TOWN OF BURLINGTON
DEPARTMENT OF PUBLIC WORKS

Micro-Surfacing
MS-15-7146

This is an unofficial Bid Spec. If this document is used to submit a bid then you must submit your contact information to Lisa Matarazzo at 781-270-1640 or lmatarazzo@burlington.org in order to be added to the bidders list.

Department of Public Works
Engineering Division
25 Center Street
Burlington MA 01803
(781) 270-1640

May 21, 2015
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INVITATION FOR BID

PUBLIC WORKS CONSTRUCTION

Sealed bids for MICRO-SURFACING will be received by DPW/Engineering, Town Hall, 25 Center Street, Burlington, Massachusetts, 01803 until 10:00 A.M. May 21, 2015 and will be publicly opened and read aloud at such time.

- Specifications and bid forms are available on the DPW website site at: http://www.burlington.org, under the Projects & Programs tab.

- Specifications and bid forms may be obtained at the DPW/Engineering, 25 Center Street, Burlington, Massachusetts, 01803 after May 07, 2015 between 8:30 AM and 4:00 PM for a fifty ($50.00) dollar nonrefundable reproduction fee.

- A bid bond of five (5) percent is required.

- Successful bidder will provide 100% Payment and Performance bonds.

- This project is bid according to MGL 30-39M.

- Prevailing wage shall be paid per MGL 149 SECT. 26-27D

- The Bidder must be pre-qualified by MassDOT.
PROJECT DESCRIPTION

The work under this contract shall include all equipment, labor, material, supplies, etc. necessary to furnish the work described in this contract.

This contract is for the installation of micro-surfacing and extendo-pave crack sealant on various roads in the Town of Burlington. All crack sealant shall be installed in accordance with the specifications of this contract.

**Extendo-Pave Crack Sealant** - All Micro-Surface streets shall be crack sealed prior to micro-surfacing.

Work shall include cleaning and sealing all visible cracks to include:
- Furnishing all plant, labor, equipment and materials necessary
- Vegetation removal and sterilization within the cracks to be sealed.
- Cleaning foreign material from the cracks to be sealed
- Sealing of construction and random cracks in bituminous concrete pavements

**Micro-Surfacing** – shall be applied as per specified in this bid document. Application shall consist of a Leveling & Surface Course (2 Lifts).

Work shall include **cleaning of roadway surfaces**. Surfaces shall be thoroughly cleaned of vegetation, loose aggregate and soil, particularly soil that is bound to the surface including all excess road sand. Manholes, valve boxes and other service entrances will be protected from the surfacing material.
INSTRUCTIONS TO BIDDERS

1. Receipt and Opening of Bids

The Town of Burlington, Massachusetts, herein called the Owner, acting by and through its Department of Public Works, will receive sealed Bids for Furnishing and Installing materials and labor for bituminous concrete for various locations. Such bids addressed to the DPW/Engineering, Town Hall Annex, 25 Center Street, Burlington, MA 01803, and endorsed Bid for Furnishing and Installing materials and labor for Bituminous Concrete for various locations will be received at the Office of the Engineering Division as specified in the invitation for Bids at which time and place said bids will be publicly opened and read aloud.

Any bid may be withdrawn prior to the above scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. The bidder agrees that this bid shall be good and may not be withdrawn for a period of thirty (30) days, Saturdays, Sundays, and legal holidays excluded, after opening the bids.

2. Location and Work to be Done

The Location of the Work to be done is described in the project description.

The Contractor shall furnish all labor, services, materials, equipment, plant, machinery, apparatus, appliances, tools, supplies, and all other things necessary to do all work required for the completion of each item of the Work and as herein specified.

The Work to be done and paid for under any item shall not be limited to the exact extent mentioned or described but shall include all incidental work necessary or customarily done for the completion of that item.

3. Preparation of Bid

Each bid must be submitted on the prescribed form. All blank spaces for bid prices must be filled in, in ink or typewritten, in both words and figures.

Each bid must be submitted in a sealed envelope bearing on the outside the name of the bidder, his address, and endorsed with the name of the project as specified in Receipt and Opening of Bids.

If forwarded by mail, the sealed envelope containing the bid must be enclosed in another envelope addressed as specified in Receipt and Opening of Bids.
The following sections need to be filled out and completed as part of the bid package;

- Form of General Bid
- Acknowledgement of Addenda, if any
- Bid Form
- Total Bid Price
- Contractor Reference
- Contractor Certification

4. Bid Opening Procedure

The following list of requirements shall apply to each filed bid. Bids not meeting all the requirements for timeliness and security will be rejected without opening; bids not meeting signature and addenda requirements will be rejected prior to checking of bid amounts.

Bids shall be filed at the place and before the time specified in Receipt and Opening of Bids.

Properly executed bid security shall be placed in a sealed envelope and shall be attached to the outside of the envelope containing the bid.

Bid signatures will be checked.

