26th St	2700	28	0	0	0	0	1,680
CASCO	64th St, 106th to 109th Ave	8000	22	0	19,556	0	2,640	0
CASCO	62nd St, 102nd to 109th Ave	18700	22	0	45,711	0	6,171	0
CASCO	66th St, 109th to 112th Ave	8000	22	0	19,556	0	2,640	0
CHESHIRE	Baseline Rd, 38 <sup>th</sup> St to the Trowbridge Twp Line	5900	28	0	18,356	0	2,478	0
CLYDE	54th St, 118th Ave to M-89	16200	22	0	39,600	0	5,346	0
CLYDE	Lakeland Dr, Tony Ave to 58th St	1400	22	0	3,422	0	462	0
GUN PLAIN	Miller Rd, 10th to 6th St	11800	22	28,844	0	0	3,894	5,769
HEATH	42nd St, 132nd to 134th Ave	5300	23	0	13,544	0	1,829	3,386
HEATH	132nd Ave, 48th St to M40	8500	53	0	50,056	0	6,758	12,514
HEATH	46th St, .5 miles south of 134th to	2700	22	0	6,600	0	891	1,650



<u>URBAN</u>	<u>DESCRIPTION</u>	<u>LENGTH</u>	<u>WIDTH</u>	<u>TRAP ROCK (SYD)</u> <u>CHIP SEAL</u>	<u>SLAG (SYD)</u> <u>CHIP SEAL</u>	<u>NAT. AGG (SYD)</u> <u>CHIP SEAL</u>	<u>(GALLON)</u> <u>FOG COAT</u>	<u>(LB)</u> <u>CRACK SEAL</u>
<u>MUNICIPALITY</u>	<u>DESCRIPTION</u>	<u>LENGTH</u>	<u>WIDTH</u>	<u>TRAP ROCK (SYD)</u> <u>CHIP SEAL</u>	<u>SLAG (SYD)</u> <u>CHIP SEAL</u>	<u>NAT. AGG (SYD)</u> <u>CHIP SEAL</u>	<u>(GALLON)</u> <u>FOG COAT</u>	<u>(LB)</u> <u>CRACK SEAL</u>
DOUGLAS	Center St, Ferry to Lakeshore Drive	4500	20	0	10000	0	1,350	3,000
DOUGLAS	Lakeshore Dr, South City Limits to Campbell	4250	18	0	8500	0	1,148	2,550
DOUGLAS	Fremont, Helmer to Ferry St	700	20	0	1,556	0	210	467
DOUGLAS	Ferry St, Center St to Campbell	2700	24	0	7200	0	972	2,160
DOUGLAS	Blue Star Hwy, Wiley Rd to Bridge	6710	48	0	0	0	0	10,736
DOUGLAS	Union St, Blue Star Hwy to Water St	1120	20	0	0	0	0	747
DOUGLAS	Schultz Park Dr, Wiley Rd to Dead End	2120	20	0	0	0	0	1,413
DOUGLAS	Center St, Blue Star Hwy to Water St	2400	22	0	0	0	0	1,760
DOUGLAS	Washington St, Blue Star Hwy to Pavement joint	700	20	0	0	0	0	467
DOUGLAS	Mixer St, Union St to Fremont St	900	20	0	0	0	0	600
DOUGLAS	Randolph ST, Ellis St to Spring St	800	20	0	0	0	0	533
HOPKINS	Main St, East village limits to west Village limits	4100	24	0	10,933	0	1,476	0
HOPKINS	Cherry, Elm and Jefferson, north of Main St to Village limit at 22nd St	2300	24	0	6,133	0	828	0
ALLEGAN	Airway Dr. (M222-Industrial Drive)			0	14130	0	1,908	0

ALLEGAN	Eastern Avenue (Lowe -Airway Drive)			0	7757	0	1,047	0
ALLEGAN	Industrial Drive (Eastern Avenue - Airway Drive)			0	3947	0	533	0
ALLEGAN	Depot Hill Ct.			0	3142	0	424	0
ALLEGAN	Brookside Drive			0	1213	0	164	0
ALLEGAN	Julia Street-			0	1978	0	267	0
ALLEGAN	Thompson Street-			0	807	0	109	0
ALLEGAN	Summit Court			0	3997	0	540	0
ALLEGAN	Oakwood Cemetery (all paved roads)-			0	20,880	0	2,819	0
	<b><u>TOTAL</u></b>				102,173		13,793	24,433

