

Engineering Surveys and Services

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Analytical and Materials Laboratories

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Addendum No.: One (01)
Project: Downtown Streetscape Phase IIIa
Federal Project No. STP 5700(509)
Date: February 10, 2014
(Page 1 of 2)

The following changes, additions, modifications, information and clarification are hereby made to the Contract Documents dated December 27, 2013, revised January 7, 2014, and shall be incorporated in preparation of all Proposals for the Work.

A. CHANGE IN DATE OF OPENING OF BIDS

The opening of bids and bidding due date has been rescheduled to February 20, 2014. The original date of the opening of bids and bidding due date was February 13, 2014.

B. PRE-BID MEETING

A pre-bid meeting was held at 11:00 a.m. on Thursday, February 6, in the Mayor's Conference Room at the City of Sedalia Municipal Building. The pre-bid meeting agenda and attendance list are attached. Questions posed during the pre-bid meeting and over the course of the pre-bid period will be addressed in a subsequent addendum and below.

C. PERIOD OF PERFORMANCE

The period of performance for the project has been changed from 60 calendar days to 75 calendar days. Additionally, if delays to the completion of the Gateway feature are encountered, extension to the period of performance will be considered for that portion of the project.

If delays are encountered from coordination with the water main replacement, the Contractor shall notify the Public Works Project Manager the same day, in writing, for each occurrence of delay. Upon the approval of the Public Works Project Manager, extensions to the period of performance will be submitted to MoDOT for approval by change order.

D. TECHNICAL SPECIFICATIONS

The Technical Specifications for this project are attached. Planholders shall include them in their project manuals.

E. HANDRAIL

The handrail at sidewalk ramps will be provided and installed by the City of Sedalia. In an upcoming addendum, the handrail will be removed as a line item from the bid form.

F. OPERATIONAL LIGHTING

As a clarification to Demolition Note 6 on Sheet 5 of 17, the Contractor shall maintain the existing street lighting for as long as practical and coordinate installation of new street lighting as soon as possible. The Contractor will not be required to provide temporary lighting.

G. HISTORICAL DISTRICT PLAQUES

The brass historical district plaques on the Gateway feature will be provided by the City.

Sedalia Downtown Streetscape Ph IIIa – Project No. STP-5700(509)
City of Sedalia, MO
Pre-Bid Meeting
February 6, 2014

1. General Remarks

- a. Project site
- b. Coordinating, separate projects:
 - i. Sanitary sewer replacement – prior to construction
 - ii. Water line replacement – coincidental to construction

2. Plan and Specifications Review

- a. Bid opening – 2:00 p.m. on February 13, 2014
- b. 60 calendar days in Contract
- c. Plans and Specs – Drexel Technologies
- d. 5% Bidder's Bond submitted with bid
- e. Rejection of bids
- f. DBE Goal: 5%
- g. Job Special Provisions
- h. Prevailing Wage
- i. Affidavit of Compliance and E-Verify
- j. OSHA-10
- k. Buy America Requirements
- l. Acknowledgement of Addendum/Addenda
- m. City of Sedalia Contractor's License
- n. Payment
- o. Complete bid packet
- p. Sub-Contracting
- q. Materials Inspections
- r. As-Built mark-ups
- s. Sales Tax exemption
- t. Withhold of Payment

3. Special Conditions

- a. Construction Staking is the responsibility of the Contractor
- b. Erosion Control – Contractor's responsibility
- c. Decorative sign posts
- d. Providing access to tenants and their patrons

4. Utility Concerns

- a. Electric
- b. Gas line
- c. Water line
- d. Sanitary Sewer – as-built will be provided

5. Traffic Control

- a. Contractor's responsibility
- b. Must comply with the MUTCD
- c. Notification of Closures

6. Any Other Items Concerning the Project

Sedalia Downtown Streetscape Ph IIIa – Project No. STP-5700(509)

City of Sedalia, MO

Pre-Bid Meeting

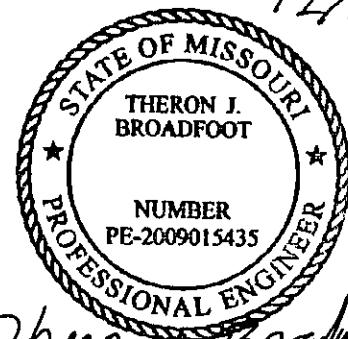
February 6, 2014

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TECHNICAL SPECIFICATIONS

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Theron J. Broadfoot

TECHNICAL SPECIFICATIONS

It is understood that, except as may otherwise be provided for by the GENERAL CONDITIONS and TECHNICAL SPECIFICATIONS, the work shall be done in accordance with “2011 – Missouri Standard Specifications for Highway Construction.” Said specifications are part and parcel of this contract and are incorporated in this contract as fully and effectively as if set forth in detail herein. The following GENERAL SPECIFICATIONS supplement the 2011 – Missouri Standard Specifications for Highway Construction (MSSHHC).