The total dollar amount of each bid will be read, and the three apparent lowest bids will be selected for further consideration. These three apparent low bids will be read aloud for the benefit of the other bidders and the bid opening procedure will be closed. All those present at the bid opening may arrange a time to examine all bids after the bid opening and after the reading of the three apparent low bids.

5. Ability and Experience of Bidder

No award will be made to any bidder who cannot satisfy the Owner that he has sufficient ability and experience in this class of work and sufficient capital and plant to enable him to complete the work successfully within the time named. The Owner’s decision or judgment on these matters will be final, conclusive, and binding.

Bidder shall have a minimum of five (5) years’ experience and have completed satisfactorily five (5) jobs within that time of similar size and scope.

All Subcontractors shall have a minimum of five (5) years’ experience and have completed satisfactorily five (5) jobs within that time of similar size and scope.
The Contractor must submit with his bid proposal a list of five (5) jobs which he has successfully completed, giving the name and the address of these projects so they can be investigated prior to the award of the contract.

The Owner may make such investigations as he deems necessary, and the bidder shall furnish to the Owner, under oath if so required, all such information and data for this purpose as the Owner may request.

6. Condition of Work

Each bidder must familiarize himself fully with the conditions relating to the construction of the project and the employment of labor thereon. Failure to do so will not relieve a successful bidder of his obligation to furnish all material and labor necessary to carry out the provisions of his Contract. Insofar as possible the Contractor, in carrying out his work, must employ such methods or means as will not cause any interruption of or interference with the work of any other Contractor.

7. Addenda and Interpretations

No interpretation of the meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. All information given to bidders other than by means of the plans, specifications, or by addenda, as described below, is given informally and shall not be used as the basis of a claim against the Owner.

Every request for such interpretation should be in writing addressed to the DPW/Engineering, Department of Public Works, Town Hall Annex, 25 Center Street, Burlington, MA 01803 and to be given consideration must be received at least seven (7) days prior to the date fixed for the opening of bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the Contract Documents which, when issued, will be mailed by certified mail with return receipt requested to all prospective bidders (at the respective address furnished by them for such purposes), no later than five (5) days prior to the date fixed for the opening of bids. Failure of any bidder to receive any such addendum or interpretation shall not relieve such bidder from any obligation under this bid as submitted. All addenda so issued shall become part of the Contract Documents.

8. Laws and Regulations

The bidder’s attention is directed to the fact that all applicable State laws, municipal ordinances, and the rules and regulation of all authorities having jurisdiction over construction of the project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

9. Information Not Guaranteed
All information given in the Contract Documents relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the Owner. All such information is furnished only for the information and convenience of bidders and is not guaranteed.

It is agreed and understood that the Owner does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures encountered during construction will be the same as those indicated in the Contract Documents.

If is further agreed and understood that no bidder or Contractor shall use or be entitled to use any of the information made available to him or obtained in any examination made by him in any manner as a basis of or ground for any claim or demand against the Owner or the Engineer, arising from or by reason of any variance which may exist between the information made available and the actual subsurface or other structures actually encountered during the construction work, except as may otherwise be expressly provided for in the Contract Documents.

10. Bid Security

Each bid must be accompanied by a BID BOND, CASH, or, CERTIFIED CHECK, payable to the Town, in the amount stated in INVITATION TO BID. Such checks will be returned to all except the three (3) lowest responsible and eligible bidders within five (5) days, Saturday, Sundays, and legal holidays excluded, after the opening of bids, and the remaining checks will be returned promptly after the Owner and the accepted bidder have executed the Contract, or if no notice of intent to award has been presented to the selected contractor within thirty (30) days, Saturdays, Sundays and holidays excluded, after the date of the opening of bids, upon demand of the bidder at any time thereafter.

The said amount is fixed and agreed upon by and between the Contractor and the Owner because of the impracticability and extreme difficulty of fixing and ascertaining the actual damages the Owner would in such event sustain, and said amount is agreed to be the amount of damages which the Owner would sustain and said amount shall be retained from time to time by the Owner from current periodical estimates.

11. Right to Reject Bid

The Owner reserves the right to waive any informality or reject any and all bids and alternate bids, should the Owner deem it to be in the public interest to do so.

The Owner also reserves the right to reject the bid of any bidder that the Owner considers to be unqualified based on the criteria set forth in Article 5 herein.

12. Time for Completion
The bidder must agree to commence work and to fully complete the project within the time limit stated in SPECIAL CONDITIONS.

13. Comparison of Bids

In the event that there is a discrepancy in FORM OF GENERAL BID between the lump sum or unit prices written in words and figures, the prices written in words will govern.

14. Rule for Award of Contract

The Contract will be awarded to “the lowest responsible and eligible bidder” for the Total Price Bid pursuant to General Laws Chapter 30, Section 39M, as amended. Such a bidder shall possess the skill ability and integrity necessary for the faithful performance of the work, shall be able to furnish labor that can work in harmony with all other elements of labor employed, or to be employed, in the work, and shall otherwise comply with all applicable provisions of law. Bidder shall execute formal agreement within ten (10) days of the Notice of Award.

