

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – HEATER SCARIFICATION (Cont'd)****417-3.04 Surface Preparation****A. Pavement Markings**

Remove epoxy or thermoplastic pavement markings, and other markings as directed per §635-3.01 and 3.04.

B. Cleaning

Clean the existing pavement and shoulder to be heater scarified by using mechanical sweepers, or other effective means until the surface is free of all debris material, which might interfere with the scarification or milling process.

C. Mastic Repair Material

Remove mastic patches greater than 5 square feet. Remove other mastic patches as directed by the Engineer.

417-3.05 Recycling and Placement

Radiantly heat the existing asphalt pavement surface with no open flame using specialized equipment to soften the asphalt surface and scarify to a specified depth as detailed in the contract documents. Asphalt pavement to be recycled shall be heated in a manner so the underlying asphalt layers not to be recycled, are not disturbed, or overheated. Operate the heating unit(s) in a manner to prevent damage to adjacent property and vegetation. Repair all heat-damaged areas immediately, at no additional cost to the State.

Control the heater scarification equipment to ensure the temperature of the scarified mixture is maintained between 275°F and 325°F. Verify this temperature within 5 feet behind the screed unit.

Control the speed of the equipment to ensure that the recycled pavement is properly milled, mixed, and uniformly distributed to the proper thickness, slope, and crown shown on the contract plans. Material placed should be consistent and free from segregation.

Control the width of each pass to provide proper placement of longitudinal joints, including a 3-inch overlap onto adjacent lane passes.

Add recycling agent uniformly to the scarified asphalt pavement at the predetermined application rate documented on the mix design.

Ensure that the final recycled pavement conforms to the requirements of §404-3.10, *Surface Tolerance* and §404-3.11, *Thickness Tolerance*. Measure the depth of the loose scarified mix behind the screed unit prior to the rolling operation. Adjust the paving equipment if the loose mix depth does not provide the compacted depth specified in the contract documents.

In areas not accessible to scarifying equipment, such as around catch basins or manholes, the Engineer will determine if they require repair. Pavement surfaces that are in good condition do not require repair. Repair all areas with cracks or spalls, as approved by the Engineer, at no additional cost to the State.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – HEATER SCARIFICATION (Cont'd)****417-3.06 Compaction**

Compact the recycled mixture in accordance with 404-3.07, D., 80 Series Compaction Method.

417-3.07 Quality Control and Quality Assurance

At the start of and during production, provide the AECTA and documented quantities to the Engineer for each shipment of recycling agent. Samples for every shipment will be taken per *NYS DOT Materials Method 702-2 Asphalt Emulsion – Quality Assurance*.

A. First day

Prior to the scarification process, the Engineer will select two core locations on the existing pavement. These locations will be within a lane mile or fraction thereof if production is less than one mile. Extract two cores at each location and test one core from each location for penetration of the extracted asphalt binder from the surface layer only. Provide the companion core from each location to the Engineer for testing by the Department for quality assurance purposes.

During the scarification process, take four loose mix samples prior to compaction at each location where cores were taken. These samples will be representative of the day's production. Take samples either behind the screed or any place after the spraying and mixing units. Identify all samples by their locations at the project site. Test two of the loose mix samples from each core location for penetration and provide the other two loose mix samples to the Engineer, which may be evaluated by the Department's Lab to verify test results. Take all the required core and loose mix samples after the first 500 feet of the day's production.

Submit penetration test results to the Engineer by the end of the next day's production. If test results are not provided, the Engineer may shut down the scarification process until the results are submitted. Determine the penetration of the PG binder recovered from the recycled mixture in accordance with AASHTO T 49. The average penetration value of the loose mix samples must be at least 30% or more than the penetration of the core samples taken from the existing pavement.

If the average penetration values of the loose mix samples fail to meet this requirement, adjust the application rate, and submit the new adjusted application rate to the Engineer. Repeat the procedure described above for taking and testing samples. Submit the penetration test results to the Engineer by end of the next day's production. Continue adjusting the application rate and taking samples until average penetration values of the loose mix samples meet the specification requirement of at least 30% or more than the penetration values of the core samples.