DEFINITIONS

The following changes shall be made to Section 101.2 and shall apply each time they occur in the “2011 – Missouri Standard Specifications for Highway Construction.”

Commission: Shall mean the City Council of the City of Sedalia.

Engineer: Shall mean Engineering Surveys and Services.

S-1 PRE-CONSTRUCTION CONFERENCE

A Pre-Construction Conference shall be attended by the Contractor and the Public Works Director, at least 5 days prior to the date the Contractor plans to start work on the project.

S-2 SCHEDULE OF WORK

To insure that the work will proceed continuously through the succeeding operations to its completion with the least possible interference to the City, the Contractor shall submit for approval a complete schedule of his proposed construction procedure, stating the sequence in which various operations of work are to be performed. **The contractor shall provide additional “detailed” scheduling plans during the course of performing the work as requested by the Public Works Director.**

Equipment and tools necessary for handling materials and performing all parts of the work must meet the approval of the Public Works Director as to design, capacity and mechanical conditions and must be on the job before the work is started. Any equipment which is not maintained in full working order or which, as used by the Contractor, is inadequate to obtain the results prescribed, shall be improved or similar equipment substituted or added as directed by the Public Works Director.

S-3 NOTICE OF DATE CONTRACTOR PLANS TO COMMENCE WORK

The Contractor shall notify the Public Works Director at least 5 days prior to the date that the Contractor plans to commence work on the project.

S-4 TRAFFIC CONTROL, FLAGMEN, BARRICADES AND SIGNS

The Contractor shall barricade the streets or portions of streets during construction of the concrete pavement and during unclassified excavation. If necessary the contractor shall place a "Street Closed" sign at the intersections one block in each direction. All traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition and its most current revisions.

All trenching, excavation and other construction work shall be made in a manner to cause the least interruption to traffic. No separate payment will be made for maintenance of traffic. All cost pertaining thereto shall be included in the contract unit prices for items as listed in the Bid Form. **City streets are to be restored to an open and accessible condition (with minimal, but appropriate barricading) before securing the site at the end of the workday, unless specific approval to close the street is given by the Public Works Director. The contractor is to notify the emergency services (see General Conditions, C -5 Barricades) as to the (Open/Closed) status of the street before leaving the site.**

S-5 QUALITY CONTROL TESTING DURING CONSTRUCTION

The City of Sedalia may employ an independent commercial testing laboratory to perform tests for compliance with the 2011 Missouri Standard Specifications for Highway Construction. The Contractor shall cooperate with the testing personnel on this project.

The cost of the testing personnel and work will be paid by the City of Sedalia at no cost to the contractor.

The Contractor shall submit to the Public Works Director prior to commencing concrete work laboratory test reports or evaluation reports for concrete materials and concrete mix designs from the Ready-Mix Plant that the Contractor intends to use. If at any time during construction there is a change in Concrete Supplier, this process shall be repeated for the new Supplier prior to use of the concrete.

S-6 UNCLASSIFIED EXCAVATION, SITE AND SUBGRADE PREPARATION

This work shall consist of excavation, disposal and/or compaction of all materials encountered within the limits of the work. This work shall be performed in accordance with Section 203, Missouri Standard Specifications for Highway Construction, 2011 edition, these General Specifications; and in conformance with the lines, grades, thicknesses, and typical cross sections shown on the plans. All excavation will be considered as unclassified.

Remove existing drainage structures, sidewalks, curb, abandoned drainage and sewer pipes, abandoned utility lines, rubbish, debris, and any other existing improvements to the limits indicated or as required to perform new construction. All abandoned sewers, drainage pipes and utility lines beyond the limits of the new construction shall be permanently sealed at the ends with concrete. No direct payment will be made for removal and blocking abandoned sewers, drainage pipes or utility lines.

In removing pavement, curb, curb and gutter, sidewalk and other similar improvements, and where a portion of such improvements are to be left in place, they shall be removed to an

existing joint or to a sawed joint. Sufficient removal shall be made to provide for proper grades and connections in the new work regardless of any limits which may be indicated on the plans.

All trenches, holes, and pits resulting from the removal of improvements shall be filled with earth. The material shall be placed in the same manner and compacted to approximately the same density as that required in adjoining areas. No direct payment will be made for the removal of existing pavement, curb and gutter or other improvements.

