

**ITEM A-79-23 IN-PLACE RECYCLED BASE COURSE WITH PORTLAND CEMENT  
STABILIZATION**

**DATED: JANUARY 2023**

**CONTRACT PERIOD: 3/31/23 - 3/30/24**

**INTENT**

It is the intent of this bid proposal to solicit bids for an in-place recycled road pavement, whose base material is to be stabilized with a Portland Cement slurry.

**SCOPE OF WORK**

The work shall consist of the in-place preparation of a recycled base course, which shall be composed of a mixture of the existing bituminous concrete pavement, existing base material, an appropriate percent of Portland cement slurry. The new base course shall be graded and rolled as described in this specification.

**SUPERVISION**

The Montgomery County Commissioner of Public Works, hereinafter referred to as the "Commissioner", shall designate a representative who will oversee and be responsible for the construction of the stabilized base course.

**QUALIFICATION OF BIDDER**

When requested by the Commissioner, the bidder must present evidence of experience, ability and financial standing, and a statement as to equipment.

The bidder shall own, operate, and maintain a working laboratory staffed by a full-time technician capable of performing all necessary tests on soils, aggregates and bituminous concrete required by this specification.

**MIX DESIGN**

After receiving the request for a mix design, the successful bidder must provide it in a timely fashion. Core holes drilled by the bidder to derive information for said mix must be filled immediately with a cold mix bituminous concrete approved by the Commissioner. Traffic control for the coring operation shall be performed by the bidder with prior approval of the lane closure scheme by the Commissioner.

**PRE-CONSTRUCTION CONFERENCE**

After the acceptance of the mix design by the Commissioner and at least one week prior to the start of the base stabilization project, the successful bidder shall schedule a pre-construction conference with the Commissioner and/or his designated representative. The bidder shall present his proposed schedule, and maintenance and protection of traffic plan, if applicable, at that time.

## **UTILITY LOCATION**

Some reclamation processes may require the determination of the vertical location (depth) of underground utilities in order to avoid their disturbance or damage. The determination of both the necessity for underground utility identification(s), their location(s) and depth(s) is the sole responsibility of the contractor performing the work. If the contractor deems it necessary to determine the depth of an underground utility the cost for such determination shall be included in the proposal where indicated as "**TEST HOLES**". The units for Test Holes shall be in feet and shall be based upon an average test hold depth of 4 feet. Prior to project award, contractors will be given the opportunity to make a determination of the need and number of test holes deemed to be necessary. Any damage to underground utilities shall be the sole responsibility of the contractor.

## **OPTIONAL MAINTENANCE & PROTECTION OF TRAFFIC**

The Commissioner may elect to have the bidder provide maintenance and protection of traffic for a specific project, in which case traffic shall be maintained in accordance with Sections 619-1 through 619-3 pf the NYS Standard Specifications and the NYS Manual of Uniform Traffic Control Devices (MUTCD).

## **MATERIALS**

**Slurry Stabilizing Agent** - The slurry-stabilizing agent shall be made up of Portland cement and water that reacts with the soil in the road base. Improving the load bearing capacity, the compaction, in-place density, and reducing the permeability and susceptibility to water.

**Portland Cement** - Portland Cement Type 1 or 2 shall be only the highest quality trademark products of the kind put out to the trade in general, and guaranteed to be in no way inferior to the products offered for sale under the same brand name to commercial consumers of the products.

The Portland Cement shall meet the requirements specified in Section 701-01 of the New York State Standard Specifications, and shall conform to the chemical and physical requirements of the respective type as contained in ASTM C150 current on the date of advertisement for bids.

## **DESIGN GUIDELINES**

The bidder shall supply an approved mix design and work plan to the Commissioner ten working days prior to the planned start of the work. The mix design shall include the results of tests run on pavement samples taken to the design depth by the bidder. One sample should be taken for each lane mile of pavement, with a minimum of six taken for each mix design. The following information shall be included in the mix design.

