

## **Statement of Work**

### **Job Order Contract - Region 1 Maintenance Pilot**

The goals of the contract are listed below.

Goal #1 - This contract initial scope is for a pilot process for repairing asphalt in the Denver Metro area.

Goal #2 - Establish a sustainable process to track maintenance

#### **Duration**

The contracts will be scheduled for the term of (1) year with an option to extend the contract terms annually for up to 2 years based upon performance of assigned contract duties.

#### **Location**

This pilot project is located in various locations in Region 1.

The award will involve multiple job order contracts that will have the responsibility of different geographic areas.

The work areas are located by a functional location and cost associated with maintenance are all tied to the lat and long coordinates address for accurate inventory of the assets and accomplishments

#### **Work Description**

The work includes traffic control, asphalt removal (milling), asphalt paving, and striping.

The 2017 Standard Specifications for Road and Construction controls the construction of this project.

The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans:

- Revision of Section 106--Conformity to the Contract of Hot Mix Asphalt (Less than 5000 Tons); 12/28/17
- Revision of Section 202--Removal of Asphalt Mat (Planing) (Refer to Appendix 1)
- Revision of Section 401--Reclaimed Asphalt Pavement; 7/3/17
- Revision of Section 403--Hot Mix Asphalt (Refer to Appendix 2)

The Contractor shall be provided one solicitation for bidding purposes. Within the solicitation, there will be multiple items and will be the sole discretion of the Department to choose the bid proposal that fits the budget and timeline.

#### **Bid Proposal**

The bid schedule has: pay items description /units of pay/ 1 unit/ CDOT estimated unit cost and Contractor Multiplier and total cost.

The bidder will assign bid multiplier to entire project.

#### **Pay Item Number and Description**

### **Removal Items**

Item 202 Removal of Asphalt (Milling), SY.

### **Environmental Items**

Erosion Control Supervisor, DAY.

### **Asphalt Items**

Item 403 asphalt patching - Ton. Option could be used to include asphalt removal??

#### **Item 403 Asphalt, Ton**

Option 1 - An asphalt mix design will be submitted prior to the Region prior to paving, when a Form 43 will be issued for the project.

Option 2 - The Contractor may utilize a previously approved mix design and Form 43 if it has been approved within the last 12 months.

Item 403 Grading (SX), Ton.

Item 411 Emulsified Asphalt (un-diluted),Gallon.

### **Mobilization**

Item 620 Mobilization, LS.

It is estimated that a mobilization will be required for each job order contract. It is estimated that 1 mobilization will be required per job order contract and shall be paid for as item 626, "mobilization", Lump Sum.

#### **Item 627 - Traffic Paint, Gallon**

Item 627, Pavement Marking Paint (High Build), Gallon. Job order contract will determine amount of white or yellow paint, gallons.

### **Traffic Control**

Option 1: Traffic Control , Lump Sum.

It is estimated that traffic control will be need for each job order contract. The Contractor is responsible for all traffic control. Any traffic control devices need to protect the work area will be included in the cost of this item. It is estimated that 1 traffic control will be required for each job order contract and shall be paid for as item 630, "Traffic Control", Lump Sum.

Option 2: Traffic Control, individual Items

#### **Item 630 - Construction Traffic Control**

Item 630 - TCS

Item 630 - Flagging

Item 630 Sign Class A

Item 630 Sign Class B

Item 630 Sign Class C

Item 630 Arrow Board

Item 630 VMS

Item 630 TMA

Item 630 Cones

Item 630 Barrels

Force Accounts

### **Reporting Requirements, Invoicing and Payment**

Measurement will be required for work performed or material furnished, payment will be made for actual quantities measured and accepted.

All quantities will be verified and agreed upon by the Contractor and the CDOT Project Manager.

The Contractor shall submit invoice s by:

1. functional location ie (to capture individual location costs)
2. Digital photos with GPS and time stamp

invoices in a format approved by the Project Manager.

The Contractor shall submit a final invoice detailing the asset location , work, items and quantities used.

CDOT Maintenance Record Keeping.

CDOT Maintenance work order process will be used to track work accomplished.

