DETAILED SPECIFICATIONS
PAVER PLACED SURFACE TREATMENT

1.0 DESCRIPTION

The Paver Placed Surface Treatment system shall consist of a warm polymer modified asphalt emulsion sprayed immediately preceding the application of a hot mix asphalt wearing course which forms a homogeneous well-textured and durable wearing surface that can be opened to traffic immediately on cooling. The nominal thickness of the layer shall be 5/8 inch; the maximum thickness of the mat shall not exceed 1 1/2 inches.

The wearing course system shall be placed in one pass by a single machine. This machine shall complete the operation by spraying the polymer modified asphalt emulsion and applying a hot mix asphalt overlay. The machine shall incorporate a receiving hopper, asphalt emulsion storage tank, variable width asphalt emulsion spray system and a variable width heated screed. The machine shall be capable of applying the Paver Placed Surface Treatment at 20 to 100 feet per minute, and actual application shall not be less than 30 feet per minute.

2.0 POLYMER MODIFIED ASPHALT EMULSION MATERIAL

The liquid material shall be a cationic, rapid setting, asphalt emulsion, NYS Item 702-4001 except as modified in DATA TABLE 1 - POLYMER MODIFIED ASPHALT EMULSION. The emulsion shall be obtained from a storage facility that has been approved by the Superintendent of Highways, Town of Somers, within the current calendar year, prior to the start of work.

3.0 HOT MIX ASPHALT MATERIALS FOR WEARING COURSE

The wearing course shall be a plant mixed hot asphalt concrete and shall be a mixture of single size course aggregate, fine aggregate, mineral filler and asphalt cement. The single size course aggregate shall be nominal 1/4 inch for Type A mix, nominal 3/8 inch for Type B or nominal 1/2 inch for Type C mix, according to the gradation specifications in Data Table II. The hot mix asphalt concrete shall be obtained from a facility that has been approved by the Superintendent of Highways, Town of Somers, within the current calendar year, prior to the start of work. The asphalt content of the mix shall be 4.8-5.3% by weight of the total mix and must be computed based on the actual job mix.

4.0 SURFACE PREPARATION

The following items will be performed by the **CONTRACTOR**, unless otherwise directed.

A. Manhole covers, water valves, catch basins, and other such drainage structures shall be clearly referenced for location and adjustment after the surfacing operation.

B. Thermoplastic traffic markings shall be removed. All vegetation at the edge of Pavement shall be removed.

C. Pavement cracks and joints, greater than 1/4 inch wide, shall be cleaned and filled with an approved material prior to the surfacing operation.

D. Before applying the Paver Placed Treatment, serious surface irregularities shall be corrected. Wheel ruts greater than 1 inch in depth shall be filled prior to the re-surfacing operation. The cross slope of all finished roads shall be at a slope of 1/4" to 3/8" per foot

E. The pavement surface area to be overlaid shall be cleaned and made free of any debris that may hinder bonding of the overlay.

Detailed Specifications, Paver Placed Surface Treatment (cont'd.)

5.0 APPLICATION

Paver Placed Surface Treatment shall be placed on a dry or damp, but not on a wet, pavement surface. The pavement temperature shall not be less than 45°F and rising.

The polymer modified asphalt emulsion shall be applied by the asphalt emulsion spray system mounted on the self-priming paver. The spray system shall accurately, uniformly and continuously monitor the rate of application across the entire width to be overlaid.

The rate of spray shall be 0.2 ± 0.05 gallons per square yard. The asphalt emulsion shall be applied at a temperature of 140°F - 180°F. No wheel or other part of the paving machine shall come into contact with the polymer modified asphalt emulsion before the hot mix asphalt wearing course is applied.

The hot asphalt concrete wearing course shall be delivered to the self-priming paver at a temperature of 31°F± 15°. The application rate of the hot asphalt aggregate mixture shall be:

Type A (nominal ¼-inch) 50± 10 pounds per square yard
Type B (nominal 3/8-inch)55± 10 pounds per square yard
Type C (nominal ½ -inch) 60± 10 pounds per square yard

The hot mix asphalt wearing course shall be spread over the polymer modified asphalt emulsion within seconds of the spray application. Where shape correction is necessary or the old surface is porous, the application rate of the emulsion and hot mix asphalt wearing course may need to be increased.