B. Routine Day

If the specification requirements are met after the first day's production, take samples as described above every three days of production for quality control and quality assurance purposes. Samples of the scarified pavement prior to rejuvenation can be taken as an option instead of the core samples. When sample results do not meet the specification requirements, make adjustment to the application rate, and take samples as described above.

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DETAILED SPECIFICATIONS – HEATER SCARIFICATION (Cont’d)

If, at any time, the average penetration value of the loose mix samples is greater than 90, the Engineer may evaluate the pavement section and request the scarified pavement be removed and replaced at no additional cost to the State. The evaluation may include, but not limited to, testing penetration of the core sample, location of the section, etc. If core samples are required for this evaluation, take them at no additional cost to the State and submit them to the Department for testing. Also, if the recycled pavement is not satisfactory to the Engineer, additional tests may be required at no cost to the State.

417-4 METHOD OF MEASUREMENT

417-4.01 Heater Scarification (HS)

This work will be measured as the number of square yards of pavement surface recycled as detailed in this specification.

417-4.02 Recycling Agent

Material will be measured by the number of gallons incorporated in the work.

The following formula will be used to calculate gallons:

$$\text{Volume}_D = (\text{Mass}_D / 8.34 \text{ ppg}) \times \text{Liquid Bituminous Material Specific Gravity at } 60^{\circ}\text{F}$$

$$\text{Mass}_D = \text{Quantity Delivered (pounds)}$$

$$\text{Volume}_D = \text{Quantity Delivered (gallons)}$$

417-5 BASIS OF PAYMENT

417-5.01 Heater Scarification (HS)

The unit price bid per square yard for this item shall include the cost of all labor, materials, and equipment necessary to satisfactorily complete the work, including heating, scarifying, mixing, paving, compacting, coring, and testing of the recycled materials. No deduction will be made in areas such as catch basins or manholes where the scarifying equipment cannot be used.

417-5.02 Recycling Agent

The unit price bid per gallon of recycling agent shall include the cost of all labor, material, and equipment necessary to complete the work satisfactorily. The Regional Materials Engineer will evaluate the material represented by any failing sample of recycling agent.

Payment will be made under:

Item No.	Item	Unit
417.01	Heater Scarification	Square Yards
417.0101	Recycling Agent	Gallons

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS

DETAILED SPECIFICATIONS – MICROSURFACING

SECTION 418 – MICROSURFACING OF ASPHALT PAVEMENT

- 413.02010118 Micro-Surfacing, Type II, F1**
- 413.02020118 Micro-Surfacing, Type II, F2**
- 413.02030118 Micro-Surfacing, Type II, F3**
- 413.03010118 Micro-Surfacing, Type III, F1**
- 413.03020118 Micro-Surfacing, Type III, F2**
- 413.03030118 Micro-Surfacing, Type III, F3**
- 413.04030118 Micro-Surfacing, Type III, Rut Filling**

418-1 DESCRIPTION

This work shall consist of applying a proportioned mixture of polymer modified asphalt emulsion, aggregate, mineral filler, water, and other additives to a paved surface.

418-2 MATERIALS

Asphalt Emulsion

§702 - Bituminous Materials, use item 702-4601P.

Aggregates

Use material meeting the requirements of §703-02, Coarse Aggregate, with the following modifications:

A. Sand Equivalency

Minimum sand equivalency is 65%, as determined by AASHTO T 176, “Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test.” Material not meeting the minimum sand equivalent requirement may be used if it is classified as non-plastic according to AASHTO T 89, “Determining the Liquid Limit of Soils” and AASHTO T 90, “Determining the Plastic Limit and Plasticity Index of Soils.”

B. Type F1 Conditions

Use aggregate containing at least 90.0% acid-insoluble residue in the plus and minus No. 30 size fractions.