Perform excavation as indicated or as required to complete the work. All materials encountered, regardless of type, character, composition and/or condition thereof, shall be unclassified. Rock encountered shall be handled at no additional cost to the City.

Blasting will not be permitted.

Control grading around excavations to prevent surface water from flowing into excavation areas. Drain or pump as required to continually maintain all excavations and trenches free of water or mud from any source, and discharge to approved drains or channels. Remove subgrade materials rendered unsuitable and replace with approved backfill material.

Remove and legally dispose of waste materials from the work area (as excavated) to an off site location arranged for by the Contractor.

Construct embankments to the contours and elevations indicated using suitable approved material from excavations and/or borrow areas.

Compact embankments using equipment as required to obtain uniform density. Compaction shall be as obtained by normal methods and equipment during the placing and grading of layers and to the minimum density specified for particular locations. Perform any wetting or drying of the material as required to maintain moisture content at time of placement to not less than 2% below or more than 4% above optimum as determined by ASTM D698.

Roadway excavation shall be compacted to not less than 95 percent of maximum density at optimum moisture as determined by ASTM D698.

Excavate or fill as required to construct subgrade to the elevations and grades indicated. Remove all unsuitable material and replace with approved fill materials. Perform all wetting, drying, shaping, and compacting required to prepare a suitable subgrade.

The subgrade for the full width (or as designated/directed) of the roadbed shall be scarified to a depth of at least 6 inches and the scarified material brought to a uniform moisture content either by drying or by adding water and manipulating with suitable equipment. The subgrade shall be compacted as required by the specifications.

If it is determined that the required subgrade density cannot be obtained by moisture control and compaction due to the material below the upper 6 inches, then the material below the upper 6 inches shall be brought to a uniform moisture content to a depth not to exceed 12 inches either by drying or by adding water and manipulating with suitable equipment and compacted to the required density.

Unsuitable material will be determined by an independent testing laboratory. Material will be classified as unsuitable if it has been classified as "organic silt" or "organic clay" when tested to conform to ASTM D2488. In situ moisture content outside the range necessary for preparation of subgrade will not be cause for classification as unsuitable material.

If the material is unsuitable, the Contractor shall remove it and to the limits designated by the Public Works Director and replace with suitable material.

Payment for unsuitable materials will be made at the unit price bid per cubic yard of Unclassified Excavation.

Compact subgrade to 95% of maximum density at optimum moisture as determined by ASTM D698.

Subgrade for roadways shall have a maximum deviation of not more than 1/2 inch in any 10 feet when tested with a 10-foot straightedge applied parallel with and at right angles to the centerline of subgrade areas.

The Contractor shall maintain all completed subgrade in finished condition until the overlying pavement or base course is placed. Any subgrade damaged prior to the construction of the overlying course shall be repaired at no cost to the City.

Topsoil shall be placed on all areas not specified to receive paving or other surface treatment. Topsoil shall be a fertile, friable, and loamy soil of uniform quality, free from materials such as hard clods, stiff clay, stone with any dimension greater than 1 inch, and similar impurities. Topsoil shall be placed not less than 4 inches in depth. Grade to match contours of adjacent areas and permit good drainage.

The City may engage an independent commercial testing laboratory to perform the necessary soils tests. The cost of the laboratory services shall be paid by the City.

The Contractor shall regrade and realign existing ditches and drainage ways as required to provide positive drainage.

The Contractor shall notify Missouri One Call (1-800-DIG-RITE), the City of Sedalia Water Pollution Control Department, and Sedalia Water Department at least 3 days in advance of starting excavation, so that the various utilities can mark the location of their underground lines and the approximate depth of their lines.

BASIS OF PAYMENT:

Unclassified Excavation, Site and Subgrade Preparation shall be paid for at the lump sum bid price and shall include all clearing and grubbing, sawing, removal of existing curb and gutter, sidewalks, drainage structures and other improvements, perform all necessary excavation work required to grade the roadway; haul away surplus excavated earth, broken concrete and other debris not suitable for backfill material; compaction of the upper 6 inches of subgrade; regrade & realign ditches and drainage ways as required to provide positive drainage; and, to provide any earth backfill as required. No direct measurements will be made for this item.

S-7 SUBGRADE FABRIC

Subgrade fabric shall be of nonwoven geotextile conforming to Section 624, 2011 Missouri Standard Specifications for Highway Construction, and to the following:

1. ASTM D3786 - Mullen Burst of 225 psi and greater.
2. ASTM D4491 - Permittivity of 2.5 per Sec-1 with a Flow of 175 gallons per minute per square foot minimum.

