

INVITATION FOR BIDS High Street Bonded Wearing Course Project – 2020 Bid # DPW-21-B-010

I. GENERAL INFORMATION AND PROPOSAL SUBMISSION REQUIREMENTS

All Bids must be delivered by <u>11:00 am on Thursday</u>, <u>August 20</u>, <u>2020</u> to:

Procurement Department Westwood Town Hall 580 High Street Westwood MA 02090

- Westwood Town Hall is closed to the public due to COVIS-19 concerns. To promote the health and safety of bidders and town employees, the following procedures are in effect and may affect your bid submission.
 - If the bidder is using a delivery service, the package <u>must be signed for</u> by a Westwood Town Hall staff to be considered properly delivered.
 - Bids sent by courier can only be dropped off in the Town Mail Drop Box. The drop box is a green mailbox in front of Town Hall labeled "Town Hall Mail Drop Only."
- Bidders who wish to attend the Bid Opening can do so by telephone conference call. To attend, call 1-888-296-6828. When prompted, enter Participant Passcode #756869.
- Bids will be scanned and posted to the Town website, www.townhall.westwood.ma.us, as soon as practicable after the opening.
- Bids received after the time and date established herein SHALL NOT be accepted or considered, regardless of the cause for delay in the receipt of such proposal(s).
- If, at the time of the scheduled proposal due date, the Westwood Town Hall is closed due to uncontrolled events such as fire, wind, or building evacuation, the proposal opening will be postponed until 12:00 noon on the next normal business day. Proposals will be accepted until that date and time.
- Submit the proposal in a sealed envelope clearly marked "Bid # DPW-21-B-010, High Street Bonded Wearing Course Project 2020."
- The proposal <u>must</u> include a Non-Collusion form, Tax Compliance Certificate and other Attachments listed below.
- The proposal <u>must</u> also include a Bid Signature Form. When the Bid Signature Form is completed, it declares:
 - o The only parties interested in this bid are the Principals named herein.
 - No officer, agent or employee of the Town of Westwood has a direct or indirect interest in this bid.

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• Bid Form

- Each bid shall be accompanied by a bid deposit in the form of a certified, bank, Treasurer's or cashier's check, or a bid bond issued by a surety company licensed by the Commonwealth of Massachusetts, in the amount of (5%) if the total bid price, made payable to the Town of Westwood.
- All bid deposits except that of the lowest responsible bidder shall be returned within five (5) days, Saturday, Sunday and legal holidays excluded, after the opening of the bids.
- The Bidder whose Bid is accepted agrees to furnish the Contract Bonds, each in the sum of the full amount of the Bid and/or Contract Price as determined by the Town, and duly executed and acknowledged by the said bidder as Principal and by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the Town, as Surety, for the faithful performance of the Contract and payment for labor and materials. The premiums for such Bonds shall be paid by the Contractor.
- The bidder to whom the bid is awarded will be required to execute an Agreement within sixty (60) calendar days from the date when the Notice of Award is received. In the event the bidder fails to execute an Agreement with the Town, the Town may consider the bidder to be in default, in which case the bid deposit shall become the property of the Town.
- Should the bidder fail to fulfill any of his/her agreements as herein above set forth, the Town shall have the right to retain as liquidated damages the amount of the bid check or cash which shall become the Town's property. If a bid bond was given, it is agreed that the amount thereof shall be paid as liquidated damages to the Town by the Surety.
- All prices, except at the extended totals, shall be stated in both words and figures. In the event
 of a discrepancy between the price in words and the price in figures, the written word shall
 govern. In the event of a discrepancy between mathematical totals and the totals stated, the
 mathematical totals shall govern.
- Unbalanced bidding is expressly prohibited and all unit bid prices will be compared for reasonable conformance with the engineer's estimate. The Town has the right to reject award of a bid, or part thereof, to protect the public interest if it is apparent that a bid is mathematically unbalanced, the bidder front-end loads its bid as to amount to an advanced payment, there are extreme variations from the engineer's estimate or other bids received, if in the opinion of the Town, the unit prices create a reasonable doubt that the apparent low bidder will actually result in the lowest cost to the Department, and/or if the overall competitive bidding process has been jeopardized.
- The estimated quantities shown are based solely upon a reasonable assessment of the project parameters, thus the Contractor is advised that the actual quantities may vary substantially as field conditions may necessitate. Regardless of the amount of actual quantities, however, the quoted unit prices shall always apply.
- There is no separate labor charge under this bid: unit prices shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work as specified herein.
- In case of death, disability, or other unforeseen circumstances affecting the bidder, which
 materially impairs the bidder's ability to execute an Agreement and perform the required
 service, such bid deposit may be returned to the bidder by the Town.



- The proposal must be signed as follows: 1) if the bidder is an individual, by her/him personally; 2) if the bidder is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the bidder is a corporation, by the authorized officer, whose signature must be attested to by the Clerk/Secretary of the corporation and the corporate seal affixed.
- Any bid may be withdrawn prior to the bid's submittal due date. However, bidders may not withdraw or modify their bid for a period of ninety (90) days following the opening of bids.
- The contract will be awarded within thirty (30) days after the proposal receipt. The time for award may
 be extended for up to 45 additional days by mutual agreement between the Town and the apparent
 lowest responsive and responsible bidder.
- Questions concerning this invitation for proposals must be submitted in writing to: Procurement
 Department, Westwood Town Hall, 580 High Street, Westwood MA 02090 or by email at
 Procurement@townhall.westwood.ma.us. Questions may be delivered or mailed. Written responses will
 be posted on the Westwood Town Hall website.
- Any and/or all work is subject to available funds. The Town reserves the right to waive any informalities
 in, or to reject, any or all bids should the Town deem it to be in the Town's best interest to do so.
- The Town of Westwood may cancel this IFB, or reject in whole or in part any and all proposals, if the Town determines that cancellation or rejection serves the best interests of the Town.
- Below is a list of all Attachments. Bidders should note that Attachments C-I <u>must be completed and be</u> submitted with the bid documents.
 - Attachment A Special Provisions
 - Attachment B Wage Rates
 - Attachment C Bid Item Sheet
 - Attachment D Bid Pricing Sheet
 - Attachment E Labor Harmony and OSHA Training
 - Attachment F Certificate of Non-Collusion
 - Attachment G Tax Compliance Certificate
 - Attachment H Signature Page
 - o Attachment I Reference Form