C. Type F2 Conditions

Use aggregate meeting one of the following requirements:

1. Limestone, dolomite, or blend of the two containing at least 20.0% acid insoluble residue in the plus and minus No. 30 size fractions.
2. Gravel or blend of a natural or manufactured, limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, having at least 25.0% acid insoluble residue in the plus and minus No. 30 size fractions.

D. Type F3 Conditions

Use aggregate meeting one of the following requirements:

1. Limestone or a blend of limestone and dolomite containing at least 20.0% acid insoluble residue in the plus and minus No. 30 size fractions.
2. Dolomite.
3. Gravel or blend of a natural or manufactured, limestone, dolomite, gravel, sandstone, granite, chert, traprock, ore tailings, slag, or other similar materials, having at least 25.0% acid insoluble residue in the plus and minus No. 30 size fractions.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS

DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)

E. Stockpile

Build an aggregate stockpile at a location approved by the Engineer. When blending multiple aggregates, use automated proportioning and blending equipment to produce a uniformly graded stockpile. Screen the aggregate at the stockpile, prior to delivering it to the micro-surfacing equipment.

Use aggregate meeting the gradation requirements listed in §703-02, Table 703-5, Sizes of Crushed Bedrock, Gravel and Slag for MicroSurfacing and Slurry Surfacing.

The aggregate stockpile gradation shall not deviate from the mix design gradation by more than the tolerances given in Table 1 - Maximum Stockpile Tolerance. The mix design gradation value plus the stockpile tolerance cannot exceed the mix type general gradation limits.

TABLE 1 - MAXIMUM STOCKPILE TOLERANCE								
Sieve (in)	3/8	No. 4	No. 8	No. 16	N. 30	No. 50	No. 100	No. 200
Stockpile Tolerance	-	± 5.0%	± 5.0%	± 5.0%	± 5.0%	± 4.0%	± 3.0%	± 2.0%

Water: §712-01, Water

Mineral Filler: §703-08, Mineral Filler

418-3 CONSTRUCTION DETAILS

Weather and Seasonal Limitations

The requirements of §404-3.01 Weather and Seasonal Limitations apply, except as modified herein. Do not place micro-surfacing in the rain, fog, or if the air temperature is expected to fall below freezing within 24 hours after application. Application shall not occur unless pavement and ambient temperatures are above 50°F and rising. Stop micro-surfacing if the surface or air temperature drops below 50°F. No work will be performed after the third Saturday in September.

Mix Design

Employ a Department approved laboratory to develop a job mix formula, following the procedure outlined in AASHTO PP 83, Standard Practices for Microsurfacing Design, that meets the requirements listed in Table 2 - Proportional Requirements and Table 3 - Physical Requirements, and Table 4 - Gradation Requirements. All materials used to develop the mixture design must be representative of the materials to be used on the project. The mixture design must clearly list the proportions of mineral aggregate, mineral filler, water, additive(s), percent asphalt emulsion based on the dry weight of aggregate, and design set and cure times. The mix design shall be submitted at least 14 days before the beginning of work to the Engineer in Charge, the Regional Materials Engineer and Materials Bureau Director. Materials Bureau Director shall be emailed at DOT.sm.Pavement.Preservation.Friction@dot.ny.gov. Mixture designs are valid until 3rd Saturday in September of the year in which they are submitted if the mixture materials sources have not changed.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS

DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)

TABLE 2 - PROPORTIONAL REQUIREMENTS	
Constituent	Proportional Requirement
Residual Asphalt	5.5 to 10.5% (by dry weight of aggregate).
Mineral Filler	0.0 to 3.0% by dry weight of aggregate.
Water	As required to produce proper mixture consistency.
Field Control Additive	As required to control the emulsion's set properties or increase adhesion but must be part of the mixture design and compatible with all other components.