Invoices and photos will be attached by CDOT staff to the work order in the Maintenance work order process.

Follow up inspections must be completed by CDOT inspector prior to invoice approval of pay items.

Invoicing will be done every 30 days unless approved by Project Manager in writing.

Final Job Order invoice must be labelled final invoice.

Once verified by CDOT staff and approved by the CDOT Project Manager, the invoice will be submitted to the Region PM Coordinator and Business office to process payment .

### **Commencement, Completion Schedule, and limits of Maintenance Work during Construction**

To initiate the Job Order process, individual locations will be identified by CDOT with estimated quantities of materials for the work at these sites.

Kick-off meetings will be held with identification of the Project Manager (CDOT contact) and any supporting staff, Contractor Superintendent and supporting staff.

Job order contracts will have working day or completion dates.

The Contractor shall notify the Project Manager, in writing at least 3 days before the propose beginning date.

The Contractor shall complete all work by the dates in accordance with the "Notice to Proceed".

### **Notice to Bidders**

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid for Job Order Contract.

Pursuant to the subsections 102.04 and 102.05 it is recommended that bidders on this project review the work site and inspection reports and scopes of work of job order contract with an authorized Department representative.

The above referenced individuals are the only representatives of the Department with the authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements of the job order contracts.

Contractor must be pre-qualified Pre-Qualification.

Experience in:

A mandatory pre bid conference will be held **May, 2018**. The meeting will be held at the location and time shown. Bids will be accepted only from pre-qualified bidders who attend the mandatory pre-bid conference.

Questions received from bidders along with CDOT responses will be posted on the CDOT web site listed below as they become available.

If the bidder has a question or requests clarification that involves the bidder's innovative or proprietary means and methods, phasing, scheduling, or other aspects of construction of the project, the Project Engineer will direct the bidder to contact the Resident Engineer directly to address the question or clarification. The Resident Engineer will keep the bidder's innovation confidential and will not share this information with other bidders.

The **Resident Engineer** will determine whether questions are innovative or proprietary in nature. If the Resident Engineer determines that a question does not warrant confidentiality, the bidder may withdraw the question. If the bidder withdraws the question, the Resident Engineer will not answer the question and the question will not be documented on the CDOT web site. If the bidder does not withdraw the question, the question will be answered, and both the question and CDOT answer will be posted on the web site. If the Resident Engineer agrees that a question warrants confidentiality, the Resident Engineer

will answer the question, and keep both question and answer confidential. CDOT will keep a record of both question and answer in their confidential file.

All questions shall be directed to the CDOT contacts listed above no later than 7:00 A.M. Monday of the week of bid opening. Final questions and answers will be posted no later than Tuesday morning of bid opening week.

Questions and answers shall be used for reference only and shall not be considered part of the Contract.

### **Commencement and Completion of Work**

The Contractor shall commence work under the Contract on or before the 5th day following Contract execution or the 20th day following the date of award, whichever comes later, unless such time for beginning the work is changed by the Chief Engineer in the "Notice to Proceed."

The Contractor shall complete all work by **June X, 2017** in accordance with the "Notice to Proceed."

Section 108 of the Standard Specifications is hereby revised for this project as follows:

Subsection 108.03 shall include the following:

The Contractor's progress schedule may be a Bar Chart Schedule.

Salient features to be shown on the Contractor's Progress Schedule are:

- (1) Traffic Control
- (2) Milling
- (3) Paving
- (4) Striping
- (5) Final Clean-up
- (6) Invoicing

### **Project Plans and Other Data**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 102.02 and replace with the following:

102.02 Contents of Proposal Forms. The Department will publish bidding opportunities to prospective bidders on the CDOT Business Center website. The forms on this web site will state the location and description of the contemplated construction and will show the estimate of the various quantities and types of work to be performed or materials to be furnished, and will have a schedule of items for which unit bid prices are invited. The proposal form will state the time in which the project must be completed, the amount of the proposal guaranty, and the date, time and place of the opening of proposals.

All bidders on projects shall submit electronic bids only. Innovative delivery method projects such as Design-Build, CMGC and **Best Value**, are not subject to this electronic bidding requirement.