II. PURCHASE DESCRIPTION/SCOPE OF SUPPLIES/SERVICE

The work under this contract includes, but is not necessarily limited to providing labor, materials, and equipment to provide cleaning, general preparation, resetting/adjusting of utility castings, pavement milling, installation of a bonded wearing course (BWC), and all other specified and incidental work on High Street (Route 109) from Churchill Road to Grove Street. Work also includes applying road striping with recessed pavement markers, installation of wire loops, and other related work.



Other:

The **High Street Bonded Wearing Course Project – 2020** service is on an as needed basis and the Town does not guarantee a minimum in the bid period.

The Town of Westwood reserves the right to add or delete from the scope of work.

All work above must be completed between the dates of September 1, 2020 and September 30, 2020.

Unit Quantities Specified:

- Quantities and measurements indicated in this IFB are for bidding and contract purposes only.
 Quantities and measurements ACTUALLY supplied or placed in the Work and verified by the Engineer shall determine payment.
- If the actual Work requires greater or lesser quantities than those quantities indicated in the Bid Form, Contractor shall provide the required quantities at the unit price contracted.

General Conditions: (Incidental to the Contract)

 Temporary Traffic Control shall be the sole responsibility of the Contractor as approved and/or directed by the Engineer. All temporary traffic control shall conform to the applicable requirements of Section 850 of the Standard Specifications, The Manual on Uniform Traffic Control Devices (MUTCD), and/or as directed by the Engineer.

The Contractor shall furnish, erect, maintain, wash, move, adjust, repair, relocate, re-erect, and store all temporary construction signs, sign mountings, portable barricades, traffic cones, delineators, and other warning devices when, where, and as specified.

Temporary Traffic Control devices shall cover all work related to the furnishing, installation, maintenance, and movement of traffic protective devices on the project. The Contractor shall provide a sufficient number of signs and other warning devices as required by the nature of the work as determined by the MUTCD and/or the Engineer. Devices that do not meet or exceed MUTCD standards will not be considered an acceptable means for temporarily controlling traffic.

When, in the opinion of the Engineer, the sign or device shall be so severely damaged as to warrant replacement, the Contractor shall provide a new device.

The Contractor shall keep all signs, barricades, and other protective devices in proper position, clean, and legible at all times. Care shall be taken so that weeds, shrubbery, construction materials and equipment, and spoil are not allowed to obscure any sign, lights, or barricade. Signs that do not apply to existing conditions shall be removed or adjusted so that the legend is not visible to approaching traffic. All signs and markers shall indicate actual conditions existing and shall be moved, removed, or changed immediately, as conditions require. When construction is not in progress, all unnecessary signs will be adequately covered.

No work is to be undertaken until the Contractor has established construction signs and/or safety devices around and about the project zone periphery. To that end, the Contractor shall not commence operations until he has verified that semi-permanent signs (i.e. 'Road Under Construction') and/or daily

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signing, (i.e. 'Detour') has been appropriately established. The Contractor shall be responsible for establishing supplemental signage, and/or safety devices, as he deemed necessary in order to further provide for the safety of the pedestrian and the motoring public, as well as for affording the opportunity to move the construction process forward without interruption. Under this clause, the Contractor shall work closely with the Engineer in order to coordinate the signing activities in a timely and reasonable manner. Said devices shall conform to the Temporary Traffic Control section of the most recent version of the Manual on Uniform Traffic Control Devices (MUTCD). Further, due to the nature of this work, the Contractor shall be required, from time to time, to erect, move, relocate, repair, and/or to remove at days end, any site sign in order to either expedite his work or to otherwise accommodate the safety and/or delineate the project zone and/or its active or inactive detour status and route line, and this work shall be done either at his discretion and/or at the request of the Engineer. Non-compliance with any such request, as herein described, shall be grounds for the Engineer to halt work until such remedial measures have been taken, and any such loss of time by the Contractor shall be at his own expense. Any devices provided which are lost, stolen, destroyed or deemed unacceptable while their use is required on the project shall be replaced without additional compensation.

The costs for this item shall be considered incidental to the Contract and include all labor, equipment, materials and incidentals needed to complete the following:

- Fabricating, furnishing, erecting, maintaining, removing and relocating the traffic management devices for the overall project during construction activities, complete-in-place, as directed by the Engineer.
- Providing additional traffic management devices to provide a clear and visible traffic control through the project area, if required.
- The Contractor shall be required to reposition the traffic control devices as many times as necessary to ensure the safe passage of vehicular traffic and pedestrians. Supplemental signs and traffic control devices directing traffic around and/or through the work zones shall be supplied as operations require or as directed by the Engineer.

At a minimum, traffic control shall include the following:

Temporary Traffic Control Signs including detour signs as required.

- Channelizing Devices including drum barricades and/or traffic cones.
- Type III Barricades.
- Temporary Barriers.
- Temporary Pedestrian Bypass.

Other work, whether direct or incidental, associated with the traffic control not specifically identified herein.

If, after notice by the Engineer, signage is determined to be inadequate, the Engineer may withhold payment until it is addressed satisfactorily by the Contractor. Temporary traffic control shall include all labor, materials, and equipment associated with (but not limited to) furnishing, erecting, maintaining, washing, movement, adjustment, repair, relocation, re-erection, storing of all temporary construction signs, sign mountings, portable barricades, traffic cones, delineators, drum barricades, channelizing devices, and all other devices, clean-up, legal disposal of all materials, and all other incidentals required to finish the work, complete and accepted by the Engineer. Any damage shall be the Contractor's responsibility.



