ITEM A-69-23 COLD IN-PLACE SURFACE RECYCLING
DATED: JANUARY 2023
CONTRACT PERIOD: 3/31/23 - 3/30/24

DESCRIPTION

This specification covers the requirements for the cold-in-place recycling of asphalt concrete. This work shall consist of coring the existing pavement, preparing a mix design and recycling the existing asphalt concrete pavement. The recycling shall be a continuous multi-step process of milling the existing pavement, remixing with liquid bituminous material (unmodified or modified) and aggregate, reshaping and compacting the asphalt mixture in-place.

MATERIALS

Bituminous Material:
Liquid bituminous material required for remixing with the recycled pavement material shall be a medium setting asphalt emulsion, Item 702-3301, grade HFMS-2, or Item 702-4501, grade CSS-1h, meeting the requirements of Section 702, Bituminous Materials of the NYSDOT Standard Specifications. The bituminous material shall be obtained from a storage facility that has been approved in the twelve months prior to the material's use by the NYS Department of Transportation. The contractor may substitute alternate bituminous materials based on an approved mix design

Aggregates:
Additional aggregates required for cold-in-place recycling of pavements shall be crushed stone or crushed gravel conforming to the requirements of Section 703-02, Coarse Aggregate, or fine aggregate conforming to the requirements of Section 703-01, Fine Aggregate of the Standard Specifications. The gradation and source of the aggregates shall be specified by the contractor and included in the proposed mix design

Additives:
Additives may be used to improve the quality of the resulting recycled pavement. Additives may be combined with the bituminous material prior to construction or may be added to the mix during construction. The proportion and amounts of additive shall be determined by the Contractor's mix design.

Tack coat:
Tack coat shall meet the requirements of Section 407-Tackcoat.

MIX DESIGN

Design Guidelines:
The recycled mixture shall consist of reclaimed material, additional aggregate (if required), bituminous material, and water as needed. The final mixture shall conform to the requirements in the mix design.

Sampling and Pretesting:
The contractor will take core samples at uniformly spaced locations along the length of the project. Said core samples will then be taken to the contractor's laboratory where, after analysis and prior to the commencement of work, a mix design for the project will be prepared.

Gradation requirements:
The recycled mixture design shall conform to the following gradation requirements:

Sieve	PERCENT PASSING Minimum	Maximum
1.50″	100	--
1.25″	100	--
1.00″	95	100
1/2″	70	85
1/4″	48	68
1/8″	32	54
20	15	30
40	8	22
80	4	14
200	2	8

CONSTRUCTION DETAILS

Weather Limitations:
This work will not be permitted when the existing pavement contains frost, or when the air surface temperature is below 45 degrees F or expected drop below 45 degrees F within 24 hours.

Equipment:
The contractor shall furnish a self-propelled down-cutting milling machine capable of pulverizing the existing bituminous materials to the specified depth in one pass. Said machine shall have a minimum rotor cutting width of 10 feet with the capability of widening to 13.5 feet, standard automatic depth controls and must maintain a constant cutting depth.

To ensure that the recycled material conforms to the gradation requirements, a screening unit will be included with the capabilities to reduce or eliminate oversized particles prior to mixing with the emulsion.

The mixing and placement of the Recycled Bituminous Base Course shall be accomplished with a self-propelled Bituminous paver, equipped with a 30′ moving reference and having sufficient hopper capacity (20 ton minimum) to temporarily store surges of materials due to variations in the pavement and milling depths. The bituminous recycled material shall be spread in one uniform layer without segregation, so as to produce the specified thickness and surface tolerance after compaction.

The asphalt emulsion shall be applied to and mixed with RAP in a twin shaft pugmill capable of blending the pulverized bituminous material and emulsion into a homogeneous mixture. A positive displacement pump, capable of accurately metering the required quantity of emulsion down to a rate of 4 gal/minute, shall be used. Said pump shall be equipped with a positive interlock system with the quantity of emulsion based on the weight of pulverized RAP material as determined by a belt scale on the conveyor carrying the RAP to the mixing chamber. The pump will automatically shut off when no material is being fed to the mixing chamber.

Water as required may be added prior to or concurrently with the emulsion. The quantity of water added to the mix shall be determined by the contractor and may be adjusted for changing conditions, but at no time shall the water cause an adverse effect on the added aggregate or the recycled material.

In instances where a large surplus of RAP is produced, the equipment shall have provisions (i.e. conveyor belt) for off-loading this processed material prior to its being mixed with the emulsion.

Where deficiencies of material exist due to pavement conditions such as rutting or thin pavement, the off-loaded RAP may be added back into the process.

Compaction:
The number, weight, and type of rollers shall be sufficient to obtain the required compaction while the mixture is in a workable condition except that the pneumatic roller(s) shall be 25-ton minimum weight.

Initial rolling is usually done with rubber-tired roller(s) and continued until no displacement is observed or until the pneumatic rollers have "walked out". Steel wheel roller(s) shall do the final rolling, either in static or vibratory mode, to eliminate pneumatic tire marks and achieve required density. In some cases, steel rollers may do initial rolling to set cross-slope and/or minimize rubber tire roller marks.

Rollers shall not be started or stopped on uncompacted recycled material. Rolling shall be established so that starting and stopping will be on previously compacted recycled material or on the existing bituminous roadway or shoulder.

Any type of rolling that results in cracking, excessive movement, or other types of pavement distress shall be discontinued until such time as the problem can be resolved.

Curing:
Allow the recycled material to cure for a minimum of 7 days before placing the next paving course.