The plans, specifications, and other documents designated in the proposal form, will be considered a part of the proposal.

The prospective bidder shall pay the Department the sum stated in the Invitation for Bids for each set of plans.

### **DBE**

### **Force Account Items**

This special provision contains the Department's estimate for force account items included in each Job order Contract. The estimated amounts marked with an asterisk will be added to the total bid to determine the amount of the performance and payment bonds. Force Account work shall be performed as directed by the Project Engineer.

Payment will be made in accordance with subsection 109.04. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<b><u>Force Account Item</u></b>	<b><u>Unit</u></b>	<b><u>Amount</u></b>
*F/A Minor Contract Revisions	F.A.	\$10,,000
F/A Erosion Control	F.A.	\$2,500

### **Force Account Descriptions**

**F/A Minor Contract Revisions** – This work consists of minor work authorized and approved by the Project Engineer, which is not included in the contract drawings or specifications, and is necessary to accomplish the scope of work of this contract.

**F/A Erosion Control** – This Force Account will be used to pay for any other erosion control items the Erosion Control Supervisor will need during the duration of this project. All items shall be pre-approved by the Project Engineer prior to installation or they will be at no cost to the project.

### **Traffic Control**

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

All traffic control devices shall comply with the MUTCD, 2009 Edition and CDOT Standard Specifications.

All lane closures and detours shall conform to the MUTCD, 2009 Edition and the current CDOT M& S Standard Plans and as per approved Method of Handling Traffic (MHT) submittals. Key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10 (a)

Unless otherwise approved by the Project Manager, the Contractor's equipment shall follow normal and legal traffic movements. The Contractor's ingress and egress of the work area shall be accomplished with as little disruption to traffic as possible.

All work shall be conducted during daylight hours unless approved by the Project Manager.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Project Manager.

This project is classified as non-significant. The Traffic Management Plan shall consist of a Traffic Control Plan and Public information services. Public information services will not be paid for separately but will be included in the work.

The Contractor or PIM shall submit weekly lane closure reports using the template provided by the Project Manager of transmittal to the CDOT PR Region Manager. Lane closure reports are due every Thursday by noon.

The Contractor shall not store equipment or stockpile equipment or stockpile material within the edge of travel way clear zone for the posted speed limit.

### **Environmental**

In general, no work shall be conducted if nesting birds are present and would be disturbed. Migratory Bird nesting season in these kinds of facility habitats are likely to be between April and August. If birds of any kind are present, either contact the Project Manager who will contract a CDOT biologist for a determination if they are nesting migratory birds, or wait until after August to conduct the PWQ facility cleaning work.

### **Stormwater Management**

A stormwater management plan using CDOT's template will be developed for each JOC and submitted to the Project Manager prior to commencing work.

A SWMP plan needs to be developed for all PWQ facility clean-out operations and shall use CDOT 208 specifications and CDOT SWMP templates for 1 or more acres, or under 1 acre as appropriate for each PWQ Facility. This can be a simple plan utilizing existing plans or aerial mapping to draw applicable temporary BMPs necessary for water protection during maintenance operations. This may include a water control plan to divert run-on water around maintenance operations. This plan shall minimize, to the greatest extent possible, sediment and debris from active roadways and slurry spillage during transport. Drying of wet excavated material will need to be performed for safe transport. The SWMP shall become the property of CDOT when the maintenance is completed.

When projects disturb one or more acres, a CDPS-Stormwater Construction Permit (SCP) from CDPHE shall be obtained by the Contractor and they shall be responsible for following permit requirements until the permit can be inactivated. Over 1-acre projects shall have a CDPS-SCP inactivation notices from CDPHE prior to final invoice approval of the contract. When PWQ facility maintenance projects have a

CDPS-Stormwater Construction Permit (SCP) from CDPHE, the permit shall not be inactivated until final revegetation has been established as a minimum of 70% of pre-vegetation density and is approved by the CDOT project manager.

The Contractor shall not park any vehicle or equipment in or disturb any area not approved by the Project Manager.