3. ASTM D4632 - Tensile Strength 90 lbs. or greater at 50% elongation.
4. ASTM D4751 - Apparent Opening Size (AOS) of 70 on U.S. Sieve.
5. ASTM D4833 - Puncture 65 lbs or greater.

The fabric shall be placed on the compacted subgrade before placing the aggregate base on the locations specified in the plans or when specified by the Public Works Director. Lap all joints a minimum of 12 inches.

BASIS OF PAYMENT:

The price bid per square yard for subgrade fabric shall include furnishing and installing the fabric on the subgrade.

S-8 AGGREGATE BASE COURSE

Aggregate base course shall conform to the requirements of Section 304 of the 2011 Missouri Standard Specifications for Highway Construction, Type 1 and Type 5 aggregate. The aggregate base shall be compacted to at least 95 percent of maximum density as determined by ASTM D698. MC 30 Asphalt Prime Coat is not required when plant mix bituminous base course is to be placed on the aggregate sub-base.

BASIS OF PAYMENT

The unit price bid per square yard for Type 1 or Type 5 aggregate sub-base shall include the cost of the material, spreading, compaction, rolling and MC 30 Asphalt Prime Coat (if required).

S-9 MATERIALS FOR PORTLAND CEMENT CONCRETE

Portland Cement shall conform to the requirements of AASHTO M85 Specifications for Portland Cement, Type I, and Section 1019 of the 2011 Missouri Standard Specifications for Highway Construction.

Fine Aggregate shall consist of Kaw River or Missouri River sand. It shall be free from injurious amount of organic impurities. It shall be well graded coarse to fine. Fine aggregate shall conform to Section 1005.3 of the 2011 Missouri Standard Specifications for Highway Construction. Gradation shall conform to Section 1005.3.5 of said specification. Sand, which produces a slippery surface shall not be used.

Coarse aggregate shall be crushed stone conforming to Gradation D or E, Section 1005.2 of the 2011 Missouri Standard Specifications for Highway Construction. It shall consist of sound durable and uncoated particles. Stone will be accepted only from rock ledges accepted by the Missouri State Highway Department.

Synthetic Structural Fiber Reinforcement shall comply with the following requirements:

1. Synthetic structural fibers shall meet the requirements of ASTM C 1116, Paragraph 4.1.3, Type III.
2. Synthetic structural fibers shall be monofilament, made of polypropylene or polypropylene/polyethylene blend.

3. Synthetic structural fibers shall have a minimum length of 1.5" (38 mm).
4. Synthetic structural fibers shall have an aspect ratio (length divided by the equivalent diameter of the fiber) between 80 and 100.

Air entraining agent shall conform to the requirements of AASHTO M154 and Section 1054 of the 2011 Missouri Standard Specifications for Highway Construction.

Water used in mixing or curing concrete shall be clean and free from injurious amount of oil, salt, acid, vegetable or other substances harmful to concrete. Water from the City water mains shall be used.

Concrete curing compound shall conform to Section 1055 of the 2011 Missouri Standard Specifications for Highway Construction. Either type I-D or type II may be used. The curing compound shall conform to requirements of AASHTO M148 for type I-D, clear or translucent with fugitive dye, or type II white pigmented. The vehicle shall be Class A.

Reinforcing Steel for concrete structures shall conform to Section 1036 of the 2011 Missouri Standard Specifications for Highway Construction.

Preformed Fiber Expansion Joint material shall conform to requirements of AASHTO M 213 and Section 1057.6 of the 2011 Missouri Standard Specifications for Highway Construction.

Waterstops shall be manufactured rectangular or trapezoidal strip, sodium bentonite or other hydrophilic material for adhesive bonding to concrete.

S-10 PORTLAND CEMENT CONCRETE

GENERAL: This section governs the furnishing of all labor, equipment, tools and materials and the performance of all work necessary to construct Portland cement concrete driveway approaches and sidewalk complete including all necessary or incidental work done in accordance with the applicable requirements of Section S-8 thru S-11 unless otherwise specified or shown on the plans.

Construction methods and materials for Portland cement concrete pavement, curb, and curb & gutter shall conform to requirements of Section(s) 501, 502, and 609 of the 2011 Missouri Standard Specifications for Highway Construction; however, **the maximum slump allowed shall be 3" with a maximum of 5.5 gallons of water per sack of cement.** The requirements for Portland cement shall be a minimum of 6.25 sacks per CY with Class A sand and a 3" slump. Fiber reinforcement shall be added at a rate of 1.5 lb per CY. Minimum compressive strength in 28 days shall be 4,000 psi. Air-entrainment shall be used with the designated quantity of air by volume to be 5½ %, with an operating tolerance of 1 ½-percentage points. The use of calcium chloride or other accelerating admixtures in concrete mixtures will not be permitted.