15. Statutes Regulating Competitive Bidding

Any bid that does not comply with the provisions of Massachusetts General Laws Chapter 30, Section 39M as amended, need not be accepted and the Owner may reject every such bid.

16. Wage Rates

Prevailing Wage Rates as determined by the Commissioner of Department of Labor and Industries under the provision of the Massachusetts General Laws, Chapter 149, Section 26 to 27H, as amended, apply to this project. It is the responsibility of the contractor, before bid opening to request if necessary, any additional information on Prevailing Wage Rates for those trades people who may be employed for the proposed work under this contract.

State schedules of Prevailing Wage Rates are included in the contract documents.

17. Specifications

All specifications and bid items are based on Massachusetts Highway Departments “Standard Specifications for Highway & Bridges” edition as revised in the 1995 Publication.

18. Bid Items Not Guaranteed

The successful bidder is not guaranteed all items or the total bid price under this contract. Bidders must understand that like items will be bid under other contracts specifically
packaged as one complete project. The successful bidder has no right to similar items bid under other projects. The Town Engineer will specify where and when this contract will be applied to undertake a particular improvement
FORM OF GENERAL BID

Bid of ____________________________________ (hereinafter called “Bidder”)*

(____) a corporation, organized and existing under the laws of the state of ___________.

(____) a partnership

(____) a joint venture

(____) an individual doing business as ___________________________________

To the Town of Burlington, Massachusetts (hereinafter called “Owner”).

Gentlemen:

The bidder, in compliance with your invitation for bid, examined the Contract Documents and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and labor, hereby propose to furnish all labor, materials, and supplies, and to construct the project in accordance with the Contract Documents within the time set forth in the agreement, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, or which this proposal is a part.

----------------------

*Insert corporation, partnership or individual as applicable.
ADDENDA

Bidder acknowledges receipt of the following addenda:

No._______________________ Dated: ______________________
No._______________________ Dated: ______________________
No._______________________ Dated: ______________________
No._______________________ Dated: ______________________
No._______________________ Dated: ______________________
No._______________________ Dated: ______________________
<table>
<thead>
<tr>
<th>Road</th>
<th>From</th>
<th>To</th>
<th>L(FT)</th>
<th>W(FT)</th>
<th>Pavement Area(SY)</th>
<th>Total Price</th>
</tr>
</thead>
<tbody>
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<td>Brookside Ln.</td>
<td>Ridgewood Rd.</td>
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<td>430</td>
<td>26</td>
<td>1242</td>
<td>$</td>
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<tr>
<td>Collen Cir.</td>
<td>Bedford St.</td>
<td>Dead End</td>
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<td>1013</td>
<td>$</td>
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<td>Davida Rd.</td>
<td>Hershey Rd.</td>
<td>Dolores Dr.</td>
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<td>26</td>
<td>1300</td>
<td>$</td>
</tr>
<tr>
<td>Ellen Rd.</td>
<td>Paula St.</td>
<td>Lucy Rd.</td>
<td>450</td>
<td>24</td>
<td>1200</td>
<td>$</td>
</tr>
<tr>
<td>Ellen Rd.</td>
<td>Lucy Rd.</td>
<td>Ivy Lane</td>
<td>900</td>
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<td>2500</td>
<td>$</td>
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<td>Hancock St.</td>
<td>Lexington St.</td>
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<td>293</td>
<td>20</td>
<td>651</td>
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<td>Hillsdale Ave.</td>
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<td>22</td>
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<td>Hillside Ave.</td>
<td>Glen Ave.</td>
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<td>26</td>
<td>1300</td>
<td>$</td>
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<td>Hillside Ave.</td>
<td>Peach Orchard Rd.</td>
<td>Walnut St.</td>
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<td>Kelly Farm Way</td>
<td>Muller Rd.</td>
<td>Dead End</td>
<td>400</td>
<td>24</td>
<td>1067</td>
<td>$</td>
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<tr>
<td>Larson Cir.</td>
<td>Eugene Rd.</td>
<td>Dead End</td>
<td>400</td>
<td>26</td>
<td>1156</td>
<td>$</td>
</tr>
<tr>
<td>Lido Ave.</td>
<td>Mellin St.</td>
<td>Dead End</td>
<td>580</td>
<td>24</td>
<td>1547</td>
<td>$</td>
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<tr>
<td>Marion Rd.</td>
<td>Carey Ave.</td>
<td>Dead End</td>
<td>634</td>
<td>24</td>
<td>1691</td>
<td>$</td>
</tr>
<tr>
<td>Marjorie Rd.</td>
<td>Jackson Rd.</td>
<td>Holden Rd.</td>
<td>1109</td>
<td>24</td>
<td>2957</td>
<td>$</td>
</tr>
<tr>
<td>Mark St.</td>
<td>Hope St.</td>
<td>Dead End</td>
<td>300</td>
<td>24</td>
<td>800</td>
<td>$</td>
</tr>
<tr>
<td>Mark St.</td>
<td>James St.</td>
<td>Hope St.</td>
<td>900</td>
<td>24</td>
<td>2400</td>
<td>$</td>
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<tr>
<td>McCarthy Dr.</td>
<td>Bedford St.</td>
<td>Dead End</td>
<td>764</td>
<td>28</td>
<td>2377</td>
<td>$</td>
</tr>
<tr>
<td>Oak St.</td>
<td>Peach Orchard Rd.</td>
<td>Mooney Rd.</td>
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<td>24</td>
<td>1760</td>
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<tr>
<td>Paige Rd.</td>
<td>Carlton Ave.</td>
<td>Dead End</td>
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<td>$</td>
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<tr>
<td>Street 1</td>
<td>Street 2</td>
<td>Street 3</td>
<td>Feet</td>
<td>Inches</td>
<td>$</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------------</td>
<td>--------------</td>
<td>------</td>
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<td></td>
</tr>
<tr>
<td>Shamrock Dr.</td>
<td>Center St.</td>
<td>Dead End</td>
<td>200</td>
<td>10</td>
<td>222</td>
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<td>Sheldon St.</td>
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<td>504</td>
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<td>Sunset Dr.</td>
<td>Arlington Rd.</td>
<td>Mildred Rd.</td>
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<td>20</td>
<td>3000</td>
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<tr>
<td>Sylvester Rd</td>
<td>Frances Rd.</td>
<td>Crawford Rd.</td>
<td>965</td>
<td>22</td>
<td>2359</td>
<td></td>
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<tr>
<td>Wyman St.</td>
<td>Mountain Rd.</td>
<td>Randall Dr.</td>
<td>750</td>
<td>24</td>
<td>2000</td>
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</tr>
</tbody>
</table>