ALLEGAN COUNTY ROAD COMMISSION  
ALLEGAN, MICHIGAN  
ITEMIZED UNIT PRICE BID SCHEDULE

ITEM OF WORK	QUANTITY	UNIT PRICE	TOTAL
Rural (ACRC) Single Chip Seal, Natural Agg	10,000 Syd		
Rural (ACRC) Single Chip Seal, Slag	273,067 Syd		
Rural (ACRC) Single Chip Seal, Trap Rock CS-T	462,600 Syd		
Rural (ACRC) Fog Coat	99,315 Gal		
Rural (ACRC) Overband Crack Seal	88,561 Lb		
Rural (ACRC) Slurry Seal	10,000 Syd		
Urban Single Chip Seal, Natural Agg	10,000 Syd		
Urban Single Chip Seal, Slag	102,173 Syd		
Urban Single Chip Seal, Trap Rock	10,000 Syd		
Urban Fog Coat	13,793 Syd		
Urban Overband Crack Seal	24,433 Lb		
Urban Slurry	10,000 Syd		

TOTAL OF BID \$ \_\_\_\_\_

NOTE: Award will be based upon "Total of Bid" for combination of Rural and Urban projects. The Allegan County Road Commission reserves the right to reject unbalanced bids based solely upon the discretion of the Managing Director.

ALLEGAN COUNTY ROAD COMMISSION  
ALLEGAN, MICHIGAN

GENERAL SPECIFICATIONS

MICHIGAN DEPARTMENT OF TRANSPORTATION-STANDARD SPECIFICATIONS

The work covered by the plans and specifications will be done in accordance with the 2012 Michigan Department of Transportation Standard Specifications for Construction, except as qualified in supplemental specifications and special conditions of the Allegan County Road Commission or as agreed to in writing at the time of the award of the contract.

DEFINITION OF TERMS

See Section 101 of Michigan Department of Transportation Standard Specifications for Construction.

SPECIAL CONDITIONS

Special requirements, regulations or directions applying to a particular project may be made a part of these specifications.

THE WORK

The work consists of the completed services, construction and/or paving by the Contract Documents and includes all materials and labor incorporated or to be incorporated therein.

RESPONSIBILITIES OF CONTRACTOR

A. Responsibility for and Supervision of Construction. Unless otherwise stated herein, Contractor will be solely responsible for all construction under this Contract, including the methods, techniques, sequences, procedures, and means, and for coordination of all work. Contractor will supervise and direct the work to the best of Contractor's ability, and give it all attention necessary for such proper supervision and direction.

B. Discipline and Employment. Contractor will maintain at all times strict discipline among Contractor's employees, and contractor agrees not to employ for work on the project any person unfit for or without sufficient skill to perform the job for which he or she was employed.

C. Furnishing of Labor, Materials, etc. Unless otherwise stated herein, Contractor will provide and pay for all labor, materials, and equipment, including tools, construction equipment, and machinery, utilities, including water, transportation, and all other facilities and services necessary for the proper completion of work on the project in accordance with the Contract Documents.

D. Payment of Taxes; Procurement of Licenses and Permits. Contractor will pay all taxes required by law in connection with work on the project in accordance with this agreement including sales, use, and similar taxes, and will secure all licenses and permits necessary for proper completion of the work, paying the fees for such licenses and permits.

E. Compliance with Laws and Regulations. Contractor will comply with all laws and ordinances, and the rules, regulations or orders of all public authorities relating to the performance of the work under and pursuant to this Agreement including, but not limited to, the Occupational Safety and Health Act of 1970, the Michigan Occupational Safety and Health Act, and the rules and regulations of the Michigan Construction Safety Commission.



F. Responsibility for Negligence of Employees and Subcontractors. Contractor assumes full responsibility for acts, negligence or omissions of all of Contractor's employees on the project, for those of Contractor's subcontractors and their employees, and for those of all other persons doing work under a contract with Contractor.