GRADING AND SUBGRADE PREPARATION: All excavation required in the rough grading and subgrade preparation shall be done by the Contractor. Fine grading shall be done by the Contractor in accordance with Sections 203, 209 and 210 of the 2011 Missouri Standard Specifications for Highway Construction with compaction to at least 95% of maximum dry density.

BASIS OF PAYMENT: The cost of furnishing all labor, equipment, tools, and materials and the performance of all work necessary to construct Portland cement concrete pavement, driveway approaches, curb, curb & gutter, and sidewalks complete, including all incidental work necessary in grading and sub-grade preparation and including breaking up existing concrete sidewalk, and including any fill or excavation, and including concrete saw cutting, shall be included in the unit price per square yard. ADA ramps will be bid on a separate lump sum unit price per ramp.

S-11 FORMS

All forms shall be in good condition, with not more than one-fourth inch (1/4") variation in horizontal and vertical alignment for each ten (10) feet in length. The forms shall be set true to line and grade shall be adequately supported to stay in position while depositing and compacting the concrete. They shall be designed and constructed to permit their removal without damage to the concrete.

Side forms shall be made of steel of a section approved by the Public Works Director and the height shall be equal to the thickness of pavement at the edge, unless specifically accepted by the Public Works Director. Straight forms of wood shall have a minimum nominal thickness of 2".

Earth or crushed rock subgrade under the forms shall be thoroughly compacted prior to placing of concrete. Any fill required shall be Type 1 Aggregate Base or approved crushed rock or gravel.

The method of connecting form sections shall be such as to insure a tight neat joint. Each time forms are used they shall be cleaned thoroughly and oiled before concrete is placed against them.

S-12 MIXING AND PLACING CONCRETE

CONCRETE: A uniform consistency of concrete shall be maintained at all times. The concrete slump shall not exceed three (3) inches. Consolidation by hand will be permitted.

Concrete may be mixed in transit mixers or mixed in a central mixing plant. Sufficient notice shall be given the Public Works Director, prior to placing concrete of the method of mixing to be used so the mixing and delivery equipment can be checked and approved for use.

EXPANSION JOINTS, PRE-MOLDED NON-EXTRUDING TYPE: Expansion joints consisting of 1/2 inch pre-molded non-extruding expansion joints shall be placed at not to exceed 300 feet centers, at locations shown on the plans, and at radius points. Expansion joints shall be one-half (1/2) inch wide pre-molded non-extruding type shaped to fit cross section of the pavement. The pre-molded joint filler shall be supported to prevent its displacement while depositing concrete at the expansion joints. Pre-molded filler shall be positioned in true alignment at right angles to the line of the pavement centerline and be normal to the surface of the concrete.

CONTRACTION JOINTS: All joints shall conform to the details as set out in the plans. These joints shall be straight and perpendicular to the pavement surface. The transverse joints shall be at right angles to the edge of the gutter. Contraction joints in pavement shall be formed at 15 feet spacing. The Contraction joint shall be one-quarter (1/4) inch wide by one and a half (1 1/2) inches deep: The joints may be formed or sawed. Before the pavement is opened to traffic, all

joints shall be marked off into square blocks by contraction joints as shown on the plans. The joints shall be one-eighth (1/8) inch wide by one (1) inch deep, and may be formed either by inserting a fiber strip, tooling or by use of a concrete saw. Care must be taken to avoid over finishing at joints.

CONSTRUCTION JOINTS: Transverse and dowelled construction joints as indicated on the typical section shall be installed at the close of each day's work or when interruptions of more than thirty (30) minutes occur. It shall be located at least five (5) feet from any other transverse joint. It shall be formed from a clean wood plank, cut identical with the cross section of the pavement with holes drilled for dowel bars. The plank shall be accurately set and held in place at right angles to the edge of the pavement. When operations are resumed, the plank shall be carefully removed and all surplus concrete or materials on the subgrade removed and fresh concrete deposited directly against the old. The concrete surface shall be floated and straight edged to a true surface as called for on the plans.

FINISHING: Finishing operations shall be such as to require a minimum of manipulation from initial placing to finish surface. After the concrete has thoroughly consolidated and leveled, and the initial set has taken place, the surface shall be finished with a soft wood or cork float and finished with no other mortar than that contained in the concrete. The resulting surface shall be uniform in color with all imperfections removed. The edges shall be rounded with an edging tool having a 1/4" radius except in instances when the edges of the pavement and at the joints. The final surface texture shall be applied manually with a wire comb.