Micro-Surfacing MS-15-7146
Bid Opening 5/21/2015 10:00 A.M.
TOTAL BID PRICE

Total Price Bid: $ ____________________________

Bid Price in Words: ____________________________

Name: ____________________________

Signature: ____________________________

Title: ____________________________

Company: ____________________________

Address: ____________________________

Phone: ____________________________

This is an unofficial Bid Spec. If this document is used to submit a bid then you must submit your contact information to Lisa Matarazzo at 781-270-1640 or lmatarazzo@burlington.org in order to be added to the bidders list.
CONTRACTOR REFERENCES

The undersigned offers the following information as evidence of his qualifications to perform the work as bid upon according to all the requirements of the plans and specifications.

1. Have been in business under present name for ___ years.

2. The names and addresses of all persons interested in the bid (if made by a partnership or corporation) as Principals are as follows:

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

(Attach supplementary list if necessary)

3. The bidder is requested to state below what work of a similar character to that included in the proposed contract he has done, and give references that will enable the Owner to judge his experience, skill and business standing (add supplementary page if necessary).

<table>
<thead>
<tr>
<th>#</th>
<th>Completion Date</th>
<th>Project Name</th>
<th>Contract Amount</th>
<th>Reference Name</th>
<th>Telephone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>4</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Bank reference ____________________________
   (Name)
   ____________________________
   (Bank)
   ____________________________
   (Address) (Telephone No.)
CONTRACTOR CERTIFICATION

NON-COLLUSION

I certify under penalties of perjury that this bid or proposal has been made and submitted under 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.

TAX COMPLIANCE

Pursuant to Massachusetts General Law Chapter 62C, Section 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.

LABOR HARMONY / OSHA 10-HOUR

I will furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work, and All employees to be employed in the work subject to this bid 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.

Signature: ______________________________________________________________________

(Person Signing Bid)

_____________________________________________________________________

(Name of Business)
AGREEMENT

THIS AGREEMENT, by and between the party of the first part, the Town of Burlington, hereinafter called “OWNER”, acting herein through its Town Administrator, and the party of the second part hereinafter called “CONTRACTOR”.

WITNESSETH: That for and in consideration of the payments and agreements hereinafter mentioned, to be made and performed by the OWNER, the CONTRACTOR hereby agrees with the OWNER to commence and complete the project described by these bid documents hereinafter called the project, for the sum of the contract price and all extra work in connection therewith, under the terms as stated in the Contract Documents; and at his (its and their) own proper cost and expense to furnish all the materials, supplies, machinery equipment, tools, superintendence, labor, insurance, and other accessories and services necessary to complete the said project in accordance with the conditions and prices stated in FORM OF GENERAL BID, GENERAL CONDITIONS, Contract Documents as prepared by the Owner.

IN WITNESS WHEREOF, the parties to these presents have executed this contract.

$ Contract Price

AGREED:
Town of Burlington

______________________________  ______________________________
Town Administrator               Date

______________________________  ______________________________
Contractor                       Date

Company Name:

Address:

In accordance with M.G.L. C. 44, Section 31C, this is to certify than an appropriation in the amount of this contract is available therefore and that the Town Administrator has been authorized to execute the contract and approve all requisitions and change orders.