Optional Fog Seal:
Due to traffic conditions or surface preparation for the next wearing course a Fog Seal may be required. Fog seal may be paid for under Tack Coat Item 702-90 with approval of project engineer.

OPTIONAL MAINTENANCE PROTECTION OF TRAFFIC

The Contractor shall submit a per square yard price for Maintenance and Protection of Traffic. When requesting mix designs from the Contractor, the municipality may at their option, include Maintenance and Protection of Traffic by the contractor for the specific project anticipated. Traffic shall be maintained in accordance with Sections 619-1 through 619-3 of the Standard Specifications and the Manual of Uniform Traffic Control Devices (MUTCD.

METHOD OF MEASUREMENT

The Cold In-Place Recycling shall be measured by the square yard. The engineer shall designate the depth of cut of the milling operation. Asphalt Emulsion shall be measured in gallons. Additional aggregate shall be measured by the ton. Tack coat shall be measured in gallons.

ASPHALT PRICE ADJUSTMENT

Asphalt price adjustments allowed will be based on the January 1, 2020 average of the FOB terminal price per ton on unmodified PG 64-22 binder without anti-stripping agent (base average FOB terminal price). The new monthly average terminal price will be in accordance with the New York State Department of Transportation Standard Specification.
The January 1, 2023 average is $626.00 per ton.

BASIS OF PAYMENT:

Cold In-Place Recycling Asphalt Concrete. Payment will be made of the unit price per square yard for the quantities of recycling measured @ 2", 3"or 4" depth. The unit price bid shall include the cost of all labor, materials, equipment and incidentals necessary to complete the work except that Bituminous material, Aggregate, Tack coat, and M&P of Traffic will be paid for under their appropriate pay items.

Bituminous Material. Payment will be made at the unit price per gallon for the quantities measured. The unit price shall include the cost of furnishing all labor, materials and equipment necessary to incorporate the bituminous materials into the work.

Aggregate. Payment will be made at the unit price per ton for the quantities measured. The unit price shall include the cost of furnishing all labor, materials and equipment necessary to properly incorporate the aggregate into the work.

Additive. If additive is required by the mix design, it shall be included in the bituminous material price per gallon.

Tack coat. Payment will be made at the unit price per gallon for the quantities measured. The unit price per gallon shall include the cost of furnishing all material, equipment and labor necessary to complete the work. Any necessary cleaning of recycled pavement surfaces ordered by the Engineer prior to the application of tack coat shall be included in the unit price.

M&P of Traffic. Payment will be made at the unit price per square yard for the quantities measured.

PREVAILING RATES SCHEDULE:

Successful contractor shall pay not less than the prevailing wage rate established by the New York State Department of Labor, Bureau of Public Works. The Wage Rate Schedule as prepared by the Department of Labor hereby becomes a part of the contract and is included herein.

The Commissioner reserves the right to demand certified payroll from the contractor at any time during the course of operations.

OTHER MUNICIPALITIES

All provisions of this specification and the ensuing contract, including insurance, shall be extended to all municipalities in the County of Montgomery, and work ordered by them, shall be furnished according to their needs at the prices and terms of the contract.

INSURANCE

Before the actual commencement of work, the Contractor shall file with the County liability insurance policies, with limits not less than the following amounts indicated:

TYPES OF POLICIES

a. Contractor's Liability Insurance
b. Contractor's Protective Liability Insurance
c. Completed Operations Liability Insurance
d. Protective Liability Insurance for the County
e. Owner, Landlords and Tenants Liability Insurance

Minimum Limits

General Liability		Umbrella Liability	
Each Occurrence	Annual Aggregate	Each Occurrence	Annual Aggregate
$1,000,000.00	$3,000,000.00	$5,000,000.00	$5,000,000.00

PROPOSAL FORM ITEM A-69-23
COLD IN-PLACE SURFACE RECYCLING
Sheet 1 of 2

Deliver proposals to: Montgomery County Purchasing Agent
P.O. Box 1500
Fonda, NY 12068-1500

Sir:

The undersigned has read and understands the Information and Instructions to Bidders and the Specifications for the furnishing of Item A-69-23 Cold In-Place Surface Recycling, and proposes to perform the work as required by said documents for the price shown hereon.

This proposal is subject to acceptance within forty-five (45) days of the time set for the opening of bids.

FIRM NAME: _____

ADDRESS: _____

_____

TELEPHONE: _____

SIGNATURE OF AUTHORIZED REPRESENTATIVE: _____

NAME AND TITLE: _____

DATE: _____

BIDDERS FEDERAL ID NO. OR SOCIAL SECURITY NO.: _____

IS FIRM INCORPORATED? _____

IS FIRM MINORITY OWNED? _____
(Minority ownership refers to ethnic origin NOT gender)

PROPOSAL FORM ITEM A-69-23
COLD IN-PLACE SURFACE RECYCLING
Sheet 2 of 2

PROPOSAL OF: _____

BID SHEET

Cold In-Place Surface Recycling

Project Size	**2 in. Depth**	**3 in. Depth**	**4 in. Depth**	**M & P of Traffic**
Price per Square Yard 10,000 to 19.999 SY	$_____/SY	$_____/SY	$_____/SY	$_____/SY
Price per Square Yard 20,000 to 49,999 SY	$_____/SY	$_____/SY	$_____/SY	$_____/SY
Price per Square Yard Over 50,000 SY	$_____/SY	$_____/SY	$_____/SY	$_____/SY

Additional Aggregate $_____/Ton

Bituminous Material

HFMS-2 $_____/Gallon

MC-250 w/additive $_____/Gallon

CSS-1h w/ Additive $_____/Gallon

Tack Coat / Fog Seal $_____/Gallon