FINAL SURFACE TEST: The Contractor will be held responsible for the correct alignment, grade and contour specified. Any spots higher than one-fourth inch (1/4") on a ten (10) foot straight edge shall be ground to the required surface by the contractor at his own expense. Depth of water ponded in any sags or low spots in the pavement shall not exceed one-quarter (1/4) inch in depth.

PROTECTION AND CURING: As soon as possible after concrete is finished and without marring the surface, the concrete shall be cured with a membrane spray. The Contractor shall protect the concrete work against damage or defacement of any kind until it has been accepted by the City. Concrete that is not acceptable to the Public Works Director because of damages or defacements shall be removed and replaced, or repaired to the Public Works Director satisfaction at the expense of the Contractor.

COLD WEATHER CONCRETING: Except by specific written authorization by the Public Works Director, concrete placing shall cease when the descending air temperature in the shade falls below 40 degrees Fahrenheit. When concreting is permitted during cold weather, the temperature of the mixed concrete shall be not less than 50 degree Fahrenheit at the time of placing the forms. The aggregates may be heated by steam or dry heat prior to being placed in the mixer. The water shall be not hotter than 170 degree Fahrenheit. When concrete is being placed during cold weather and the air temperature may be expected to drop below 35 degree Fahrenheit, a supply of straw or other suitable blanketing material shall be provided along the line of work. Care must be exercised to prevent the wind from removing the blanketing material. At any other time when the air temperature may be expected to reach the freezing point during the day or night, the material so provided shall be spread over the concrete to a sufficient depth to prevent freezing of the concrete. Such protection shall be maintained for at least five (5) days. If required by the Public Works Director, concrete less than twenty-four (24) hours old shall also

be covered by approved devices capable of maintaining the temperature within the concrete at 50 degree Fahrenheit or higher. Concrete injured by frost action shall be removed and replaced at the contractor's expense.

INTEGRAL CURB: Integral Curb shall be cast monolithic with the pavement. The cross-section and dimensions shall match the existing curb. Concrete for integral shall conform to the specifications in section S-8 thru S-11 of this manual.

S-13 TACK COAT AND PRIME COAT

The tack coat materials and application shall comply with Section 407 of the 2011 Missouri Standard Specifications for Highway Construction.

The Contractor shall apply the SS-1 emulsified asphalt tack coat with an asphalt distributor at a maximum rate of 0.10 gallons per SY a minimum rate of 0.02 gallons per SY over the existing street surface.

The tack coat work shall be done immediately ahead of the hot mix surfacing. The Contractor shall coordinate the tack coat operation very closely with the resurfacing work.

MC 30 Prime Coat shall be applied to the surface of Aggregate Base in accordance with the requirements of Section 408 of the 2011 Missouri Standard Specifications for Highway Construction.

BASIS OF PAYMENT: The price bid per gallon of SS-1 Emulsified Asphalt tack coat shall include preparing and placement of SS-1 Emulsified Asphalt tack coat and blotter material if required and all incidental work. The price bid per square yard for Type 1 Aggregate sub-base shall include preparing and placement of MC 30 Asphalt Prime Coat and blotter material if required and all incidental work.

S-14 PLANT MIX BITUMINOUS BASE COURSE

Shall conform to requirements of Section 401 of the 2011 Missouri Standard Specification for Highway Construction.

The compacted Bituminous Base Course shall have a density of not less than 95%. The Contractor shall obtain a minimum of four (4) inch diameter cores, or 12" square saw cut samples, and send the samples to the testing laboratory for density determination.

BASIS OF PAYMENT: The price bid per ton on Plant Mix Bituminous Base Course shall include all material, mixing, hauling, spreading, rolling, and cutting out samples and cores for testing lab. The Contractor shall furnish one copy of the weight ticket made at the asphalt plant with each truckload of asphalt mix spread on the road. The truck driver shall give the weight ticket to the City inspector when the asphalt mix is spread on the road. The City will pay for Plant Mix Bituminous Base Course that is accepted by the Public Works Director, spread and compacted by the Contractor.

When requested by the Public Works Director, the Contractor shall send a loaded truck of asphalt mix to a local commercial scale and get a weight ticket on the loaded truck and also on the empty truck in order to check the contractor's asphalt plant scales. The Contractor shall pay the weight ticket charge to the commercial truck scales. If the net weight of the asphalt mix loaded truck on the commercial scales is more than 1% less than the weight on the asphalt plant scales, the Public Works Director may order the contractor to weigh additional loaded trucks on the commercial scales. The weigh check shall be made daily if requested by the Public Works Director.