______________________________  ______________________________
Town Accountant               Date

Micro-Surfacing MS-15-7146
Bid Opening 5/21/2015 10:00 A.M.
SPECIAL CONDITIONS

1. The Contractor shall submit, prior to the start of any work, the appropriate current job mix formulas approved by MassDOT Highway Division. The Performance Grade Asphalt Binder (PGAB) shall not include any Re-refined Engine Oil Bottoms (REOB).

2. All work under this contract must comply with the most recent edition of the Town of Burlington Department of Public Works; Street Opening/Utility Connection Rules & Regulations.

3. Prior to the commencement of any work the Contractor will obtain a Street Opening permit from the DPW/Engineering Division.

4. At the end of each week the Contractor shall submit an itemized summery/quantities of items per street completed during the week. These quantities will be reviewed with the Engineer before the end of the day on Friday.

5. All paving work, related to placing and rolling of the mix, must be self-performed by the awarded contracting company using their own paid employees and equipment. Contractor must customarily/regularly self-perform the aforementioned work. Proof of ability to self-perform the work may be requested by the Owner.

6. All certified payroll slips must be submitted as part of the pay requisition package for each individual pay requisition request, for each contractor and sub-contractor that has performed work under this contract, up to date of the current pay requisition before the pay requisition will be processed and paid.

7. The commencement date for the contract work shall be Monday June 1, 2015 and terminate on Monday August 31, 2015, ninety (90) working days from June 1, 2015. If work is not completed by August 31, 2015 liquated damages of $1000.00 per day will be assed starting Tuesday September 1, 2015.

8. The Contractor shall have a designated Project Manager, or a designated Foreman, in the field at all times while work is taking place. The Project Manager or designated Foreman shall have the authority to agree on quantities and items with the Engineer and have all decision making ability on behalf of the Contractor. This person shall also be responsible for the location/re-location of all traffic signs and traffic barrels as specified in the Traffic Management Plan or as directed by the Engineer.

9. The removal of the concrete blocks on the corner of the Middlesex Turnpike and Bedford Street will be considered incidental to the work and all labor, equipment,
materials and supplies will be included in the price to install the new concrete sidewalk on Bedford Street. Once the blocks have been removed they will become the property of the contractor to remove and dispose of in the proper legal manner.

10. Under this contract the Contractor agrees to complete “Punch List of Items” assembled by the Engineer. This work includes driveway apron adjustments, installation of new bituminous berm, grind and inlays, loam and seeding, and structure adjustment, included but not limited to the various roads paved under this contract. The “Punch List of Items” will be completed before the final payment requisition is processed. All the items will be paid for under the appropriate bid item under this contract.

11. Traffic Management under this contract must be considered at all times meaning the following points apply:
   - Two (2) way traffic must be maintained at all times
   - Complete compliance with the Traffic Management Plan standards set forth in the Town of Burlington Department of Public Works Street Opening/Utility Connections Rules & Regulations
   - Detours not included as part of the Traffic Management Plan will be allowed only upon written authorization from the Owner and the Contractor is responsible for supplying all necessary sign(s) and traffic barrels to which to attach the signs, for the detour.
   - Contractor is also responsible for carrying twenty five (25) separate traffic barrels to barricade the end of any side roads to prevent traffic from damaging the new road surface.

12. Attention is directed to the following parts of the contract:

<table>
<thead>
<tr>
<th>Description</th>
<th>Location in Contract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation of Bid</td>
<td>Instructions Bidders; Part 3</td>
</tr>
<tr>
<td>Experience of Bidders</td>
<td>Instructions to Bidders; Part 5</td>
</tr>
<tr>
<td>Bid Security</td>
<td>Instructions to Bidders; Part 10</td>
</tr>
<tr>
<td>Execution, Correlation and Intent</td>
<td>General Conditions; Article 1</td>
</tr>
<tr>
<td>Contract Administration</td>
<td>General Conditions; Article 2</td>
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<tr>
<td>Superintendent</td>
<td>General Conditions; Article 4, Section 8</td>
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<td>Project/Progress Schedule</td>
<td>General Conditions; Article 4, Section 9</td>
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<tr>
<td>Liquidated Damages</td>
<td>General Conditions; Article 6</td>
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<tr>
<td>Project Plans</td>
<td>Appendix B</td>
</tr>
<tr>
<td>Prevailing Wage Rates</td>
<td>Appendix C</td>
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13. Summary Table of Important Contract Dates
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<tr>
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<td>Completion of Work No Later Than</td>
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<td>Liquidated Damages</td>
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*Ninety (90) working days from June 1, 2015 is August 31, 2015. Working days are Monday through Friday from 7:00 A.M. to 5:00 P.M.*
GENERAL CONDITIONS

ARTICLE 1

CONTRACT DOCUMENTS

1.1 DEFINITIONS

1.1.1 THE CONTRACT DOCUMENTS
The Contract Documents consist of the Owner-Contractor Agreement, the Conditions of the Contract (General, and other Conditions), the Drawings, the Specifications, all Addenda issued prior to and all Change Orders issued after execution of the Contract, and all applicable laws, ordinances and regulations. The Contract Documents include Bidding Documents such as the Advertisement or Invitation to Bid, the Instructions to Bidders, sample forms, the Contractor’s Bid or portions of Addenda relating to any of these, or any other documents, specifically enumerated in the Owner-Contractor Agreement.