### **ROW**

Right of way clearances are not required for this project since all locations will be within CDOT Right of Way. The Contractor will immediately notify the Project Manager in writing of access issues not on CDOT ROW.

### **Materials**

Materials will meet the requirements of the CDOT Standard Specifications for Road and Bridge Construction and all relevant Standard Special Provisions.

### **Hydraulics**

Hydraulics will not be required for this project

### **Surveying**

Survey will not be required for this project.

### **Utilities**

The work described in these plans and specifications may require coordination between the Contractor and Utility companies in accordance with subsection 105.11.

### **Safety and General Operational Requirements**

All applicable CDOT specifications, including 107.25, and regulations shall be assumed to be followed. CDOT will not accept responsibility for non-compliance with Safety and/or Environmental compliance/regulations. Contractor accepts all responsibility for applicable laws and regulations.

It is the Contractor's responsibility to ensure that all safety requirements including equipment and protection resources be used by all employees and Contractors during the project.

The Contractor shall be required to make arrangements for the safe storage of all equipment used in the project.

Contractor is required to clean-up the work area daily and the work site is to be kept in a safe manner at all times.

Any damage that is deemed to be excessive that is caused by the Contractor or one of their employees or subcontractors shall be repaired and paid for at the Contractor's expense. The damage will be deemed excessive by the Project Manager.

**Disputes and Penalties:**

Liquidated damages for the work will be set at \$970.00 per day per unless a plan is agreed to as reasonable by the Project Manager.

CDOT Project Manager has decision authority for all contract disputes and questions relating to pay items.

**Appendix 1: Removal of Asphalt Mat (Planing) Special Provision**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

Subsection 202.01 shall include the following:

This work includes the removal and disposal of existing asphalt mat using a milling machine at locations directed by the Engineer to a specified depth.

Subsection 202.11 shall include the following:

The removal of the existing asphalt mat will be measured by the area, in square yards, completed to the required depth and accepted.

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item

Pay Unit

Removal of Asphalt Mat (Planing)

Square Yard

**Appendix 2: Hot Mix Asphalt Special Provision (can edit this going forward)**

Section 403 of the Standard Specifications is hereby revised for this project as follows:

Subsection 403.02 shall include the following:

The design mix for hot mix asphalt shall conform to the following:

Table 403-1				
Property	Test Method	Value For Grading		
		SX(75)		Patching
Air Voids, percent at: N (design)	CPL 5115	3.5 – 4.5		3.5 – 4.5
Lab Compaction (Revolutions): N (design)	CPL 5115	75		75
Stability, minimum	CPL 5106	28		28
Aggregate Retained on the 4.75 mm (No. 4) Sieve for S, SX and SG, and on the 2.36mm (No. 8)  Sieve for ST and SF with at least 2 Mechanically Induced fractured faces, % minimum*	CP 45	60		60
Accelerated Moisture Susceptibility Tensile Strength Ratio (Lottman), minimum	CPL 5109 Method B	80		80
Minimum Dry Split Tensile Strength, kPa (psi)	CPL 5109 Method B	205 (30)		205 (30)

Grade of Asphalt Cement, Top Layer		PG 64-22		PG 64-22
Grade of Asphalt Cement, Layers below Top				PG 64-22
Voids in the Mineral Aggregate (VMA) % minimum	CP 48	See Table 403-2		See Table 403-2
Voids Filled with Asphalt (VFA), %	AI MS-2	65-80		65-80
Dust to Asphalt Ratio	CP 50			
Fine Gradation		0.6 – 1.2		0.6 - 1.2
Coarse Gradation		0.8 – 1.6		0.8 – 1.6
<p>Note: AI MS-2 = Asphalt Institute Manual Series 2</p> <p>Note: Mixes with gradations having less than 40% passing the 4.75 mm (No. 4) sieve shall be approached with caution because of constructability problems.</p> <p>Note: Gradations for mixes with a nominal maximum aggregate size of one-inch or larger are considered a coarse gradation if they pass below the maximum density line at the #4 screen.</p> <p>Gradations for mixes with a nominal maximum aggregate size of 3/4" to 3/8" are considered a coarse gradation if they pass below the maximum density line at the #8 screen.</p> <p>Gradations for mixes with a nominal maximum aggregate size of #4 or smaller are considered a coarse gradation if they pass below the maximum density line at the #16 screen.</p> <p>*Fractured face requirements for SF may be waived by RME depending on project conditions.</p>				