S-15 PLANT MIX BITUMINOUS SURFACE LEVELING

Plant Mix Bituminous Surface Leveling shall conform to requirements of Section 402 of the 2011 Missouri Standard Specifications for Highway Construction.

The leveling course that is placed over existing concrete pavement and brick pavement shall be done with ten (10) calendar days after cold milling the existing asphalt surface.

BASIS OF PAYMENT: The price bid per ton on Plant Mix Bituminous Surface Leveling shall include all material, mixing, hauling, spreading and rolling the leveling course.

S-16 PLANT MIX BITUMINOUS PAVEMENT

Plant Mix Bituminous Payment Shall conform to the requirements of Section 401 of the 2011 Missouri Standard Specifications for Highway Construction.

1 ½" and 2" BP-2 plant mix bituminous pavement shall be placed to an average thickness of 1 ½" and 2" as specified on the plans and specification. The final surface after rolling shall not vary from a 10 ft. straight edge by more than 1/8 inch.

BASIS OF PAYMENT: The price bid per ton on Plant Mix Bituminous pavement shall include all material, mixing, hauling, spreading, rolling and cutting out samples and cores for the testing lab. Also, spread on intersection approaches and driveway entrances where marked by the City inspector in order to fit existing asphalt surface or to ramp the new surface up or down to the existing surface. The City will pay for Plant Mix Bituminous Pavement that is accepted by the Public Works Director, spread and compacted by the Contractor.

The Contractor shall furnish one copy of the weight ticket made at the asphalt plant with each truckload of asphalt mix spread on the road. The truck driver shall give the weight ticket to the City inspector when the asphalt mix is spread on the road.

When requested by the Public Works Director, the Contractor shall send a loaded truck of asphalt mix to a local commercial scale and get a weight ticket on the loaded truck and also on the empty truck in order to check the contractor's asphalt plant scales. The Contractor shall pay the weight ticket charge to the commercial truck scales. If the net weight of the asphalt mix loaded truck on the commercial scales is more than 1% less than the weight on the asphalt plant scales, the Public Works Director may order the contractor to weigh additional loaded trucks on the commercial scales. The weigh check shall be made daily if requested by the Public Works Director.

S-17 ASPHALTIC CONCRETE PAVEMENT

Asphalt concrete pavement shall conform to the requirements of Section 403 of the 2011 Missouri Standard Specifications for Highway Construction. 1 ½" and 2" Type C or Type IC Asphaltic Concrete Pavement shall be placed to an average thickness of 1 ½" and 2" as specified on the plans and specifications. The final surface after rolling shall not vary from a 10 ft. straight edge by more than 1/8 inch.

BASIS OF PAYMENT: The price bid per ton on Asphaltic Concrete Pavement shall include all material, mixing hauling, spreading, rolling, and cutting out samples and cores for the testing lab. Also, spread on intersection approaches and driveway entrances where marked by the City inspector in order to fit existing asphalt surface or to ramp the new surface up or down to the existing surface. The City will pay for Asphaltic Concrete Pavement that is accepted by the Public Works Director, spread and compacted by the Contractor.

The Contractor shall furnish one copy of the weight ticket made at the asphalt plant with each truckload of asphalt mix spread on the road. The truck driver shall give the weight ticket to the City inspector when the asphalt mix is spread on the road.

When requested by the Public Works Director, the Contractor shall send a loaded truck of asphalt mix to a local commercial scale and get a weight ticket on the loaded truck and also on the empty truck in order to check the contractor's asphalt plant scales. The Contractor shall pay the weight ticket charge to the commercial truck scales. If the net weight on the asphalt plant scales, the Public Works Director may order the contractor weigh additional loaded trucks on the commercial scales. The weigh check shall be made daily if requested by the Public Works Director.

S-18 COLD MILLING OF EXISTING ASPHALT SURFACES

Cold milling of the existing asphalt surfaces shall be done between the curb lines or edge of concrete gutter, or a 6' wide or full width strip along edge of the gutter where specified in the plans unless otherwise specified or marked by the Public Works Director.

The thickness of asphalt surface to be milled off shall be as noted on the plans and specifications or designated by the Public Works Director or the entire width of the pavement curbs down to the concrete pavements, or the width as designated on the plans and specifications. The milled surface shall be on a uniform grade without depressions.

Manholes and valve box covers shall be marked so that the milling machine can be raised over the cast iron covers. The Contractor shall remove the existing asphalt to the proper grade around the manholes and valve box covers.