1.1.2 THE CONTRACT
The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a written Change Order.

1.1.3 THE WORK
The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated in such construction.

1.1.4 THE PROJECT
The project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.1.5 OR EQUAL
The use of the words “Or Equal” following the name of any manufacturer, vendor or proprietary product shall be understood to mean that articles or materials may be substituted which, in the opinion of the Owner, are equal in quality, durability, appearance, strength, design and performance to the articles or materials named or described and will perform adequately in providing a first-class facility.
When submitting shop drawing information on articles or materials which are being proposed as substitutes for specified items, the Contractor shall clearly identify them as such. If the articles or materials are accepted as equal to those on which dimensions on the drawings are based, any dimensional variance from those shown and/or specified shall be shown on the shop drawings prepared by the Contractor, illustrating the manner in which conformity to dimensions and design is to be obtained. All such drawings shall
be subject to the approval of the Owner and the installation of the article shall not proceed without first obtaining said approval.

1.2 EXECUTION, CORRELATION AND INTENT

1.2.1 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.2 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonably inferable there from as being necessary to produce the intended results. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance which such recognized meanings.

1.2.3 The Notice to Proceed will come in the form of a written letter to the Contractor. Once the written Notice to Proceed has been received by the Contractor, that date will be legal start date for work under the Contract.

In the event of a failure to issue a Notice to Proceed written document specifying the commencement date, the pre-construction meeting date will serve as the Notice to Proceed date.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All Drawings, Specifications and copies thereof furnished by the Owner are and shall remain the Owner’s property. They are to be used only with respect to this Project and are not to be used on any other project without prior written consent of the Owner. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the Owner at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of any reserved rights.
ARTICLE 2

ADMINISTRATION

2.1 ADMINISTRATION OF THE CONTRACT

2.1.1 The designated representative of the Owner or its Engineer will visit the site at intervals appropriate to the stage of construction to familiarize himself generally with the progress and quality of the Work and to determine in general if the Work is proceeding in accordance with the Contract Documents. However, the Owner’s Representative or Engineer will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

2.1.2 The Owner shall at all times have access to the Work whenever it is in preparation and progress. The Contractor shall provide facilities for such access so the Owner may perform its functions under the Contract Documents.

2.1.3 The Owner shall make payments for completed work, as approved by the Owner, in accordance with M.G.L. Ch. 30, Sec. 39G. A five percent retainage will be deducted from periodic payments to the Contractor.

2.1.4 The Owner will render information necessary for the proper execution or progress of the Work within twenty (20) days of any request by the contractor or in accordance with any time limit agreed upon.

2.1.5 The Owner will have authority to reject Work which does not conform to the Contract Documents. Whenever, in his opinion, he considers it necessary or advisable for the implementation of the intent of the Contract Documents, he will have authority to require special inspection or testing of the Work whether or not such Work is then fabricated, installed or completed. Any such rejection of work shall not relieve the Contractor of the responsibility for maintaining protection of the Work and the Owner’s property.

2.1.6 The Owner or its Engineer will review and approve or take other appropriate action upon Contractor’s submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Owner’s approval of a specific item shall not indicate approval of an assembly of which the item is a component.
2.1.7
The Owner will conduct inspections to determine the date of Substantial Completion and Final Completion, will review written warranties and related documents required by the Contract and assembled by the Contractor, and will issue a final Certificate for Payment.
ARTICLE 3

OWNER

3.1 DEFINITION

3.1.1 The Owner is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the Owner or his authorized representative, which for this Project shall be the Town Engineer.

3.1.2 The Engineer for the Project shall be the Town of Burlington Engineering Division.

3.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

3.2.1 The Owner shall, at the time of execution of the Agreement and any subsequent Change Orders, certify for the Contractor that financial arrangements have been made to fulfill the Owner’s obligations under the Contract.

3.2.2 The Owner shall furnish all documents describing the work.

3.2.3 Except as provided in Subparagraph 4.7.1. Owner shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

3.2.4 Information or services under the Owner’s control shall be furnished by the Owner with reasonable promptness to avoid delay in the orderly progress of the Work.

3.2.5 The Owner will furnish the Contractor with three (3) copies of all Drawings and Specifications and revisions issued during the progress of the Work; all additional copies will be furnished upon request at the cost of reproduction.