TABLE 3 - PHYSICAL REQUIREMENTS		
Property	Test Method	Requirement
Wet Cohesion	ISSA TB 139; 30 minutes	12 kg-cm, minimum
	ISSA TB 139; 60 minutes	20 kg-cm, minimum
Wet Track Abrasion Loss	ISSA TB 100; 1 hour soak	538 g/m ² , maximum
	ISSA TB 100; 6-day soak	807 g/m ² , maximum
Mix Time @ 25°C	ISSA TB 113	Controllable to 120 seconds
Classification Compatibility	ISSA TB 144	11 grade points, minimum
Wet Stripping	ISSA TB 114	Pass (90.0% minimum)
Excess Asphalt by LWT Sand Adhesion	ISSA TB 109	538 g/m ² , maximum
Lateral Displacement	ISSA TB 147A	5.0% maximum
Specific Gravity after 1000 cycles of 125 lbs.	ISSA TB 147A	2.10 maximum

TABLE 4 - GRADATION REQUIREMENTS	
Mixture Type	Aggregate Gradation
Type II	2MS ⁽¹⁾
Type III	3MS ⁽¹⁾

(1) § 703-02 Material Requirements, Table 703-5 Sizes of Crushed Bedrock, Gravel, and Slag for Micro-Surfacing and Slurry Surfacing.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)****Material Sampling and Testing:****A. Aggregate Stockpile****1. Contractor Testing**

The contractor shall perform and submit the following tests to the Regional Materials Engineer.

- a. Take three samples, according to Table 4 – Sampling and Testing of Materials Procedure 401. Each sample must contain material from each face of the stockpile.
- b. Test samples in accordance with AASHTO T 11, Materials Finer than No. 200 Sieve in Mineral Aggregates by Washing, and AASHTO T 27, Sieve Analysis of Fine and Coarse Aggregates. Test results shall be based on the average of three tests.
- c. Sample and test the aggregate in accordance with Materials Method 28, “Friction Aggregate Control and Test Procedures,” Appendix B, Table B1 – Minimum Testing Frequencies for Slurry Surfacing Aggregates.

2. Department Testing and Approval

The Regional Materials Engineer will review the Contractor's submission for specification compliance. The Regional Materials Engineer will base final approval of the stockpile on the Contractor's submission or Department sampling and testing. Re-approval is required if additional material is added to the stockpile.

- a. Gradation - Test results shall be the average of three tests. If the percent passing is outside the gradation limits for any sieve, the stockpile will be rejected.
- b. Friction Requirements - Samples shall meet appropriate friction values. All micro-surfacing previously placed with material from a stockpile rejected for non-carbonate or acid insoluble residue content will be rejected.

B. Emulsion

Asphalt emulsion shall be sampled according to Materials Method 702-2, “Asphalt Emulsion – Quality Assurance.”

Equipment

Equipment must be designed and manufactured specifically for mixing and placing micro-surfacing. The equipment must be capable of accurately proportioning the constituent materials, thoroughly mixing those materials and placing the micro-surfacing in conformance with this specification.

Calibrate each mixing unit according to Materials Procedure 09-01. Calibrations must be performed using the aggregate sources listed in the mix design. Calibrations are valid for 90 days. Submit a copy of the equipment calibration to the Engineer in Charge, the Regional Materials Engineer, and the Materials Bureau Director at DOT.sm.Pavement.Preservation.Friction@dot.ny.gov prior to the start of work.

The emulsion, aggregate and mineral filler counters must be accessible to the Engineer and inspectors. Adjust the material delivery settings on the micro-surfacing equipment to produce the mix design.

Recalibrate equipment to adjust for bulking effect of aggregate reported on mix design.

A pneumatic tire roller meeting the requirements of §404, shall be used.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)****Surface Preparation**

1. Ensure that pavement markings have been abraded in accordance with contract documents.
2. Remove all debris and standing water.
3. Cover all manhole covers, water boxes, catch basins, and other such utility structures within the area being paved with plastic, building felt, or other material approved by the Engineer. Remove the covers each day.
4. If directed by the engineer, dampen the pavement surface with water or apply a fog seal to the pavement surface before applying micro-surfacing. If prior to or during the preconstruction meeting, it is determined that the road surface requires a fog seal application, it shall be paid for in accordance with the appropriate pay item.