Delivery Requirements: All delivery charges shall be included in the price of the service.

The Delivery should be made to:

Town of Westwood 50 Carby Street Westwood MA 02090

Insurance Specifications:

- Workman's Compensation:

 The Contractor shall, before commencing performances of this contract, provide, by insurance, for the payment of compensation in the furnishing of other benefits under General Laws, Ch. 152 to all persons to be employed under the Contract and shall continue such insurance in full force and effect for the term of the Contract, all in accordance with Massachusetts General Laws, chapter 149, S34A.
- **Bodily Injury Liability Including Death:** The Contractor shall take and maintain during the life of the Contract insurance coverage in the amount of one million dollars on account of any one person and one million dollars on account of any one accident and one million dollars aggregate limit. Extra territorial and guest clause shall be included.
- **Property Damage Liability:** The Contractor shall take out and maintain during the life of the Contract property damage liability insurance in the amount of one million dollars in the aggregate.
- Motor Vehicles Including Hired Vehicles:

 The Contractor shall take out and maintain during the life of the Contract motor vehicle insurance for bodily injury liability including death in the amount of one million dollars on account of any one accident. Additionally, property damage liability in the amount of one million dollars on account of any one accident and one million dollars aggregate. The contractor covenants and agrees to hold the town and its employees, agents and officials, harmless from loss or damage for personal injury and/or property damage arising from or in connection with operations under this Contract.
- Indemnification Clause: The Contractor acknowledges and agrees that he is responsible, as an Independent Contractor, for all operations under this Contract and for all acts of his employees and agents hereunder, and agrees that he will indemnify and hold harmless the Town and its officers, Boards and its employees, from any loss, damage, cost, charge, expense or claim which may be made against it or them or to which it or they may be subject by reason of an alleged act, action, neglect, omission or default on the part of the Contractor or any of his agents, servant, or employees and will pay promptly on demand all costs and expenses of the investigation and defense thereof, including attorney's fees and expenses. And, if any claim is made, the Town may retain out of any payments, then, or thereafter due to the Contractor, a sufficient amount to protect it completely against such claim, costs and expenses. The public liability and property damage insurance and owners contingent policies, as the case may be, shall include the above stated Indemnification Clause



Construction Specifications:

- All items of work shall be referenced to the "Commonwealth of Massachusetts Highway Department Standard Specifications for Highways and Bridges", dated 2020, and shall include all subsequent revisions.
- Items that shall be considered incidental to the contract include, but are not limited to, mobilization, temporary traffic control, saw cutting, and any other incidentals as listed. Incidental items shall not be measured for payment and will not be compensated separately but shall be identified to be included as payment for respective other associated work items.
- Work within or adjacent to school zones shall be scheduled to coordinate with school closings, recesses, and vacations. No work shall be constructed in school zones while in session.
- The Contractor shall work to keep the construction zone compressed whenever possible. The length of the construction zone shall be approved by the Engineer before work is started.
- For items specific to this contract that differ in their specifications to the above document we provide the following supplemental specifications:

Item 129 Pavement Milling

The work to be done under this item shall be in accordance with the relevant provisions of Section 129, Pavement Milling, and will include removal of the existing pavement surface as directed by Engineer to create a seamless transition from the limits of work to the existing pavement structure outside of the limits of work. In addition to these requirements, the following requirements are part of this item:

The contractor shall be responsible for transport and disposal of material milled from the existing road in this project. The contractor shall bear all cost associated with the milling, collection, transport, and disposal of the milled material from this project. The disposal shall be done in accordance with all applicable local, state, and federal laws and/or regulations.

Item 220.01 Manhole Riser

The work to be done under these items shall be in accordance with the relevant provisions of Section 220. In addition to these requirements, the following requirements are part of these items:

When the line or grade or both the line and grade of the structure changes by 6 inches or less, the structure shall be adjusted to line and grade. The masonry shall be removed to such depth as directed by the Engineer and new masonry shall be constructed to conform to the proposed design and in conformity with the requirements of the applicable parts of Section 201.

When in the judgement of the Engineer the masonry shows deterioration, the structure shall be rebuilt. The casting and deteriorated masonry shall be removed in a neat manner until a clean sound base is obtained upon which concrete blocks and clay bricks may be set to rebuild the structure. All spoils and debris created from the work shall be protected from falling into the structure, promptly removed, and legally disposed of. Gravel borrow shall be furnished for backfill where required when excavated

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material is unsuitable. The casting shall be set to line and grade with a concrete collar and surfaced with Class I Bituminous Concrete Top Course as directed.

The new masonry construction, replacing of castings, high early strength concrete collars, filling around structures and other incidental work shall be as specified in Section 201.

The Contractor shall clean each structure adjusted and/or rebuilt as directed by the Engineer, and shall protect each such structure from further construction debris until the project has been final paved and been accepted, at no additional cost to the Owner.

Item 358.01 6" Gate Box Riser

The work to be done under these items shall be in accordance with the relevant provisions of Section 301. In addition to these requirements, the following requirements are part of these items:

Valve boxes shall be installed vertically, centered over the operating nut, and the elevation of the top shall be adjusted to final grade. Boxes shall be continuously and adequately supported during backfilling to maintain vertical alignment. Bricks shall be placed at the base of the flange to properly support the box. Backfill around valve boxes and anywhere excavation is made in the street shall be compacted in 12-inch lifts.

Gate boxes damaged by the Contractor's operations will be replaced by the Contractor at his own expense.

Boxes found to be inoperable due to no fault of the Contractor shall be replaced under Gate Box regardless of size, with new gate boxes in accordance with the standards. Installation of a new gate box will include the cost of the new utility casting plus any costs associated with setting it to the finish grade elevation as described under Gate Box Adjusted. All payments made for furnishing a new casting and installing to the proper finish grade elevation will be made under Gate Box and no additional payments will be made under Gate Box Adjusted for that particular structure. Where existing castings can be adjusted to finished grade without replacement of the casting, payment will be made under Gate Box Adjusted or 6 Inch Gate Box Riser.