3.2.6 The Owner, through its designated agent or Engineer, shall forward all instructions directly to the Contractor.
3.3 OWNER’S RIGHT TO STOP THE WORK

3.3.1 If the Contractor fails to correct defective Work as required by the Owner or fails to carry out the Work in accordance with the Contract Documents or if the Owner shall for any other reason so require, the Owner, by a written order signed personally or by an agent specifically so empowered by the Owner in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated or until further written notice from the Owner; however, this right of the Owner to stop the Work shall not give rise to any duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity. The Contractor shall resume the Work after such stoppage promptly upon written notice to do so from the Owner. If such stoppage is required through no fault of the Contractor, the Contract Time (and the dates for achieving Substantial Completion and Final Completion) shall be extended by a period equal to the period of the stoppage, and the Contractor shall be compensated for its reasonable and justifiable cost incurred as a result of such stoppage.

3.4 OWNER’S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within seven days after receipt of written notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to any other remedy he may have, perform such work or cause such work to be performed and/or make good such deficiencies. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover the amount, the Contractor shall pay the difference to the Owner.

3.5 OWNER’S RIGHT TO TERMINATE CONTRACT

3.5.1 The Town reserves the right to terminate this Contract at their discretion with thirty (30) with written notice to the contractor. In the event of Contract termination, all finished or unfinished work, or un-used material, already paid for under Contract prices, shall become the property of the Town of Burlington.
ARTICLE 4

CONTRACTOR

4.1 DEFINITION

4.1.1 The Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2 REVIEW OF CONTRACT DOCUMENTS

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Owner any error, inconsistency or omission he may discover. The Contractor shall not be liable to the Owner for any damage resulting from errors, inconsistencies or omissions in the Contract Documents which he discovers but shall be liable for damage to the extent he reasonably should have but failed to discover such errors, inconsistencies or omissions. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention which shall not be less than such state of skill and attention generally rendered by the contracting profession for projects similar to the Project in scope, difficulty and location. The Contractor shall maintain adequate supervisory personnel at the Site during the performance of the Work. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the Contractor. This obligation shall also extend to the presence on the Site of suppliers of materials or equipment, their employees, contractors, and agents engaged in the work.

4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Owner in its administration of the Contract.

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4.4 LABOR AND MATERIALS

4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and service necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to him including all persons on the Site controlled directly or indirectly by the Contractor.

4.5 WARRANTY

4.5.1 The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new and of recent manufacture unless otherwise permitted in writing by the Owner and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective and, promptly after written notification of non-conformance, shall be repaired or replaced by the Contractor with Work conforming to such requirements. If required by the Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

4.6 TAXES

4.6.1 The Contractor shall pay all applicable sales, consumer, use and other similar taxes for the Work or portion thereof provided by the Contractor which are legally enacted at the time bids are received, whether or not yet effective.

4.7 PERMITS, FEES AND NOTICES

4.7.1 Unless otherwise expressly provided in the SPECIAL CONDITIONS, the Contractor shall secure and pay for all permits and fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required at the time the bids are received,
and the same shall at all times be the property of the Owner and shall be delivered to the Owner upon completion of the Project.

4.7.2
The Contractor shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work. The Contractor shall provide the Owner with reproductions of all permits, licenses and receipts for any fees paid. The Owner represents that it has disclosed to the Contractor all orders and requirements known to the Owner of any public authority particular to this Contract.

4.7.3
If the Contractor observes that any of the Contract Documents are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be accomplished by appropriate Modification.

4.7.4
If the Contractor performs any Work which he knows or should know is contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

4.8 SUPERINTENDENT

4.8.1
The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site at all times during the progress of the Work. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

4.9 PROGRESS SCHEDULE

4.9.1
The Contractor, immediately after being awarded the Contract, shall prepare and submit for the Owner’s information an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work. No work shall start without the Project schedule. The Contractor shall submit the project schedule five days prior to start the work.

4.10 DOCUMENTS AND SAMPLES AT THE SITE

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4.10.1
The Contractor shall maintain at the site for the Owner one record copy of all Drawings, Specifications, Addenda, Change Orders and other Modifications, and “As-Built” Drawings and Specifications in good order and marked currently to record all changes made during construction, and approved Shop Drawings, Product Data and Samples. These shall be available to the Owner upon completion of the Work.

4.11 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

4.11.1
Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

4.11.2
Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

4.11.3
Samples are physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

4.11.4
The Contractor shall review, approve and submit, with reasonable promptness and in such sequence as to cause no delay in the Work or in the work of the Owner or any separate contractor, all Shop Drawings, Product Data and Samples required by the Contract Documents.

4.11.5
By approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that he has determined and verified all material, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

4.11.6
The Contract shall not be relieved of responsibility for any deviation from the requirements or the Contract Documents by the Owner’s approval of Shop Drawings, Product Data or Samples or the Engineer’s approval of the same unless the Contractor has specifically informed the Owner or Engineer in writing of such deviation at the time of submission and the Owner or Engineer has given written approval to the specific deviation. The Contract shall not be relieved from responsibility from errors or
omissions in the Shop Drawings, Product Data or Samples by the Owner’s approval thereof.