Compaction of the Paver Placed Surface Treatment shall be accomplished with a minimum of a steel wheeled, double drum roller of minimum dead weight of 10 tons before the material temperature has fallen below 180°F at mid-layer. Because of the speed of the paving machine, and if production is over 15,000 square yards per day, two steel-wheeled double drum rollers may be required.

6.0 TRAFFIC:

The new pavement surface may be opened to traffic when rolling is completed and proper cooling has taken place. In general traffic can use the new surface at a distance of 300 feet behind the last roller.

7.0 VERIFICATION OF QUANTITIES AND TESTING

At the end of each working day or completed job site, a check shall be made to determine the quantities of polymer modified asphalt emulsion used. The check shall be made by means of the gauge on the self priming paver or the unit used to transport the material. The total gallons of material sprayed shall be divided by the total square yards sprayed to determine yield per square yard.

The hot mix asphalt concrete spread rate shall be calculated by dividing the tonnage placed by the square yards covered to determine yield per square yard.

Samples of the hot mix asphalt shall be taken at a rate of 1 per 250 tons and tested for aggregate gradation and asphalt cement content.

Samples of the polymer modified asphalt emulsion shall be taken once per tanker load or once per day.

At the conclusion of each day's production, a delivery ticket or invoice shall be completed by the Contractor and signed by a representative of the Contracting Agency.

Detailed Specifications, Paver Placed Treatment (Cont'd.)

DATA TABLE I
POLYMER MODIFIED ASPHALT EMULSION

This material shall be cationic asphalt emulsion modified with an approved polymer, using either natural or synthetic latex. It shall be smooth and homogeneous and shall conform to the following requirements and be available on site at a temperature of not less than 140ºF.

TEST	METHOD	MIN	MAX
Polymer Content (%mass of total residue)		3.0	-
Demulsibility, % by wt Residue	ASTM D244	40	-

DATA TABLE II
SINGLE SIZE COURSE AGGREGATE COMPONENT GRADATION

AASHTO STANDARD SIEVES		TOTAL % PASSING BY WT		
US	MM	TYPE A(¼NCH)	TYPE B (3/8 INCH)	TYPE C (½ INCH)
¾	19	-	-	100
½	12.5		100	85-100
3/8	9.5	100	85-100	25-50
¼	6.3	85-100	0-15	0-15
4	4.75	25-50	0-3	0-3
8	2.36	0-3	0	0

DATA TABLE III
COURSE AGGREGATE PROPERTIES

TESTS	METHOD	LIGHT MEDIUM TRAFFIC <200 HEAVY VEH/DAY	HEAVY TRAFFIC >200 HEAVY VEH/DAY
Los Angeles Abrasion value,%	ASTM C131	<25	<20
Water Absorption,%	ASTM C127	<2	<2
Flatness Index, %	NEP 18-561	<20	<15
Flatness Coefficient (G/E)[1]	NEP 18-561	<1.58	<1.58
Crushing Ratio, %	Observation	100	100
Overall Cleanliness (%Pas #30)	ASTM C142	<2	>95
Resistance to Stripping[2]	ASTM D3625	>95	>95

Note 1: Where "G" is the smallest square opening through which the particles can pass and "E" is the smallest slot through which the particles can pass.

Note 2: Anti-stripping agents may be required to provide acceptable values.

Detailed Specifications, Paver Placed Surface Treatment (cont.)

DATA TABLE IV
FINE AGGREGATE COMPONENT GRADATION

AASHTO STANDARD SIEVES		% PASSING BY WEIGHT
US	METRIC	TYPE A,B OR C
#4	4.75	100
#8	2.36	90-100
#16	1.18	60-80
#30	0.60	45-60
#50	0.30	30-40
#100	0.15	20-30
#200	0.075	15-25
Crushing ratio, %minimum (observation)		100
Sand Equivalency, % minimum (ASTM D2419)		60

Mineral Filler, if required, may be Hydrated Lime, Fly Ash or Bag-house Fines
100% passing #100, 80% passing #200