Payments shall not be made for castings that have not been correctly adjusted to the proper finished grade elevation satisfactory to the Engineer.

Item 460.001 Hot Mix Asphalt Leveling Course

The work to be done under this item shall be in accordance with the relevant provisions of Section 460. In addition to these requirements, the following requirements are part of this item:

The work under this item shall consist of placing a leveling course in areas of rutting prior to placing surface courses. The Contractor shall place a leveling course in areas as determined by the Engineer. Prior to placing the leveling course, the Contractor shall spread suitable tack coat emulsion meeting the material requirements of the Standard Specifications, to ensure a proper bond between the leveling course and existing pavement. The tack coat must be applied by a truck or trailer to ensure even spreading at the appropriate rate.



Tack coat will be used at the rate of .07 to .09 GAL/SY prior to placement of the leveling course, unless directed not to do so by the Engineer.

Tonnage shall be determined by weight slips submitted to the Engineer. Also, this number will be verified by the inch per square yard method of determining tonnage (inches of approved thickness, multiplied by square yard unit measurement, multiplied by the volume to weight conversion factor of 0.056 tons/inch/square yard).

Item 460.3 Bonded Wearing Course

The work to be done under this item shall be in accordance with the relevant provisions of Section 460. In addition to these requirements, the following requirements are part of this item:

The Contractor must furnish satisfactory evidence of his/her ability and experience to perform this work, and that he/she has sufficient capital and equipment to enable them to prosecute the work successfully and to complete it within the time named in the contract. The Contractor shall not sublet any portion of this contract, and will own all equipment used to complete such contract. As part of the bid, the Contractor must submit a list of five (5) similar and successfully completed jobs, whose relevance to the proposed job shall be deemed by the Owner. The following information shall be provided for the five (5) completed jobs:

Owner Address City, State, Zip Code Contact Name Contact Phone Number Contract Amount

Bidders are required to make a thorough investigation of conditions at the location of the proposed work. It is the obligation of the bidder to ascertain for themselves all the facts concerning conditions to be found at the location of the project, including all physical characteristics, on and below the surface of the ground, to consider fully these and all other matters which can, in any way, affect the work under this Contract. The Owner may disqualify any bidder who cannot show understanding of the existing conditions of the project.

Mixture Requirements

The contractor shall formulate and submit a Job Mix Formula that satisfies the design general limits listed in the Mixture Requirements table below. The mix formula shall not fall outside the following gradation requirements.



Sieve Size	% Passing
3/4" (19 mm)	-
1/2" (12.5 mm)	100
3/8" (9.5 mm)	95 – 100
#4 (4.75 mm)	40 – 60
#8 (2.36 mm)	21 – 33
#16 (1.18 mm)	15 – 26
#30 (0.60 mm)	11 – 20
#50 (0.30 mm)	8 – 16
#100 (0.15 mm)	5 – 10
#200 (0.075 mm)	4 – 7
% PGB	4.9 – 5.4

^{*}Note: All aggregate percentages are based on the total weight of the aggregate.

Asphalt Binder

The Contractor shall use the appropriated performance graded binder (PGAB), for the project's geographical location and design traffic level.

Coarse Aggregate

The coarse aggregates selected should be those typically used for high performance surfaces. Coarse aggregates, such as crushed gravel, limestone, dolomite, sandstone, granite, chert, trap rock, ore tailings, slag or other similar materials, or blends of two or more of the above may be acceptable. The single size coarse aggregate shall be nominal 1/4" meeting the requirements listed in the Coarse Aggregate Properties table below. When coarse aggregates for these mixes are from more than one source or of more than one type of material, they shall be proportioned and blended to provide a uniform mixture.

	Test Method	Value
LA Abrasion Value, % loss	AASHTO T96-94	30 max
Soundness, % loss Magnesium Sulfate or	AASHTO T104-94	18 max
Sodium Sulfate		12 max
Flat and Elongated Ratio, % @ 5:1	ASTM D-4791	10 max
% Crushed, single face	ASTM D-5821	95 min
% Crushed, two or more crushed faces	ASTM D-5821	85 min
Cleanliness (% passing 0.60 mm, (#30))	ASTM D-142	2 max
Resistance to stripping*	ASTM D-3625	80 min **

^{*}Anti-Stripping agents may be required to provide resistance to stripping.

Fine Aggregate

^{**} If the awarding authority currently uses a higher value then that value shall apply.



The fine aggregate shall be 100% crushed and have a minimum sand equivalent of 50, (AASHTO T 176-86).

Mineral Filler

Hydrated lime, fly ash, baghouse fines and cement are acceptable as mineral fillers.

Bond Coat

The Contractor shall use grade CRS-1P polymer modified asphalt emulsion meeting the requirements of AASHTO T208 except as modified in the below table. If latex is used, it is required that it be co-milled at the bulk emulsion facility, to ensure complete and balanced blending.

Property	Test Method	Minimum	Maximum
Elastic Recovery, 25°C	AASHTO T301	65	
Residue by Distillation, %	AASHTO T59	63	
Penetration of Residue, 25°C, 100g, 5 sec	AASHTO T49	60	150

Paver

The self-priming paver must be capable of spraying the bond coat, applying the hot asphalt overlay and smoothing the surface of the material in one pass, without equipment driving on or disrupting the bond coat, at a rate of 30-100 feet per minute. The self-priming paver must incorporate a receiving hopper, feed conveyor, insulated storage tank for emulsion, metered tack coat spray bar and a variable width, heated, ironing type screed. The screed must have the ability to be crowned at the center both positively and negatively and have vertically adjustable extensions to accommodate the desired pavement profile.

Roller

Steel wheeled double drum rollers weighing at least 8 ton that are equipped with functioning water systems and scrappers to prevent the fresh mix from adhering to the roller drums shall be used to compact the material.