G. Responsibility for Safety. Unless otherwise stated herein, at Contractor's expense, Contractor will take all necessary precautions (including, without limitation, the furnishing of traffic control, barricades, traffic control devices, flaggers, warning lights, signs, warning signs, safety channels, channelization devices, guards, fences, walks, flags, cables and lights) for the safety of, and the prevention of injury, loss and damage to, persons and property (including, without limitation, in the term persons, members of the public, employees, Contractor's subcontractors and their respective employees, other contractors, their subcontractors and respective employees) on, about or adjacent to the location where the work is being performed, and will comply with all applicable provisions of safety rules, ordinances, codes, regulations, and orders of duly-constituted public authorities including, but not limited to, the current Michigan Manual of Uniform Traffic Control Devices.

H. Responsibility of Subcontractors. The Contractor will require any subcontractor hired by the Contractor for the purpose of performing any of the work described by the Contract documents to be bound by all of the terms and conditions of the Contract documents and to perform the work in accordance with the Contract documents. Each and every condition of the Contract documents, including without limitation, the RESPONSIBILITIES OF THE CONTRACTOR, will be made a condition of each subcontract entered into by the Contractor in conjunction with the performance of the work.

#### INDEMNIFICATION

To the fullest extent permitted by law, the Contractor will indemnify, defend, and hold harmless The Board of County Road Commissioners of Allegan County, its officers, employees, representatives and agents from and against any and all claims, damages, demands, payments, suits, actions, recoveries, judgments, losses and expenses, including attorney fees, interest, and court costs, which are made, brought or recovered against the Board of County Road Commissioners of Allegan County, arising out of or resulting from performance of the Contractor's work under this Contract, provided that such claims, damages, losses, demands, payments, suits, actions, recoveries, judgments and/or expenses are attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the work itself) including loss of use resulting therefrom, but only if caused in whole or in part, by the act, omissions, fault, negligence or breach of the conditions of this Contract by negligent acts or omissions of the Contractor, the Contractor's sub-subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder. The Contractor will not, however, be obligated to indemnify the Board of County Road Commissioners of Allegan County, for any damage or injuries caused by or resulting from the sole negligence of the Board of County Road Commissioners of Allegan County. Such obligation will not be construed to negate, abridge or otherwise reduce other rights or obligations of indemnity which would otherwise exist as a party or person described in this paragraph.

In claims against any person or entity indemnified under this Agreement by an employee of the Contractor, the Contractor's sub-subcontractors, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under this paragraph will not be limited by a limitation on amount or type of damages, compensation or benefits payable by or for the Contractor or the Contractor's subcontractors under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.

## INSURANCE

A. Contractor's Insurance. Prior to start of the Contractor's work, the Contractor will procure for the Contractor's work and maintain in force until the completion of the work, workers' compensation insurance, employer's liability insurance, comprehensive general liability insurance and all insurance required of the contract under the contract documents.

The Board of County Road Commissioners of Allegan County, the City of Allegan, and the City of the village of Douglas will be named as an additional insured on each of these policies except for worker's compensation.

The insurance will include contractual liability insurance covering the Contractor's obligations under its agreement of indemnification as set forth herein.

B. Minimum Limits of Liability. The Contractor's comprehensive general and automobile liability insurance as required herein, will be written with limits of liability not less than the following:

a. Comprehensive general liability including completed operations

(1) \$ 500,000 each occurrence

b. Property damage

(1) \$ 500,000 each occurrence

C. Number of Policies. Comprehensive general liability insurance and other liability insurance may be arranged under a single policy for the full limit required or by combination of underlying policies with the balance provided by an excess or umbrella liability policy.

D. Cancellation, Renewal or Modification. The Contractor will maintain in effect all insurance coverage required under this Agreement at the Contractor's sole expense and with insurance companies acceptable to the Board of County Road Commissioners of Allegan County.

All insurance policies will contain a provision that the coverage afforded thereunder will not be cancelled or not renewed nor restrictive modifications added at any time after a certificate of insurance required under agreement has been issued and before the work; as defined herein, has been completed, until at least thirty (30) days prior thereto written notice has been given to the Board of County Road Commissioners of Allegan County unless otherwise specifically required in the Contract Documents.

Certificates of insurance or certified copies of policies acceptable to the Board of County Road Commissioners of Allegan County will be filed with the Board of County Road Commissioners of Allegan County prior to the commencement of the Contractor's work.