Mixture Consistency

Produce a homogeneous mixture, without lumps, balls, unmixed aggregate, segregation, excess water, or excess emulsion. The maximum allowable adjustment of the mineral filler is 1.0%. Report all mixture adjustments to the Engineer before they are made.

Application

Micro-surfacing is placed in multiple lifts; use at least two applications consisting of a scratch course and finish course for the finished product. When necessary, a rut filling course is also specified and paid for separately. Do not apply scratch course to the shoulder unless otherwise directed.

1. **Scratch Course.** Use a steel strike off on the spreader box in order to level the pavement surface. The scratch course surface shall be constructed to a ¼ inch tolerance. Measure the tolerance using a 10-foot straight edge or string line placed transversely to the center line of the pavement. Variations exceeding ¼ inch shall be satisfactorily corrected or resurfaced at no additional cost to the Department as ordered by the Engineer.
2. **Finish Course.** Apply the micro-surfacing to the pavement evenly across the entire width of the spreader box to produce a smooth riding surface with no streaks, excess buildup, thin or uncovered areas. The finish course surface shall be constructed to a ¼ inch tolerance. Measure the tolerance using a 10-foot straight edge or string line placed transversely to the center line of the pavement. Variations exceeding ¼ inch shall be satisfactorily corrected or resurfaced at no additional cost to the Department as ordered by the Engineer.
3. **Rut Filling.** Use a rut box to fill wheel rutting. Allow rut-filled sections to cure for a minimum of two hours after rolling.

Application rate limits are given in Table 5 - Application Limits. Application rates for rut filling operations are found in Table 6 - Rut Filling Application Rate.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS

DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)

TABLE 5 - APPLICATION LIMITS		
Gradation	Course	Application Rate (lbs./yd²)
Type II	Scratch Finish	15 maximum
		15-20
Type III	Scratch Finish	20 maximum
		20-30

TABLE 6 - RUT FILLING APPLICATION RATE	
Rut Depth	Application Rate (lbs./yd²)
½" to ¾"	20 – 30
¾" to 1"	25 – 35
1" to 1-¼"	28 – 38

Coverage

Do not use hand tools to expand the width of application wider than the spreader box, except as described under *Hand Finishing* below.

Joints

Minimize the number of joints. Construct joints such that no gap is present between adjacent applications. Place longitudinal joints at the edges of traffic lanes, adjacent to where pavement markings will be located. Other longitudinal joint arrangements require the Engineer's approval. Measure the difference in grade across joints by laying a 10-foot straight edge centered on the joint perpendicular to the direction of the joint. Joint overlap and grade difference requirements are given in Table 7 - Joint Requirements.

TABLE 7 - JOINT REQUIREMENTS		
Requirement	Minimum (in.)	Maximum (in.)
Difference in Grade	-	¼
Longitudinal Joint Overlap	2	6
Transverse Joint Overlap	2	12

Variable-Width Passes

Apply no more than one variable-width pass. Variable-width passes will not be permitted as the last pass unless approved by the Engineer.

Hand Finishing

Use hand-held squeegees to finish areas which cannot be reached with the spreader box, and, when necessary, to produce straight lines along curbs, shoulders, and through intersections. Apply the same type of finish to the surface as is applied by the spreader box.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)****Excess Material**

Remove all excess material in areas such as driveways, gutters, intersections, etc. each day.

Curing

Allow each coat to cure sufficiently to resist damage from the micro-surfacing equipment, before applying the next coat. Protect the micro-surfacing from traffic until the mixture has cured sufficiently to resist damage. The time required will vary based on the mix design and environmental conditions. Repair damage from micro-surfacing equipment or traffic to the Engineer's satisfaction.