Surface Preparation

All surface preparations shall be completed by the contractor prior to applying the bonded wearing course.

Adjust or rebuild all roadway castings/utility structures. If required, the Contractor will coordinate the re-setting/adjustment of all privately owned utility structures.

All manhole covers, water boxes, gas boxes, catch basins and other such utility structures shall be covered with plastic or building felt. The Contractor shall note each structure for location and uncovering after paving. Temporary markings used on surfaces that will not be covered by the final



product shall be done with an acceptable means such as chalk, crayon, water-based paint, or another means approved by the Engineer.

Remove all thermoplastic traffic markings, to be paid for under Item 854.002 Pavement Marking Removal.

Cut keyways at limits of work and additional locations as directed by the Engineer to a sufficient depth to create smooth transitions and good ride quality. All key cuts will be sealed on the same day as the paving is completed. To be paid for under Item 129. Pavement Milling.

Clean and flush fill all cracks and joints greater than 1/4" wide with crack sealant material as specified or instructed by the Engineer. Fill all surface irregularities greater than 1" deep with material approved by the Engineer.

The area to be surfaced shall be thoroughly cleaned of vegetation, loose aggregate and soil, and soil that is bound to the roadway surface through use of mechanical sweeping.

Remove all standing water. A damp surface is acceptable if favorable weather conditions are expected during paving operations.

The Contractor shall legally dispose of all asphalt/aggregate debris created in the adjustment of utility castings/structures, milling of keyways and removal of pavement markings.

Weather Limitations

The minimum pavement surface temperature for application of the bond coat and placement of the wearing course is 50°F.

Application

Apply the bond coat at a temperature of 120° - 170 F. Provide a uniform application across the entire width to be overlaid, at a rate of 0.15 - 0.25 gallons per square yard. Continuously monitor the rate of spray. Bond coat shall be sprayed at limits of work and at joints between passes to act as joint sealer.

No equipment shall come in contact with the bond coat before the hot mix asphalt concrete wearing course is applied.

Immediately after applying the bond coat, apply the hot mix asphalt overlay across the full width of the bond coat at a temperature of 280° - 335°F.

Compaction

Begin compaction immediately after the application of wearing course. Use a minimum of two (2) passes. The roller(s) will not be allowed to stop on the freshly placed wearing course. Use an adequate number of rollers to complete compaction before the pavement temperature falls below 185°F. Protect



the wearing course from traffic until the rolling operation is complete and the material has cooled sufficiently to resist damage.

Any material or workmanship found to be defective for up to one (1) year from the date of acceptance by the Engineer shall be replaced by the Contractor at no cost to the Owner. Upon notification of defective material or workmanship, the Contractor shall immediately replace such defective areas.

Payment under this Item shall be at the Contract Unit Price bid per Square Yard for the specified thickness of bonded wearing course complete in place and accepted by the Engineer. The price stated shall include for which price shall be considered full compensation for all labor, equipment, materials, and incidentals, as necessary to complete the work to the satisfaction of the Engineer. This price shall also include all necessary work to prepare the pavement surface, including street sweeping, removal of vegetation and soil, water removal and removal/disposal of all existing pavement and aggregate that are required to complete the work.

Item 472.0 Hot Mix Asphalt for Miscellaneous Work

The work to be done under this item shall be in accordance with the relevant provisions of Section 450 and 472. In addition to these requirements, the following requirements are part of this item:

Measurement shall be determined by the weight slips submitted to the Town. Measurement shall also be verified by use of 0.056 Tons/Sq. Yd. – Inch conversion factor.

Approval by the Town of the cutting of bituminous pavement is required prior to the work being performed. The area to be cut shall be cut in as near a straight line as possible with a saw. Pavement edges shall be trimmed to a vertical face. Sections of bituminous concrete shall be removed to the nearest score line or approved saw cut edge. This item payment shall be included in the cost per ton of bituminous concrete.

Payment for this item shall be at the contract unit price bid per Ton for the HMA at the specified thickness. The price shall be full compensation for all labor, material, equipment and incidental items. The prices shall also include payment for required tack, rubberized joint sealant and/or tack and sand, and all necessary work done to prepare surface for paving, including street sweeping and disposal of material swept.

ITEM 482.1 Crack Sealant

The work to be done under this item shall be in accordance with the relevant provisions of Section 460. In addition to these requirements, the following requirements are part of this item:

The work covered by this section of the specification consists of furnishing all plant, labor, equipment and materials necessary to perform all operations in connection with the cleaning and sealing of construction and random cracks in bituminous concrete pavements listed in these contract documents, including vegetation removal and sterilization of cracks, where necessary. Crack sealing shall be completed prior to the application of any other pavement treatments. The cracks to be sealed will be those located within the limits specified in the contract documents and as designated by the Engineer.



Crack sealant shall be a modified asphalt-fiber compound designed specifically for improving the strength and performance of the parent asphalt sealant.

- The asphalt binder shall consist of a blend of neat asphalt binder, chemically modified crumb rubber (CMCR), and a polymer package, all of which meet the following specifications:
- o The binder will meet PG 64-28E requirements after modification including:
- PG grade requirements of AASHTO M320
 - Requirements of AASHTO TP70/MP19
- Modification, at a minimum, shall consist of 7% crumb rubber, and the maximum particle size for the recycled tire rubber shall be 80 mesh (#80 sieve)
- o The asphalt supplier shall provide testing for both the neat and modified asphalt binders
- See below for typical modified test results for 64-28E with crumb rubber:

DSR ORIGINAL

kPa >1.00 @ 64° C. Fail temp = 76+° C

DSR RTFO

• kPa >2.20 @ 64° C. Fail temp = 76+° C

MSCR

- JNR (MSCR unit of measure): 3.2 E < 0.5% @ 64° C
- R3200 (Average % Recovery): >70%

DSR PAV

kPa <6000 @ 64° C

BBR

- Stiffness <300 @ -18° C. M-Value >0.300 @ -18° C
- The fiber reinforcing materials shall be short-length polyester fibers having the following properties:

Length*0.25 in. ± 0.02 in.