BASIS OF PAYMENT: The price bid per square yard shall include furnishing and operation of a cold milling machine, and equipment and tools for removing asphalt around manholes, valve box covers, curbs, etc. The milling machine shall be equipped with a belt conveyor for continuous loading of milled asphalt into the City dump trucks.

S-19 STORM SEWER MATERIALS

REINFORCED CONCRETE PIPE: All storm sewer piping that will be under streets shall conform to the requirements for Class III reinforced concrete pipe under Section 1026 of the 2011 Missouri Standard Specifications for Highway Construction.

HIGH DENSITY POLYETHYLENE PIPE: HDPE pipe for storm sewer outside the limits of street pavement shall conform to the requirements for Type S corrugated polyethylene culvert pipe under Section 1047 of the 2011 Missouri Standard Specifications for Highway Construction.

EMBEDMENT: Crushed stone for Pipe Embedment shall conform to Gradation D, Section 1005.2.4, Coarse Aggregate of the 2011 Missouri Standard Specifications for Highway Construction.

S-20 STORM SEWER INLETS AND MANHOLES

CONCRETE: Concrete shall conform to the requirements in Section S-8 through S-11 of these General Specifications. The concrete shall be tamped and spaded or vibrated between the forms and the top surface of the floor of the inlet shall be given a smooth trowel finish. The inlets & manholes shall conform to requirements of Section 604 of the 2011 Missouri Standard Specifications for Highway Construction. The top surfaces of the inlet cover slab shall be finished with a fine brush finish.

FORMS: Forms shall be constructed mortar-tight, true to line and grade, securely staked, and braced. The inlets and manholes shall be constructed in accordance with the details shown on the plans.

MANHOLE FRAMES & GRATES: Manhole frames and grate frames shall be set in place before the concrete is placed. Cast iron manhole frames and covers shall conform to Section 614.30 and steel grates & bearing plates shall be galvanized and shall conform to Section 614.10 of the 2011 Missouri Standard Specifications for Highway Construction.

BASIS OF PAYMENT: The unit price for storm sewer inlets and manholes shall include all unclassified excavation including removal of existing inlet structure and compacted backfilling, furnishing all materials, and constructing the inlets and manholes and connecting all storm sewer pipes through the walls of the inlet or manhole and grouting around pipes and placing gravel or crushed stone filter material on the outside of weep holes.

S-21 LAYING REINFORCED CONCRETE PIPE

INSTALLATION: Installation of reinforced concrete pipe shall conform to Section 726 and Figure 726.30H of the 2011 Missouri Standard Specifications for Highway Construction.

BEDDING: Crushed stone for bedding under and around pipe and for trench backfill shall conform to the gradation listed in Section S-18 of these General Specifications.

CONSTRUCTION STAKING: The City will set stakes for line and grade on the storm sewer pipes, inlets and manholes, and new pavement. Stakes will be set one time by the City at no cost

to the Contractor. If the Contractor's equipment damages the stakes, the Contractor will have to employ a surveyor to re-set the stakes at the Contractor's expense.

BASIS OF PAYMENT: The unit price bid per linear foot of reinforced concrete pipe shall include unclassified excavation, trenching, sawing existing pavement, crushed stone bedding; furnishing and installing pipe, joint materials, crushed stone backfill, earth backfill (with suitable material) and asphalt pavement patching. Length of reinforced concrete pipe will be measured from the interior wall surface of manholes, inlets and box culverts.

S-22 LAYING HIGH DENSITY POLYETHYLENE PIPE (HDPE)

INSTALLATION: Installation of HDPE pipe shall conform to Section 730 and Figure 730.00D of the 2011 Missouri Standard Specifications for Highway Construction.

BEDDING: Crushed stone for bedding under and around pipe and for trench backfill shall conform to the gradation listed in Section S-18 of these General Specifications.

CONSTRUCTION STAKING: The City will set stakes for line and grade on the storm sewer pipes, inlets and manholes, and new pavement. Stakes will be set one time by the City at no cost to the Contractor. If the Contractor's equipment damages the stakes, the Contractor will have to employ a surveyor to re-set the stakes at the Contractor's expense.

BASIS OF PAYMENT: The unit price bid per linear foot of HDPE pipe shall include unclassified excavation, trenching, crushed stone bedding, furnishing and laying pipe and joint materials, and crushed stone backfill and earth backfill with suitable material. Length of corrugated metal pipe will be measured from the interior wall surface of manholes, inlets and box culverts.

S-23 OPENING TO TRAFFIC

The roadway shall not be opened to traffic or contractor's equipment until so ordered by the Public Works Director. **The Contractor shall maintain adequate barricades and protection to prevent traffic from using the pavement until it is of an acceptable strength and/or cure as directed by the Public Works Director.**