

**SECTION 21**

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**CITY OF WARRENSBURG**

**POLYMER OVERCOAT PROGRAM  
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## **CITY OF WARRENSBURG**

### **POLYMER OVERCOAT PROGRAM PROJECT SPECIAL PROVISIONS**

#### **1 - GENERAL REQUIREMENTS**

##### **1.1 SCOPE OF WORK**

The work provided for in these Specifications shall consist of furnishing all labor, materials, appliances, equipment, and performing all work and operations in connection with the construction of items and all other incidental and related work as set forth in these Specifications and as directed by the Engineer to make a complete and finished job.

##### **1.2 CONTRACT SPECIFICATIONS**

The Specifications that shall govern the materials furnished and work performed in the construction of the work covered by the Contract or Contracts based thereon, are divided, classified, designated, and arranged as shown in the PROJECT SPECIAL PROVISIONS, TABLE OF CONTENTS attached hereto. No attempt has been made in the foregoing designated Specifications to segregate work to be performed by any trade, subcontract, or proposal item, under any one specification. Any segregation between trade or craft jurisdiction limits, and the establishment of subcontract limits, will be solely a matter of agreement between the Contractor and his employees and his subcontractors. The Specifications will govern the construction of the entire work, and the provisions thereof will govern each item and unit of work to which such provisions apply.

When reference is made to City, it shall have the same meaning as Director of Public Works or authorized representative.

##### **1.3 STANDARD SPECIFICATIONS**

The work shall conform to these Specifications and to the "Standard Specifications" where reference is made herein. Where reference is made in the Specifications and Contract Documents to "Standard Specifications," it shall mean that the reference is made to the current City of Warrensburg Standard Specifications, and supplements as are contained herein.

##### **1.4 MEASUREMENT AND PAYMENT**

###### **a. Method of Measurement**

The completed work shall be measured by the units described in the Request for Bid and bid form document under each bid item that is satisfactorily completed by the Contractor.

###### **b. Basis of Payment**

The amount of completed work, measured as set forth above, shall be paid for at the contract lump sum price as described in the contract bid form and shall be full compensation for furnishing all materials, labor, equipment, tools, supplies and incidental related items necessary to complete the work in accordance with the Specifications. Work not measured separately for payment is subsidiary to the item to which it pertains. Final lump sum payment will be authorized upon acceptance of the project, and all required prevailing wage documentation, certificates, and lien waivers, if required, have been submitted to and approved by the City or authorized representative.

## **1.5 MOBILIZATION OF EQUIPMENT**

All equipment used by the Contractor having metal tracks shall not be driven over City streets other than those streets being constructed. Such equipment must be transported from one work area to the next work area.

Observe legal load restrictions when operating equipment, hauling equipment, or hauling materials on public roads; newly constructed/reconstructed base, pavement, and structures; and any existing base, pavement or structures that will remain in place. Assume responsibility for changes in legal load restrictions that occur after the project was let. Obtain the City's written approval and a special permit to exceed legal load restrictions on the City street system and on newly constructed/reconstructed portions of the project.

Protect roadways and structures within project limits from damage. Observe curing periods before operating equipment or hauling loads on newly constructed pavement, reconstructed pavement, or structures. Do not haul loads of any size on pavement base, except when operations require equipment on pavement base to place material. The Contractor shall assume all responsibility for damages to roadways and structures caused by the Contractor from operating equipment or hauling loads.

## **1.6 INSPECTION OF WORK**

The Contractor shall not work until such time as the City or authorized representative is present for inspection or has provided authorization to proceed without inspection.

## **1.7 TRAFFIC SAFETY (CITY/CONTRACTOR)**

When working in the traveled way, the Contractor shall provide adequate and suitable signs, warning lights, flaggers, and all other equipment necessary to direct and reroute traffic and protect the public from moving or stationary vehicles, equipment, and materials, and other obstructions. Also, adequate protective warning lights and signs shall be provided to warn of any obstruction or excavation in the street, and easement area. All barricades, signs, lights and other protective devices in public right-of-way and easements shall be installed and maintained in conformity with applicable statutory requirements, and standard MoDot "Manual on Uniform Traffic Control Devices", and the City of Warrensburg Section 17 Signing and Traffic Control Specification. Refer to Section 2.3 Paragraph e. for Traffic Control requirements.