Elongation at Break (ASTM D2256-90) $35\% \pm 3\%$ Melting Point (ASTM D3418-82) >475°F (246°C)

Crimps/Inch (ASTM D3937-90) None

Cross Section Round

Denier (ASTM D1577-90) 4.5 Nominal dpf Tensile Strength (ASTM D2256-90) >70,000 psi

Diameter 0.0008 in. **

Specific Gravity (ASTM D792-91) 1.32 to 1.40

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^{*} At temperatures ranging from ambient to maximum finished product mix temperature

^{**} Subject to Normal Variations



Modifying Compound: The modified asphalt-fiber compound shall be mixed at a rate of 8% fiber
weight to weight of asphalt cement. This compound having the same chemical base provides
compatibility and exhibits excellent bond strengths. The fiber functions to re- distribute high stress
and strain concentrations that are imposed on the sealant by thermal sources, traffic loading, etc.

Equipment used in the performance of the work required by this section of the specification shall be subject to approval by the Owner, and maintained in a satisfactory working condition at all times.

Air Compressor

Air compressors shall be capable of furnishing not less than 100 cubic feet of air per minute at not less than 90 lbs. per square inch pressure at the nozzle. The compressor shall be equipped with traps that will maintain the compressed air free of oil and water.

Broom or Sweeper

Manually operated, gas powered air-broom or self-propelled sweeper designed especially for use in cleaning highway and airfield pavements shall be used to remove debris, dirt and dust from the cracks.

Melter

The unit used to melt or maintain the crack sealant compound at the recommended application temperature shall be the indirect fired type. It shall be equipped with a remote heat exchanger and hot oil circulation pump capable of maintaining a consistent temperature of the heat transfer oil. The heat transfer oil shall be circulated to all sides and the bottom of the vat containing the crack sealant compound making a continuous loop back to the heat exchanger and having a flash point of not less than 600°F. The melter shall be equipped with a satisfactory means of agitating the crack sealant at all times. This may be accomplished by continuous stirring with mechanically operated paddles and/or by a circulating gear pump attached to the melter. The melter must be equipped with a thermostatic control calibrated between 200°F and 550°F, and must be capable of pumping an 8% fiber content blend.

Preparation of Cracks

Debris and Vegetation Removal: All cracks shall be blown clean and sterilized by use of a propane air torch generating 2,000°F and 3,000 feet/second velocity to eliminate all vegetation, dirt, moisture and seeds. All debris removed from the cracks shall be removed

General: No crack sealant material shall be applied in wet cracks or where frost, snow or ice is present; or when the ambient temperature is below 25°F.

Preparation and Placement of Sealant

The asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. To ensure a uniform fiber distribution in the sealant, and also to limit fluctuations in the application temperature of the blended material, the Contractor must have a full melter kettle of sealant mixed, heated to the proper application temperature, and ready for testing at the start of each



work day. Once that batch of sealant is emptied from the melter kettle, crack sealing operations will cease for the remainder of the day. No new materials will be allowed to be added to the melter kettle during the workday under any circumstances. Minimum application temperature shall be 320°F.

Sealant shall be delivered to the pavement cracks through a high-pressure hose line and applicator shoe. Diameter of the applicator shoe is not to exceed 3.5" inches. Once the pavement cracks are sealed, the width of the sealant on the pavement (overbanding) shall be no greater than 3" inches. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent the sealant from being picked up at no additional cost to the Owner.

Workmanship

All workmanship shall be of the highest quality, and any excess of spilled sealant shall be removed from the pavement by approved methods and discarded. Any workmanship determined to be below the high standards of the particular craft involved will not be accepted, and will be corrected and/or replaced as required by the Contractor.

Performance

It is the intention of the Owner not to award a contract for this work under this or any other proposal if the contractor cannot furnish satisfactory evidence that he has the ability and experience to perform this class of work, and that he has sufficient capital and equipment to enable them to prosecute the work successfully and to complete it within the time named in the contract. The Owner reserves the right to reject this or any other proposal, or to award the contract as is deemed to be in the best interest of said Owner.

Properly formulated and mixed asphalt fiber compound overbanding shall not be greater than three inches (3") in width.

The Contractor must submit the following with his bid proposal:

- A list of six (6) jobs which he has successfully completed with the polymer and crumb rubber modified asphalt compound with reinforcing fibers specified herein, giving the name and address of these projects so they can be investigated prior to the award of the contract.
- The trade name of the crack sealant the contractor intends to use.
- The manufacturer of the crack sealant the contractor intends to use.

The Owner will require the Contractor to successfully perform a 200' foot test strip in the field prior to commencing work under the contract.

Manufacturer's certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications, including the following:

Performance Grade of Unmodified Asphalt: PG 64-28S (standard)

- AASHTO M-320, Table 1
- 7% chemically-modified crumb rubber (CMCR)

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- Composed of 100% 80-mesh recycled tire rubber
- 3-4% specially formulated polymer package
- Performance Grade of Modified Asphalt: PG 64-28E (able to withstand "extremely heavy" traffic loads)
- AASHTO M-320, Table 1
- o "E" Jnr 3.2 kPa @ 640C: <0.5%
- R3200 (Average % Recovery) @ 3.200 kPa: >70%
- 8% polyester reinforcing fibers

Payment for this Item shall be at the Contract Unit Price per Gallon completed in place and accepted by the Engineer. The price stated shall include all labor, materials, equipment for furnishing, transporting, handling and placing the material specified including vegetation removal, cleaning of cracks, crack sealing, and any incidentals necessary to complete the work to the satisfaction of the Engineer.

Item 854.01 Pavement Marking Removal

The work to be done under this item shall be in accordance with the relevant provisions of Section 850, in addition to these requirements, the following requirements are part of this item:

Pavement marking removal methods shall not cause damage to the pavement or cause drastic change in texture, which could be construed as delineation at night, and shall be approved by the Engineer.