DATA TABLE V
COMBINED AGGREGATE GRADATIONS – DESIGN TARGET ENVELOPES

AASHTO STANDARD SIEVE SIZED		TOTAL %PASSING BY WT		
US	MM	TYPE A (¼INCH)	TYPE B (3/8 INCH)	TYPE C (½ INCH)
¾	19	-	-	100
½	12.5	-	100	85-100
3/8	9.5	100	85-100	70-90
¼	6.3	85-100	30-50	30-50
4	4.75	40-60	24-40	24-40
8	2.36	21-32	21-32	21-32
#16	1.18	16-26	16-26	16-26
#30	0.60	12-20	12-20	12-20
#50	0.30	8-16	8-16	8-16
#100	0.15	5-10	5-10	5-10
#200	0.075	5-7	5-7	5-7
%PGB		4.9-5.3	4.8-5.2	4.8-5.2

Note: All aggregate percentages are based on the total weight of aggregate.

ASPHALT BINDER

Use the appropriate Performance Graded asphalt binder for the project geographical location and design traffic level.

PAVER PLACED SURFACE TREATMENT

PROPOSAL

Proposal of_____
Name
_____

The undersigned bidder has carefully examined the specifications for Paver Placed Surface Treatment and agrees to furnish and apply all the materials, equipment, tools and labor necessary to properly install the product requested, in strict conformance with the detailed specifications attached. No deviations, amendments or alternative methods of application or installation of the product or specifications will be considered.

Bidders are requested to submit prices per square yard for the Three (3) types listed. The square yard range is for total square yards constructed on any single project or work site.

BID Square Yard Range	TYPE A 1/4 inch	TYPE B 3/8 inch	TYPE C 1/2 inch
5,000 to 15,000 S.Y.	_____	_____	_____
15,001 to 30,000 S.Y.	_____	_____	_____
30,001 S.Y. Plus	_____	_____	_____

Allowable DEDUCTIONS per square yard if Contracting Agency elects to supplement operation with their equipment and labor

DEDUCT $_____per square yard if Contracting Agency furnishes Maintenance and Protection Of Traffic

DECUCT $_____PER SQUARE YARD IF Contracting Agency furnishes hauling of hot mix asphalt from plant to paving machine.

DATE:_____FEDERAL ID#_____

NAME OF BIDDER_____

SIGNATURE OF BIDDER: _____TITLE_____

BIDDER'S ADDRESS_____
_____

TELEPHONE#_____FAX #_____

NON-COLLUSIVE BIDDING CERTIFICTIION

By submission of this bid or proposal, the bidder certifies that:

a. This bid or proposal has been independently arrived at without collusion with any competitor or potential competitor.

b. This bid or proposal has not been knowingly disclosed and will not be knowingly disclosed, prior to the opening of bids or proposals for this project, to any other bidder, competitor or potential competitor.

c. No attempt has been or will be made to induce any other person, partnership or corporation to submit or not to submit a bid or proposal.

d. The person signing this bid or proposal certifies that he has fully informed himself regarding the accuracy of the statements contained in this certification and under the penalties of perjury, affirms the truth thereof, such penalties being applicable to the bidder as well as to the person signing in its behalf.

e. That attached hereto is a certified copy of resolution authorizing the execution of this certificate by the signatory of this bid or proposal on behalf of the Corporate bidder

_____

_____

_____

_____

NON-COLLUSIVE BIDDING CERTIFICATION

Made pursuant to Section 103-d of the General Municipal Law of the State of New York as amended by the laws of 1966

(a) By submission of this bid, each bidder and each person signing on behalf of any bidder certified, and in the case of a joint bid, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of his knowledge and belief:

(1) The prices in this bid have been arrived at independently without collusion, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor;

(2) Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to the opening, directly or indirectly, to any other bidder or to any competitor; and

(3) No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not to submit a bid for the purpose of restricting competition.

(b) A bid shall not be considered for award nor shall any award be made where (a) (1), (2) and (3), above have not been compiled with; provided, however, that if in any case the bidder cannot make the foregoing certification, the bidder shall so state and shall furnish with the bid a signed statement which sets forth in detail the reasons therefore. Where (a) (1) (2) and (3), above, have not been compiled with, the bid shall not be considered for award nor of the political subdivision, public department, agency or official thereof to which the bid is made, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

DATED_____

_____

Legal Name of Person, Firm or Corp

_____

(SEAL OF CORPORATION)

_____

_____

Business address of Person, Firm or Corp

By_____

Signature Title