1. Sample location.
2. Pavement thickness and total depth to be stabilized.

3. Moisture density relations of solids using 5-1/2 lb. hammer and a 12-inch drop.

ASTM D698-78  
AASHTO-T99-90

4. Determining liquid limit of soils.

AASHTM D4318  
AASHTO T-89-90

5. Determining plastic limit and PI of soils.

ASTM D4318  
AASHTO T90-87

6. Mechanical and hydrometer particle size analysis of soils.

ASTM D421 and D422  
AASHTO-T88-90

7. Unconfined compression.

ASTM D2166-85  
AASHTO-T208-90

8. Plastic fines in graded aggregate and soils by sand equivalent test.

ASTM D421 and 422  
AASHTO T176-86

The stabilized mixture shall consist of reclaimed material, Portland cement, and water as required. The mixture of reclaimed material shall substantially conform to the ASTM Spec. D-2940. Sufficient water shall be added to produce a mix for optimum moisture content.

**TEST REQUIREMENTS**

After determining classification of soils by above referenced tests, the final mix design shall exhibit a minimum unconfined compression value of 200 PSI for roads that are designed with a minimum of 3" pavement overlay. A minimum unconfined compression value of 300 PSI for roads that are to be surface treated.

**EQUIPMENT**

**Reclaimer/Pulverized/Mixer** - The Reclaimer/Pulverizer/Mixer shall have an established capability of recycling bituminous pavements, in-place, to produce a crushed or pulverized material conforming to the following gradations:

<u>SIEVE</u>	<u>PERCENT PASSING</u>
2"	100

The equipment shall have the capability of changing the depth of cut and forward speed to allow for the adjustment of gradation. The stabilizer shall be equipped with four-wheel steering that has a bidirectional design and works in either travel direction. The cutting rotor shall have a minimum width of 96 inches and include a dual direction feature, which will allow for upcutting action as well as downcutting. The machine must be capable of stabilizing

pavement to a depth of 16". The gross weight of the machine shall be in excess of 50,000 lbs. to hold the rotor in place for stable high production deep cutting operations.

The existing Bituminous Concrete pavement and base shall be initially recycled in-place by pulverizing and then blending any additive or materials as per the Commissioner's specifications.

**Steel Wheel Roller** - The steel wheel roller shall have a minimum operating weight of 20,000 lbs. Drum vibration shall be dual amplitude providing a minimum centrifugal force of 23,500 lbs. at maximum amplitude.

**Pad Foot Roller** - The pad foot roller provided shall be a single drum, dual wheel, vibratory roller, with wheels and drum drive. The drum shall be 84" wide for maximum production and minimized rolling resistance. Drum shall be of pad foot design to provide the kneading action necessary to compact cohesive and semi-cohesive soils. Vibratory and drive mechanisms shall be hydrostatic. Drum vibration shall be dual amplitude for varying soil conditions, proving at least 50,000 lbs. dynamic force.

**Motor Grader** - The motor grader shall be self-propelled with a minimum operating weight of 30,000 lbs. and shall be equipped with a hydraulic circle shift, blade shift, blade tilt and scarifier.

**Distributor/Tanker** - The distributor/tankers shall be designed, equipped, maintained and operated so that the water can be applied uniformly on variable widths of surface up to 15 feet and controlled rates from 0.05 to 2.0 gallons per square yard. Distributors shall be equipped with a power unit for the pump, and a spray bar adjustable both laterally and vertically. The distributors shall be fitted with an accurate means of indicating the road speed when the vehicle is traveling at operational speeds. The road speed indicator shall be independent of the normal vehicle speedometer and shall be:

- placed so the driver can read it with the least possible distraction while driving the vehicle or operator the distributor;
- tested and certified as accurate with +/- 5%;
- digital speed meters with the digits clearly visible.

**Mobile Slurry Cement Mixer Trailer** - The slurry mixer is designed in the form of a container body mounted on a four-axle trailer that includes storage for 8500 liters of water and 20 cubic yards of bulk cement. The supply of material to the slurry mixer is controlled in accordance with predetermined ratios by a microprocessor controller. This computer will allow the operator to control not only the cement percentage but also change the water ratio to attain optimum water content in the soil. The slurry of water and cement is then pumped into the mixer of the reclaimer in accordance with the reclaimer's rate of speed. This slurry mixer will have the capabilities of mixing 400kg per minute of product.