In the event that the Contractor fails to obtain or maintain any insurance coverage required under this Agreement, the Board of County Road Commissioners of Allegan County may:

1. Purchase such coverage and charge the expense thereof to the Contractor, and
2. Withhold any payment due or to become due to the Contractor in an amount sufficient to protect the Board of County Road Commissioners of Allegan County from such claims, damages, demands, payments, suits, actions, recoveries, judgments, losses and expenses, including attorney fees, interest and court costs, and
3. Terminate this agreement.

Nothing contained in this Agreement, nor the Board of County Road Commissioners of Allegan County's compliance therewith, will relieve the Contractor from its obligations under the Contract to purchase and maintain required insurance or to indemnify the Board of County Road Commissioners of Allegan County.

#### PROGRESS CLAUSE

The successful bidder will be required to submit a Progress Schedule, giving an outline of his proposed order of work and to indicate the dates for completion of the work. This outline, when approved by the Road Commission, will become a part of the contract.

#### PROSECUTION OF THE WORK

The Contractor will begin the work within five (5) days after being notified by the Road Commission of the award of the contract, unless this is inconsistent with the Progress Schedule, in which case the Progress Schedule will govern. He will prosecute the work in the order given in the Progress Schedule, with force and equipment adequate to complete the sections within the time limit therein fixed for completion. In case of failure to proceed with the work as rapidly as is provided in the Progress Schedule, or if it appears at any time that such work is not being prosecuted in such a manner as to insure its completion within time specified, the Road Commission will have the right to require the contractor to furnish and place in operation such additional force and equipment as the Road Commission will deem necessary to bring the work up to the Progress Schedule; and in case of the Contractor's neglect to do so, the Road Commission may place such working force and equipment on the work and charge the Contractor the cost of the labor and such rental and depreciation rates for the plan and equipment as in its judgment is reasonable, and for such time as the plant and equipment are in service.

#### ESTIMATED QUANTITIES

The quantities listed in the proposal are the estimated quantities. Increases or decreases in quantities will not be considered as a basis for adjustment in unit prices and Articles 109.03 of M.D.O.T. Standard Specifications for Construction will not apply in this regard.

#### FINAL PAYMENT

Final payment will not be made until the contractor will have filed with the Board of County Road Commissioners the consent of the Surety of the payment of the final estimate and satisfactory evidence by affidavit or otherwise that all his indebtedness by reason of the contract has been fully paid or satisfactorily secured. In case such evidence is not furnished, the Road Commission may retain out of any amount due said contractor sums sufficient to cover all lienable claims unpaid.

#### AFFIRMATIVE ACTION POLICY (EQUAL EMPLOYMENT OPPORTUNITY EMPLOYER)

The Allegan County Road Commission will require the Contractor to submit an Affirmative Action Policy stating that they are an equal employment opportunity employer and will recruit, hire and promote in all job classifications without regard to race, color, religion, sex or national origin, except where sex is a bona fide occupational qualification. The Affirmative Action Policy will be signed by the Contractor or one of the Company's Authorized Officers.

#### CONTRACT BONDS

The Successful Bidder will furnish satisfactory performance and lien bonds, each in the amount of not less than one hundred (100) percent of the total contract price. Such bonds will be on forms provided and will meet the regulations of the Allegan County Road Commission and the requirements specified in the laws of Michigan. Bonds will not be required for contracts of less than \$5,000.00.

M.D.O.T. – PREQUALIFICATION

Contractors bidding on this work must be pre-qualified by the Michigan Department of Transportation to do similar work on State or Federal-aid Secondary projects.

LIQUIDATED DAMAGES

Failure to complete the project on or before the completion date specified will be assessed according to the following schedule:

Original Contract Amount	Liquid Damages Per Calendar Day
\$ 0 to 49,999	75
\$ 50,000 to 99,999	150
\$ 100,000 to 499,999	450
\$ 500,000 to 999,999	900
\$ 1,000,000 to 1,999,999	1,300
\$ 2,000,000 to 4,999,999	1,550
\$ 5,000,000 to 9,999,999	2,650
\$ 10,000,000 and above	3,000

The liquidated damages may be delayed if the contractor meets the requirements set forth in Section 108.11 of the 2012 Standard Specifications for Construction. Approval of the project engineer is required.