All mix designs shall be run with a gyratory compaction angle of 1.25 degrees and properties must satisfy Table 403-1. Form 43 will establish construction targets for Asphalt Cement and all mix properties at Air Voids up to 1.0 percent below the mix design optimum. CDOT will establish the production asphalt cement and volumetric targets based on the Contractor's mix design and the relationships shown between the hot mix asphalt mixture volumetric properties and asphalt cement contents on the Form 429. CDOT may select a different AC content other than the one shown at optimum on the Contractor's mix design in order to establish the production targets as contained on the Form 43. Historically, Air

Voids adjustments typically result in asphalt cement increases from 0.1 to 0.5 percent. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

**Table 403-2**

	<b>Minimum Voids in the Mineral Aggregate (VMA)</b>			
<b>Nominal Maximum Size*, mm (inches)</b>	<b>***Design Air Voids **</b>			
	<b>3.5%</b>	<b>4.0%</b>	<b>4.5%</b>	<b>5.0%</b>
37.5 (1½)	11.6	11.7	11.8	N/A
25.0 (1)	12.6	12.7	12.8	
19.0 (¾)	13.6	13.7	13.8	
12.5 (½)	14.6	14.7	14.8	
9.5 (⅜)	15.6	15.7	15.8	
4.75 (No. 4)	16.6	16.7	16.8	16.9
	<p>* The Nominal Maximum Size is defined as one sieve larger than the first sieve to retain more than 10%.</p> <p>** Interpolate specified VMA values for design air voids between those listed.</p> <p>*** Extrapolate specified VMA values for production air voids beyond those listed.</p>			

The Contractor shall prepare a quality control plan outlining the steps taken to minimize segregation of HMA. This plan shall be submitted to the Engineer and approved prior to beginning the paving

operations. When the Engineer determines that segregation is unacceptable, the paving shall stop and the cause of segregation shall be corrected before paving operations will be allowed to resume.

The hot mix asphalt for patching, if needed, shall conform to the gradation requirements for Hot Mix Asphalt (Grading SX) (75) (PG 64-22). All patching shall be per the Engineer.

A minimum of 1 percent hydrated lime by weight of the combined aggregate shall be added to the aggregate for all hot mix asphalt.

Subsection 403.03 shall include the following:

If liquid anti-stripping additive is added at the plant, an approved in-line blender must be used. The blender shall be in the line from the storage tank to the drier drum or pugmill. The blender shall apply sufficient mixing action to thoroughly mix the asphalt cement and anti-stripping additive.

The Contractor shall construct the work such that all roadway pavement placed prior to the time paving operations end for the year, shall be completed to the full thickness required by the plans. The Contractor's Progress Schedule shall show the methods to be used to comply with this requirement.

Delete subsection 403.05 and replace with the following:

**403.05** The accepted quantities of hot mix asphalt will be paid for in accordance with subsection 401.22, at the contract unit price per ton for the bituminous mixture.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Hot Mix Asphalt (Grading SX)(75)(PG 64-22)	Ton

Aggregate, asphalt recycling agent, asphalt cement, additives, hydrated lime, and all other work and materials necessary to complete each hot mix asphalt item will not be paid for separately, but shall be included in the unit price bid. When the pay item includes the PG binder grade, any change to the submitted mix design optimum asphalt cement content to establish production targets on the Form 43 will not be measured and paid for separately, but shall be included in the work. No additional compensation will be considered or paid for any additional asphalt cement, plant modifications and additional personnel required to produce the HMA as a result in a change to the mix design asphalt cement content.

Historically, typical asphalt cement increases reflected on the Form 43 are from 0.1 to 0.5 percent. However, the Contractor should anticipate the AC increases typical of his mixes. Contractors bidding the project should anticipate this change and factor it into their unit price bid.

Excavation, preparation, and tack coat of areas to be patched will not be measured and paid for separately, but shall be included in the work.