The Johnson County Dispatch shall be notified prior to closing of any street with the approval of the City or authorized representative.

## **1.8 NOTIFICATION OF PROPERTY OWNERS**

The Contractor shall provide at least 48 hours advance notification to the adjacent property owners on all phases of the operations.

## **1.9 RIGHT-OF-WAY**

The Contractor shall confine his construction operations to the right-of-way limits and easements provided for the project. Equipment or materials shall not be stored beyond these limits without the express approval of the owner of such property. The City or authorized representative shall be informed as to any arrangements that Contractor makes on their behalf in these matters.

## **1.10 CONSTRUCTION LIMITATIONS**

The construction sequence for the required work shall be in accordance with the City approved traffic control plan. The following limitations shall apply as well:

- a.** Collectors and Thoroughfares. Work shall be performed during the day from 7:00 AM to 5:00 PM, Monday through Friday, excluding holidays. Collectors and Thoroughfares must be completely open to traffic by 5:00 PM.

- b. The Notice to Proceed is anticipated to be no sooner than June 1, 2016, but no later than August 1, 2016.

**1.11 ADDITIONAL INDEMNIFICATION AND INSURANCE REQUIREMENTS**

The Contractor shall defend, indemnify and save the CITY OF WARRENSBURG, MISSOURI harmless from and against all liability for damages, cost and expenses arising out of any claim, suit, action or otherwise for injuries and/or damages sustained to persons or property by reason of the negligence or other actionable fault of the Contractor, his or her subcontractors, agents, or employees in the performance of this contract. See Instructions to Bidders Paragraph 21.0 for insurance requirements.

CITY OF WARRENSBURG shall be named as an additional insured on all policies of insurance issued to the Contractor and required by the terms of his/her agreement with the City.

**2 - BITUMINOUS SURFACE TREATMENT**

**2.1 DESCRIPTION**

This work shall consist of applying an emulsified asphalt followed by an application of a cover aggregate, on a previously cleaned and prepared surface with additional requirements as indicated herein and as directed by the City or authorized representative.

- (a) Interim pavement markings if required shall be applied to streets after chip seal is completed.
- (2) Chip Seal will be scheduled to begin no sooner than June 1<sup>st</sup> , but no later than August 1<sup>st</sup> and shall be completed no later than August 31 in a sequence approved by the City:
  - (a) Neighborhoods around schools shall be completed with first priority.
  - (3) Once chip seal begins, the Contractor shall work each day until all work is completed.

**2.2 MATERIALS FOR BITUMINOUS SEALING**

Bituminous sealing shall be done using the following materials in the proportions specified.

**a. Aggregate**

The aggregate to be used as cover material for bituminous sealing of streets shall be crushed rock, as set forth below:

<u>Cumulative Percent Retained on Square Mesh Sieves</u>					
1/2"	3/8"	#4	#8	#30	Pan
0	0-3	60-100	90-100	98-100	99.5-100

Type: Crushed granite (Granite Mountain Quarries) or trap rock (Iron Mountain Quarries), no asphalt pre-coat required.

Aggregate color shall be similar to a light brownish gray (Munsell 5YR 4/1) or darker.

**(1) Aggregate Testing**

The Contractor shall furnish the City or authorized representative all required test results. Aggregate must have a minimum soundness of .90 and a maximum wear of 30%, and should not exceed the allowance for deleterious substances.

The contractor will also furnish the City the results of ASTM-D6928-08 modified as follows:

Aggregate for the test sample shall be an oven-dried sample of 1500 g ± 5 g as follows:

Passing	Retained	Mass
4.75-mm	2.38-mm	1500 g

Perform procedure 9.3 by running the machine for 95 minutes.