## **EQUIPMENT SUMMARY**

Laboratory:        Sampler/Splitter  
                     Complete Set of Soil Sieves  
                     Sand Equivalency Test Equipment  
                     Atterberg Limits Testing Equipment  
                     Unconfined Compression Apparatus Testing Equipment  
                     Particle Size Equipment, Including Hydrometer

Construction:     Reclaimer/Pulverizer  
                     Grader w/ Scarifier  
                     Vibratory Pad Foot Roller  
                     Steel Wheel Vibratory Roller  
                     Distributor/Tanker w/Spray Bar for Water  
                     Mobile Computer Controlled Cement Slurry Mix Trailer

## **CONSTRUCTION PROCESS**

The following is the basic construction sequence, but may be changed by the Commissioner to meet individual project requirements.

- a) Break down, pulverize and mix the road pavement to a minimum depth of mix design. The size of the pulverized material shall not exceed 2 inches.
- b) Rough grade to desired cross slope and profile.
- c) Apply the designed quantity of Portland cement slurry through pressurized lines directly to the mixing chamber of the recycler at a minimum depth of 6"
- d) Finish grade to the desired cross section and add water if required to maintain proper moisture content.
- e) Compact using the pad foot roller to get the desired density, grade and then finish roll with steel wheeled vibratory roller.

## **WEATHER CONDITIONS**

The stabilization work shall not be conducted when raining, or when the air temperature is below 40° and falling, or when in the opinion of the Commissioner the weather conditions would prevent the proper construction of the stabilized base.

## **AWARD OF CONTRACT**

Award of contract will be made only to the lowest responsible bidder as will promote the public interest. The County of Montgomery reserves the right to reject any and all proposals, or award to other than the low bidder, to waive minor informalities, to advertise for new proposals, or to proceed to do the work otherwise if, in its opinion, the best interest of the County will thereby be promoted.

**METHOD OF MEASUREMENT**

The quantity of stabilized road base to be paid for will be the number of actual square yards of surface area completed.

**INSURANCE**

Before the actual commencement of work, the contractor shall file with the Commissioner LIABILITY INSURANCE POLICIES with limits not less than the following amounts as 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

<u>Bodily Injury Liability</u>		<u>Property Damage Liability</u>	
Each Person	Each Accident	Each Accident	Aggregate
\$500,000.00	\$1,000,000.00	\$500,000.00	\$1,000,000.00

**PAYMENT:**

Payment under this item shall be for the total number of square yards of surface area actually stabilized, and the actual percent of cement added, based on design of stabilization.

**PRICE BID**

On their proposal, the bidder shall indicate a price per square yard at variable depth for the pulverizing, furnishing and applying 3%, 4%, 5%, 6% by weight, Type I or Type II Portland Cement slurry, grading and rolling the treated base, and supplying maintenance and protection of traffic as specified.

On their proposal, the bidder shall also indicate a price per square yard deduction to be used should the County elect to provide maintenance and protection of traffic.

**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.

**CONTRACT EXTENSION**

The County of Montgomery reserves the right to extend any contract issued, based on this specification, under the same terms and conditions for a one year period from date of expiration, provided such extension is mutually agreeable to both County and Contractor.

**PREVAILING RATES SCHEDULE**

Successful contractors 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.

**PROPOSAL FORM ITEM A-79-23**  
**IN-PLACE RECYCLED BASE COURSE WITH PORTLAND CEMENT STABILIZATION**  
**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-79-23 In-Place Recycled Base Course With Portland Cement Stabilization and proposes to furnish the item at the price shown hereon.

This proposal is subject to acceptance within forty-five 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-79-23**  
**IN-PLACE RECYCLED BASE COURSE WITH PORTLAND CEMENT STABILIZATION**  
**Sheet 2 of 2**

PROPOSAL OF: \_\_\_\_\_

ALL PRICES SHALL BE PER SQUARE YARD

Design Depth of Stabilization Percent of Cement	6"				8"			10"		12"
	3%	4%	5%	6%	2%	3%	4%	2%	3%	2%
0-6,000 Sq Yds	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___
6,001-14,000 Sq Yds	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___
14,001 Sq Yds & over	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___	\$___

TEST HOLES:        \$ \_\_\_\_\_ /Ft

Deductions:

County-supplied maintenance & protection of traffic - \$ \_\_\_\_\_ /Sq Yd