III. PRICING AND PAYMENT

- Unit Prices
 - o Item and the quantity of units completed. Unit prices are to include cost of all necessary materials, labor, equipment, overhead, profit and other applicable costs.
 - The Town reserves the right to increase or decrease the scope of the Contract work by up to and including twenty-five percent (25%) of the original scope without adjusting the lump sums or unit prices.
- The Town shall pay and the Contractor shall receive the prices stipulated in the bid made a part hereof
 as full compensation for everything performed and for all risks and obligations undertaken by the
 Contractor under and as required by the Contract.
- Final payment for Work governed by unit prices will be made based on the actual measurements and quantities accepted by the Engineer multiplied by the unit price for work that is incorporated in or made necessary by the Work.

IV. QUALITY REQUIREMENTS

 Bidders must provide all of the items described in Section II: Purchase Description/Scope of Services and comply with all Section I: Proposal Submission Requirements. Missing information may cause the proposal to be considered unresponsive.



- To be considered a responsive bid, the entire project must be bid. The owner intends to award all items to a single contractor. Accordingly, contractors must bid on all items of work, and the low bidder will be the contractor whose total bid price is the lowest. The bid quantities are not guaranteed, and their primary purpose is for the determination of the low bidder.
- All deliveries must comply with the Specifications identified above in Section II, Purchase Description/Scope of Supplies/Services.

V. RULE FOR AWARD

 The responsive and responsible bidder meeting the requirements described in described in Section II: Purchase Description/Scope of Services and offering the lowest <u>Base Bid Price</u> described in Attachment D, Bid Pricing Sheet.



ATTACHMENT C BID ITEM SHEET

The Bidder shall insert unit prices for each item in ink, in both words and figures, and is to show a total bid price (unit price x estimated quantities). In the event a discrepancy between the written words and figures, the written words shall govern. In the event an error in the bidders total bid price, the corrected total bid obtained by the summation of the products of the unit prices multiplied by the respective quantities shall stand as the bidder's total bid price.

Unbalanced bidding is expressly prohibited, and all unit bid prices will be compared for reasonable conformance with the engineer's estimate. The Owner has the right to reject award of a bid, or part thereof, to protect the public interest if it is apparent that a bid is mathematically unbalanced, the bidder front-end loads its bid as to amount to an advanced payment, there are extreme variations from the engineer's estimate or other bids received, if in the opinion of the Owner, the unit prices create a reasonable doubt that the apparent low bidder will actually result in the lowest cost to the Owner, and/or if the overall competitive bidding process has been jeopardized.

*The estimated quantities shown here are based solely upon a reasonable assessment of the project parameters, thus the Bidder is advised that the actual quantities may vary substantially as field conditions may necessitate.

There is no separate labor charge under this bid: unit prices shall include full compensation for all labor, materials, tools and equipment, and all incidentals necessary to complete the work as specified herein.

Signature of individual submitting bid or proposal	
Printed Name of individual submitting bid or proposal	Business Phone Number
Printed Name of company submitting bid or proposal	Business Email



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 129: PAVEMENT MILLING			
THE SUM OF:DOLLARS			
AND CENTS	5,300	SY	\$
(\$) PER UNIT			
ITEM 220: ADJUSTMENT OF EXISTING STRUCTURES (F&G/C)			
THE SUM OF:DOLLARS			
AND CENTS	52	EA	\$
(\$) PER UNIT			
ITEM 220.01: MANHOLE RISER			
THE SUM OF:DOLLARS			
AND CENTS	4	EA	\$
(\$) PER UNIT			
ITEM 220.2: STRUCTURE REBUILT			
THE SUM OF:DOLLARS			
AND CENTS	24	VF	\$
(\$) PER UNIT			



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 222.3: FRAME AND GRATE/COVER – MUNICIPAL STANDARD			
THE SUM OF:			
DOLLARS	6	EA	\$
AND CENTS			
(\$) PER UNIT			
ITEM 357: GATE BOX			
THE SUM OF:DOLLARS			
AND CENTS	2	EA	\$
(\$) PER UNIT			
ITEM 358: GATE BOX ADJUSTED			
THE SUM OF:DOLLARS			
	6	EA	\$
AND CENTS			
(\$) PER UNIT			
ITEM 358.01: 6 INCH GATE BOX RISER			
THE SUM OF:DOLLARS			
	1	EA	\$
ANDCENTS			
(\$) PER UNIT			



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
THE SUM OF:DOLLARS ANDCENTS	120	TON	\$
(\$) PER UNIT			
THE SUM OF: DOLLARS ANDCENTS (\$) PER UNIT	23,200	SY	\$
THE SUM OF: DOLLARS ANDCENTS (\$) PER UNIT	10	TON	\$
THE SUM OF:DOLLARS ANDCENTS (\$) PER UNIT	100	GAL	\$



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 697.1: SILT SACK			
THE SUM OF:			
DOLLARS	17	EA	\$
AND CENTS			
(\$) PER UNIT			
ITEM 767.121: SEDIMENT CONTROL BARRIER			
THE SUM OF:			
DOLLARS	120	FT	\$
AND CENTS			
(\$) PER UNIT			
ITEM 819.831: WIRE LOOP INSTALLED IN ROADWAY			
THE SUM OF:			
DOLLARS	1,620	FT	\$
AND CENTS			
(\$) PER UNIT			
ITEM 854.01: PAVEMENT MARKING REMOVAL			
THE SUM OF:			
DOLLARS	31,229	FT	\$
AND CENTS			
(\$) PER UNIT			