Rolling

The mat shall be rolled with a pneumatic tire roller. A minimum of 3 passes of the pneumatic tire roller shall be required. One pass is defined as one movement of the roller over any point of the pavement in either direction. The rolling of the surface shall not cause the stone to stick to the wheels of the roller.

Milling for Pavement Markings

Mill recesses for pavement markings as required by contract documents.

Quality Control Reports

The contractor shall submit a signed report daily with the following information:

Quality Control Reports	
Gradation	Daily ¹
Moisture Content Aggregate	Daily
Gate Setting	Daily ²
Area Paved	Daily
Counter Reading	Daily
Field Control (Type/Amount)	Daily ²
Filler (Type/Amount)	Daily ²
Water Rate	Daily ²
Water Content	Daily ^{1,3}
Air Temperature (AM/PM)	Daily

¹ These tests will be performed on samples that are representative of that day's production. If control test results are not complete at the end of the day, the contractor will be allowed to submit the data at a later date, not to exceed 7 days. The contractor shall provide a split of their daily sample to the Engineer.

² These parameters may change throughout the day. Record the amount and location of any change on the report. Record the amount and location of any change on the report.

³ Water content will be determined by taking a sample of mixed material and drying to a constant weight.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)****418-4 METHOD OF MEASUREMENT**

Micro-surfacing shall be measured by the total tons of aggregate, mineral filler and asphalt emulsion used according to Materials Procedure 09-01, “Micro-surfacing and Slurry Guidelines.”

418-5 BASIS OF PAYMENT

The unit price bid per ton of Micro-surfacing shall include the cost of all labor, materials, and equipment necessary to perform the work. All necessary pavement cleaning, joint sealing, crack filling, pavement markings removal, milling for pavement markings and utility grade adjustments will be paid for under their appropriate items.

Payment will be made under:

Item No.	Item	Pay Unit
413.02010118	Micro-Surfacing, Type II, F1	Ton
413.02020118	Micro-Surfacing, Type II, F2	Ton
413.02030118	Micro-Surfacing, Type II, F3	Ton
413.03010118	Micro-Surfacing, Type III, F1	Ton
413.03020118	Micro-Surfacing, Type III, F2	Ton
413.03030118	Micro-Surfacing, Type III, F3	Ton
413.04030118	Micro-Surfacing, Type III, Rut Filling	Ton

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS**DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)****418-6 BONDING REQUIREMENTS**

- A. Within 10 calendar days of receipt of a purchase order from the State, the contractor shall provide the State agency the following:
1. **Maintenance Material Bond**
A bond in the form similar to the sample included in this Invitation for Bids with sufficient sureties approved by the State's Resident Engineer guaranteeing replacement of deficient material in the form included in this Invitation for Bids. This bond shall remain in place for one year after final acceptance of the project by the State or until September 15 of the year following completion of the project, whichever is later.
 2. **Amount of Bond**
The amount of the Maintenance Material Bond shall be 100% of the amount of the project's cost.
 3. **Requirements of Bonds**
All Bonds shall be issued by a surety company approved by NYSDOT and authorized to do business in the State of New York as a surety.
- B. The procedure of the Maintenance Material Bond shall be as follows:
1. No later than August 1 of the year following the State's acceptance of work completed under this contract, the State will evaluate the project for plow damage, flushing, delamination or raveling.
 2. The contractor agrees to repair all areas that demonstrate plow damage, flushing, delamination or raveling greater than 2.0 square yards for any single location, or greater than 5.0 square yards for any 0.1 lane mile. Such repairs, however, shall not include any damage resulting from any forces or circumstances beyond the control of the contractor. The evaluation of the micro-surfacing shall be made by the State's resident engineer. If the contractor does not agree with the evaluation it may appeal to the State's Regional Director of Operations whose decision shall be final. Any resultant property damage deemed by the State's Regional Director of Operations caused by improper workmanship and/or defective materials shall be the responsibility of the Contractor.
 3. On or before August 15, in the year immediately following the State's acceptance of the micro-surfacing project, the State shall notify the contractor of any areas deemed deficient by the State. The contractor will initiate and complete the remediation within 30 days of notification.
 4. Prior to the performance of repairs in the field, the contractor shall supply the State's resident engineer with copies of applicable insurance certificates. During the performance of any necessary repairs, the contractor shall comply with all provisions of the original contract including among other things the work zone traffic control provisions.