Maximum permitted loss for the finer gradations specified when testing using ASTM-D6298-08 as modified above is 15%.

The contractor shall furnish the City or authorized representative the results of FLH T 508 (Mn/DOT Modified).

Tests shall be performed from representative samples of the first 500 tons produced, second 1,000 tons produced, and 1,000 tons produced thereafter; at the supplier's expense. The contractor shall have at all times a minimum one day supply of aggregate.

**b. Bituminous Material**

A copy of the test report on the emulsified asphalt from the oil refinery shall be submitted to the City a minimum of 15 days prior to any operations and thereafter a new series of tests shall be provided for every 5,000 gallons of emulsion used.

The asphalt emulsion shall be polymer modified as noted and shall be pre-approved or certified CRS-1HP.

**2.3 CONSTRUCTION REQUIREMENTS**

**a. Selection of the Initial Asphalt and Cover Material Application Rate**

Prior to the start of construction, the Contractor shall determine the initial rate of application of bituminous material and cover material using Asphalt Institute/McLeod/Hanson method described in the AASHTO “Manual for Emulsion-Based Chip Seals for Pavement Preservation”, 2012, Appendix J. This design, as modified in the test strip, will determine aggregate rate, and will determine the basic emulsion rate that may be adjusted for varying road conditions during construction.

The sealing design and materials test reports for the seal components shall be submitted to the City or authorized representative a minimum of 15 days prior to the start of sealing operations for approval.

**b. Test Strip**

The Contractor shall construct a continuous 500 foot long by lane width test strip for each aggregate gradation and material type. This shall determine the initial optimum bituminous application rate, and aggregate application rate. The City or authorized representative will review the test strip. If the review shows the test strip meets the requirements in Section 1 then notice to proceed will be issued. Should deficiencies be noted, the City or authorized representative may require another test strip. This item will be considered complete and eligible for payment at the conclusion of the final successful test strip, regardless of the number of unsuccessful test strips. The City or authorized representative will approve the location of the test strip.

**c. Preparation of Road Surfaces**

Prior to application of bituminous material, the pavement markings shall be removed and the surface to be treated shall be cleaned and swept of all foreign material and dust. Dispersion of dust and debris into the air and surrounding environment shall not be allowed. Temporary pavement markings shall be installed within 3 calendar days of removing the existing pavement markings. All transverse header joints shall be constructed using construction paper.

**1.) Limestone Spot Chipping**

Prior to application of bituminous material each proposed roadway will need to be assessed by the Contractor and approved by the City or authorized representative, to determine if additional road surface Limestone Spot Chipping preparation is required. The means of quantifying this additional preparation roadway areas will be in sq. yds. as depicted on the bid form and at proposed unit cost .

If it is determined during the Contractor required assessment of any proposed roadway surface, the City will be responsible for installation of any necessary Hot Mix Asphalt Wedging Course.

**d. Protection of Utilities**

Utility covers, manholes, grated inlets, curb inlets, and traffic device covers located in the roadway shall be protected from coverage and referenced for prompt location and cleaning following application. The Contractor shall be responsible for covering, locating, removing and cleaning following application. The methods used to protect, reference, locate and clean shall be submitted by the Contractor and shall be subject to approval by the City or authorized representative. All such materials shall be removed and properly disposed of by the Contractor at the end of each workday.

**e. Traffic Control**

All construction operations shall be coordinated to result in the least practical delay of traffic. Traffic control will be provided and monitored by the City. During application of all materials required, the Contractor will provide the necessary traffic control signage and flaggers in order to maintain one way traffic at all times. The work shall be coordinated so that traffic will be permitted upon the sealed surface within a timely manner after pneumatic rolling is completed.

**f. Interim/Temporary Lane Markings**

**1. Preparation of Road Surfaces**

Temporary or interim pavement markings shall be installed immediately after permanent pavement markings are removed if applicable. If interim pavement markings are used, temporary pavement markings shall be installed within 3 days to replace the interim pavement markings.