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 856.12: PORTABLE CHANGEABLE MESSAGE SIGN			
THE SUM OF:DOLLARS			
AND CENTS	66	DAY	\$
(\$) PER UNIT			
ITEM 864.07: PAVEMENT ARROWS AND LEGENDS (EPOXY)			
THE SUM OF: DOLLARS	1,045	SF	\$
ANDCENTS	1,043	31	, ————————————————————————————————————
(\$) PER UNIT			
ITEM 864.31: SLOTTED PAVEMENT MARKER ONE-WAY WHITE			
THE SUM OF: DOLLARS	60	ГΛ	<u>.</u>
AND CENTS	69	EA	\$
(\$) PER UNIT			
ITEM 864.35: SLOTTED PAVEMENT MARKER TWO-WAY YELLOW/YELLOW			
THE SUM OF: DOLLARS	138	EA	\$
ANDCENTS			
(\$) PER UNIT			



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 868.06: 6 INCH REFLECTORIZED WHITE LINE (EPOXY)			
THE SUM OF:DOLLARS			
ANDCENTS	14,400	FT	\$
(\$) PER UNIT			
ITEM 868.12: 12 INCH REFLECTORIZED WHITE LINE (EPOXY)			
THE SUM OF: DOLLARS			
AND CENTS	900	FT	\$
(\$) PER UNIT			
ITEM 869.06: 6 INCH REFLECTORIZED YELLOW LINE (EPOXY)			
THE SUM OF:DOLLARS	14.700	FT	\$
ANDCENTS	14,700	FT	۶ <u> </u>
(\$) PER UNIT			
ITEM 869.12: 12 INCH REFLECTORIZED YELLOW LINE (EPOXY)			
THE SUM OF:DOLLARS AND CENTS	500	FT	\$
(\$) PER UNIT			



ITEM DESCRIPTION & BID PRICE	EST QTY.*	UNIT	TOTAL
ITEM 999.01: ALLOWANCE FOR PAYMENT OF TRAFFIC CONTROL PERSONS			
THE SUM OF: Sixty Thousand DOLLARS			
	1	ALL	\$ <u>60,000</u>
AND <u>Zero</u> CENTS			
(\$) PER UNIT			
ITEM 999.02: PAVEMENT SURFACE COATING			
THE SUM OF:DOLLARS ANDCENTS	1,980	SF	\$
(\$) PER UNIT			
TOTAL BID:			
			DOLLARS
AND			_CENTS
(\$ Amount in Figures)



ATTACHMENT D BID PRICING SHEET

Bid form must be completed in ink or by typewriter. The bid price for each item on the form shall be stated in figures. Discrepancies between indicated sum of any column(s) and the correct sum of any column(s) will be resolved in favor of the correct sum. Please Attach Additional Sheets if necessary.

BASE BID PRICE

The Bidder submits this bid proposal to perform all of the work (including labor and materials) as described in the solicitation for this Base Bid Price (including the costs for all Allowances, Incidentals, Bonds, and Addenda):

	Total Bid in figures	\$			
	Total Bid in words	\$			
ADD AI	LTERNATE PRICE				
	Total Bid in figures	\$	N/A		
	Total Bid in words	\$	N/A		
 Signatu	re of individual submitt	ting bid	or proposal		
 Printed	Name of individual sub	mitting	bid or proposal	Business Phone Number	
 Printed	Name of company sub	mitting	bid or proposal	 Business Email	



ATTACHMENT E LABOR HARMONY AND OSHA TRAINING

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

(Signature of authorized individual submi	tting proposal)		
(Printed Name)			
(Name of Bidder (if different than name))			
(Date)			



ATTACHMENT F CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of individual submitting bid or proposal	
Printed Name of individual submitting bid or proposal	
Name of husiness	



ATTACHMENT G TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signed under the penalties of perjury.

ignature of individual submitting bid or proposal	
Printed Name of individual submitting bid or propo	_ sal
Jame of husiness	_



ATTACHMENT H SIGNATURE PAGE

This Bid must bear the written signature of the Bidder or authorized agent of the Bidder. If the Bidder is a corporation or a partnership, the Bid must be signed by a duly authorized officer of such corporation or by a partner; the title of such officer must be stated.

The bidder hereby acknowledges the receipt of, and has included in this BID, the following Addenda: (To be filled in by Bidder, if Addendums are issues.)

Addendum No	, dated
Addendum No	, dated
Addendum No	, dated
Signature	
Name of Corporation, Company or Individual	
Printed Name of Person Authorized to Sign	
Title	

Email Address



ATTACHMENT I REFERENCE FORM

Bidder:_____

work, a notarize When a	as bid ed. All assessi	upon, in acco questions mus ng bidder's qua	rdance with the st be answered alification, the	is required as eviden he contract drawing d. Additional data m Town will not be lim Iment to assess Bidde	s and specification ay be submitted or ited to information	s. This statement n separate attache	must be ed sheets.	
1.	Name	of Bidder					_	
2.	Permanent Main Office Address							
3.	Official Mailing Address for This Contract							
4.	When Organized?							
5.	Where Incorporated, If a Corporation							
6.	Years Contracting under Present Name							
7.	List contracts on hand, and those completed similar in nature to this kind of project.							
Owner		Engineer	Contract	Description	Contract Amount	Completion Date	_	
								



itract, state where	e and why. Partners, Owners) interes Firm	ted in
		ted in
Title	Firm	
sident supervisor((s) for this project.	
s project and iden	ntify ownership or rental.	
	sident supervisor	sident supervisor(s) for this project. Is project and identify ownership or rental.

13.

List bank references for verifying financial ability of your company.



Name ———		Addro	ess 		
nformation r	undersigned hereby au requested by the Own the Bidder's Qualificatio	er and/or its d		•	
Dated at	this	day of		20	
			(Name of Bidder)		
			Ву:		_
_			(Title)		_
,			sworn in person, de	poses and says	
hat he is (Tit	le)	of	ame of Bidder)		
	firm's duly authorized a				
answers to the	e foregoing questions a	nd all statements	s therein contained a	re correct and true	
Subscribed an	d sworn to before me t	his	day of	20	
SEAL)					
JLALI			(Notary Public)		