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DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)

S A M P L E

MAINTENANCE BOND

KNOW ALL PEOPLE BY THESE PRESENTS, That we, (hereinafter called the “PRINCIPAL”)

_____ of

_____, and _____ of

_____ (hereinafter called the “SURETY”) are held and firmly

bound unto the people

of the State of New York in the full and just sum of _____ Dollars

(\$ _____) good and lawful money of the United States of America, to the payment of which said sum of money, well and truly to be made and done the said PRINCIPAL binds itself, its heirs, executors, administrators or assignees and the SURETY binds itself, its successors or assigns, jointly and severally, firmly by these presents.

Signed and dated this _____ day of _____, 20 .

WHEREAS, the PRINCIPAL has entered into a certain written contract bearing date on the _____ day of

_____, 20 __, with the People of the State of New York for the improvement of _____,

in the County of _____, New York.

NOW THEREFORE, the PRINCIPAL warrants the workmanship and all materials used in the work and agrees that during the guarantee period of one year beginning after final acceptance by the State or political subdivision or until September 15 of the year following acceptance of work completed under the contract, whichever is later, it will, at its own expense make repairs which may become necessary by reason of improper workmanship or defective materials as per the following procedure:

1. No later than August 1 of the year following the State’s or the political subdivision’s acceptance of work completed under the contract, the State or political subdivision will evaluate the project for plow damage, flushing, delamination or raveling.
2. The PRINCIPAL agrees to repair all areas that demonstrate plow damage, flushing, delamination or raveling greater than 2.0 square yards for any single location, or greater than 5.0 square yards for any 0.1 lane mile, as determined by the State. Such repairs, however, shall not include any damage resulting from any forces or circumstances beyond the control of the PRINCIPAL. The evaluation of the micro surfacing shall be made by the Resident Engineer. If the PRINCIPAL does not agree with the evaluation it may appeal to the Regional Director of Operations whose decision shall be final.
3. On or before August 15 in the year immediately following the State’s acceptance of the micro surfacing project, the State shall notify the PRINCIPAL of any areas deemed deficient by the State. The PRINCIPAL will initiate and complete the remediation, within 30 days of notification.
4. Prior to the performance of repairs the PRINCIPAL shall supply the Resident Engineer with copies of all acceptable insurance certificates. During the performance of any necessary repairs, the PRINCIPAL shall comply with all provisions of the original contract including among other things the Work Zone Traffic Control provisions.

In the event of the failure of performance by the PRINCIPAL who has failed to make repairs which may become necessary, said SURETY, for value received, hereby stipulates and agrees, if requested to do so by the State, to commence such repairs within five (5) days of notification by the State of such failure by the PRINCIPAL. Such repairs shall be performed in accordance with the provisions of the current contract which require among other provisions that the SURETY shall provide necessary Work zone traffic control as well as provide the required insurance before any work is conducted.

DETAIL SPECIFICATIONS - LIQUID BITUMINOUS MATERIALS

DETAILED SPECIFICATIONS – MICROSURFACING (Cont'd)

In the event both the SURETY and the PRINCIPAL fail to perform such repairs, the State shall cause the repair to be completed by others and the SURETY and PRINCIPAL shall be jointly and severally liable for such costs.

And the said SURETY thereby stipulates and agrees that no change, extension, alteration, deduction or addition in or to the terms of the said contract or the plans or specifications accompanying same, shall in any way affect the obligations of said SURETY of its bond.

PRINCIPAL _____

BY _____ SURETY _____

BY _____