**g. Weather Limitations**

Bituminous sealing shall be done only during the contract period specified. Ambient air temperatures must be a minimum of 60 degrees Fahrenheit and rising. Pavement temperature must be a minimum of 70 degrees Fahrenheit. Chip seal operations shall not be performed if any of the following conditions exist:

- (1) Impending weather conditions do not allow for curing or if temperatures are forecasted below 50 degrees Fahrenheit within 24 hours from the time of work.
- (2) The existing pavement temperature is 130 degrees Fahrenheit or above.
- (3) If pavement has standing surface water and/or pavement surface is saturated.

**h. Application of Modified Bituminous Material**

Material shall be applied at the design rate expressed as asphalt residual in gallons per square yard. Application temperatures shall be between 150 degrees Fahrenheit and 185 degrees Fahrenheit. If the design application rate is not the optimum application rate due to gradation of the aggregate, the absorption of the aggregate, surface temperature, or due to existing surface conditions of the pavement, immediately notify the City or authorized representative and document the starting point of the new rate. Prior to application, ensure sufficient cover aggregate is available for immediate application. The Contractor shall ensure even application volume and profile at start

and stop points. All non-machine chip seal applications shall be performed prior to moving to a new location.

The spread length of bituminous material shall not exceed that which can be covered immediately. Under no circumstance shall the bituminous material remain uncovered long enough to impair retention of the cover material.

**i. Application of Aggregate**

Immediately following the application of the bituminous material, apply cover aggregate uniformly without ridges or laps at the design rate per square yard, adjusted as directed by the City or authorized representative to produce a minimum of excess loose particles.

Apply cover aggregate at a rate necessary to provide full coverage of the bituminous material and to avoid tracking. If the target application rate is not the optimum application rate due to gradation of the aggregate or due to existing surface conditions of the pavement, immediately notify the City or authorized representative and document the starting point of the new rate.

At no time shall tires of the dump trucks or aggregate spreader come in contact with the fresh bituminous material.

Prior to rolling, correct deficiencies in application of cover aggregate in a manner satisfactory to the City or authorized representative.

At the time of delivery to the roadway, the moisture content of the cover material shall not exceed 3% by mass (dry unit weight) of the aggregate. In no case shall free moisture be draining from the truck.

After rolling, protect the surface from traffic damage during the period required for the bituminous material to cure sufficiently to prevent dislodging of aggregate particles by normal traffic. During this period correct deficiencies of cover aggregate by spreading additional aggregate or by light brooming.

**j. Manipulation**

Immediately following the application of the aggregate, the aggregate shall be embedded by pneumatic tired rollers.

Initial rolling of the chip seal shall consist of a minimum of 1 complete coverage and shall begin within 90 seconds after placement of aggregate.

The distance between the rollers and the chip spreader shall at no time exceed 200 feet. A minimum of 3 complete coverages with pneumatic tired rollers shall be made on the chip seal within 10 minutes after application of the cover material. Rollers shall be ballasted to a minimum weight of 10 tons. A minimum of 3 rollers shall be used with each chip spreader. The maximum allowable speed for all rollers is 3 MPH while manipulating the aggregate. When rolling cul-de-sacs or other irregularly shaped areas, turns shall be minimized by using a “tiled” rolling pattern.

**k. Acceptance**

During application of chip seal, the work will be inspected for deficiencies resulting from poor workmanship, flushing, tracking from equipment, surface patterns, loss of aggregate, sweeping, unsealed areas, minimum overlap on longitudinal joints, and minimum overlap on construction joints.

The following shall be verified daily:

- (1) Finished surface has no more than 4 tears or untreated areas greater than 1 inch wide and 4 inches long in any 120 square yard area.
- (2) Joints appear neat and uniform without buildup, uncovered areas, or unsightly appearance.
- (3) Longitudinal joints have less than a 2 inch overlap on adjacent passes.
- (4) Transverse joints have no more than ¼ inch difference in elevation across the joint as measured with a 6 foot straightedge.
- (5) Chip seal edge is neat and uniform along the curb lines.
- (6) Chip seal edge has no more than a 2 inch variance in any 100 feet along the curb line.

For project acceptance the Contractor and the City or authorized representative will review completed work prior to final completion. The finished work must meet the following requirements:

DEFECT*	SEVERITY
Surface Patterns	Alternate lean and heavy lines (Ridges or streaking over the surface.)
Bleeding / Flushing	Distinctive Appearance (Excess bituminous material on surface.)
Loss of Cover Aggregate	Patches or lines of aggregate lost from surface.

\* Defect does not exceed the extent of any surface defect by more than 20% of any 120 square yard area. The beginning of any 120 square yard area will be the start of any individual defect.

**2.4 MEASUREMENT AND BASIS OF PAYMENT**

The accepted quantity of surface treatment, in place, will be paid for at the lump sum contract unit (square yard) price. No separate payment will be made for any additional construction methods or processes. Material supplier or manufacturer shall report the units (lbs/tons/gallons) of all the surface sealing materials provided on the bill of lading and contractor will provide appropriate copies to the City.

The required “Test Strip” will be included in lump sum price and quantity as bid and is full compensation for furnishing all materials, for all labor, tools, equipment and incidentals necessary to complete this application of work.

**3 - PUBLIC RELATIONS**

**3.1 DESCRIPTION**

This work shall consist of:

- a. Providing advanced notification to citizens.
- b. Respond to and answer citizen concerns and questions.
- c. Accommodating citizens with special needs.
- d. Providing updated schedules and information to Emergency Services, school bus, and trash services.

**3.2 NOTIFICATION TO PROPERTY OWNERS (CITY RESPONSIBILITY)**

- a. Notification by means of personal contact, door hangers, phone calls, emails, web page, and advertisements.**

The City will be responsible for all notifications and coordination with the public, residence and property owners.

The notification information content shall include at a minimum but is not limited to the following:

- Johnson County Dispatch will be notified of all street closures.
- Date the street will be closed for overcoat application, no vehicles will be allowed on street until authorized.
- Resident should park in driveway or offsite during chip seal application.
- All vehicles remaining on street and after the City has utilized every means available to notify the owner of the vehicle, will be towed offsite at owner's expense.
- What to expect in case of unexpected delay, i.e. weather, mechanical problems. (Any delays or change in schedule will be passed on to the resident as soon as possible upon knowledge of any such change)
- Name of Contractor/ Name of City authorized representative.
- Contractor's Phone Number/ City representative's Phone Number.
- City web page address and contact information.
- People with special needs shall contact the City within a reasonable amount of time in order to allow the City to make necessary accommodations.
- Sprinkler systems must be turned off the day work will be performed.
- Residents shall avoid throwing grass clippings onto street prior to beginning work.
- Trash collection companies, school bus dispatch, and emergency services will be notified and coordinated with on the work schedule and all street closures.

### **3.3 PROJECT SCHEDULE/PROJECT SITE**

The Contractor will submit to the City for approval, a comprehensive schedule of work within a reasonable amount of time for the purpose of providing advanced public notifications prior to the Notice to Proceed.

- During the work being performed, the Contractor will notify the City or authorized representative of any citizen's questions or concerns regarding the project.
- During the working being performed the Contractor will maintain a clean and orderly site at all times.
- The Contractor will at all times maintain a respectful, courteous, and professional manner with the public for the duration of the project.

### **3.4 CITIZEN PHONE CALL RESPONSE**

#### **a. Phone Call Log**

The City or authorized representative shall maintain an electronic log of all phone calls received. The log shall include the following information for each call received including voice mail messages:

- Date / Time of Call
- Name & Address of Citizen
- Name of person receiving the phone call.
- Brief Synopsis of Concern & Response
- Description of action required by City and Contractor to address Citizen's concern.
- Date Action Completed

**-END OF SECTION-**