4.11.7  The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data or Samples, to revisions other than those requested by the Owner or its Engineer on previous submittals.

4.11.8  No portion of the Work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Owner or Engineer. All such portions of the Work shall be in accordance with approved submittals.

4.12  USE OF SITE

4.12.1  The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment.

4.13  CUTTING AND PATCHING OF WORK

4.13.1  The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly.

4.13.2  The Contractor shall not damage or endanger any portion of the Work or the work of the Owner or any separate contractors by cutting, patching or otherwise altering any work or by excavation. The Contractor shall not cut or otherwise alter the work of the Owner or any separate contractor except with the written consent of the Owner and of such separate contractor. The Contractor shall not unreasonably withhold from the Owner or any separate contractor his consent to cutting or otherwise altering the Work.

4.14  CLEANING UP

4.14.1  The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project in full compliance with all applicable laws and regulations as well as all his tools, construction equipment, machinery and surplus materials and the Project shall be thoroughly cleaned and ready for immediate occupancy by the Owner.

4.14.2
If the Contractor fails to clean up at the completion of the Work, the Owner may do so as provided in Paragraph 3.4 and the cost thereof shall be charged to the Contractor.

4.15 COMMUNICATIONS

4.15.1
The Contract shall forward all communications to the Owner through its Town Engineer, Town Hall Annex, 25 Center Street, Burlington, MA 01803.

4.16 ROYALTIES AND PATENTS

4.16.1
The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof, except that the Owner shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Owner, and thereafter the Owner insists on the use of the design, process or products specified.

4.17 INDEMNIFICATION

4.17.1
To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, the Engineer and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney’s fees, arising out of or resulting from the performance of the Work, provided that any such claim, damage, loss or expense (1) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including the loss of use resulting there from, and (2) is caused in whole or in part by any negligent act or omission of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified there under. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or of indemnity which would otherwise exist as to any party or person described in this Paragraph 4.17.

4.17.2
In any and all claims against the Owner the Engineer or any of their agents or employees by any employee of the Contractor, any Subcontractor anyone directly or indirectly
employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.17 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers’ or workmen’s compensation acts, disability benefit acts or other employee benefit acts.

4.17.3
The obligations of the Contractor under this paragraph 4.17 shall not extend to the liability of the Owner, the Engineer, their agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications, or (2) written directions or instructions given by the Owner, the Engineer, their agents or employees, provided they are the sole cause of the injury or damage.
ARTICLE 5

INSURANCE

Contractor shall provide insurance as specified below:

**GENERAL LIABILITY**

Includes:
- Comprehensive form
- Premises/Operations
- Underground Explosion & Collapse Hazard
- Products / Completed Operations
- Independent Contractors
- Broad From Property Damage
- Personal Injury

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**Automobile Liability**

Includes:
- All Owned Vehicles
- Hired Vehicles
- Non-owned Vehicles

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<td>Bodily Injury &amp; Property Damage Combined</td>
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**Workers Compensation & Employers Liability**

- As Required by State of Massachusetts

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**Additional Insurance / Requirements**

- The Town of Burlington Shall be named as Additional Insured

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ARTICLE 6

LIQUIDATED DAMAGES

6.1 LIQUIDATED DAMAGES

If the Contractor shall neglect, fail or refuse to complete the work within the time herein specified, or any proper extension thereof granted by the Owner, then the Contractor does hereby agree, as a part consideration for the awarding of this Contract, to pay to Owner the amount of $1000 per day, not as a penalty but as liquidated damages for such breach of Contract as hereinafter set forth, for each and every calendar day that the Contract shall be in default after the time stipulated in the Contract for completing the work.
SPECIFICATIONS

1. DESCRIPTION

Micro-surfacing is a tough and durable thin overlay material which can restore the original service properties to worn but structurally sound pavements. Its properties are based on a blend of select crushed aggregate and a sophisticated chemical formulation of asphalt cement, cationic emulsifiers, adhesives, and latex. This specification covers all materials, equipment, construction and application procedures for rut filling and/or surfacing of existing paved surfaces. The micro-surfacing shall be a mixture of cationic latex modified asphalt emulsion, mineral aggregate, mineral and field control additives, and water, properly proportioned, mixed and spread on the paved surface in accordance with this specification and as directed by the Engineer.

2. MATERIALS

2.1 Emulsified Asphalt

The emulsified asphalt shall be quick-set latex modified cationic type CSS-1H emulsion and shall conform to the requirements specified in AASHTO M208 and ASTM 2397. It shall pass all applicable storage and settlement tests. The latex shall be milled into the emulsion. The cement mixing test shall be waived for this emulsion.

2.1.1 Special Residue Properties

Distillation of residue will be at a temperature of 350 degrees Fahrenheit for twenty (20) minutes. Softening point of the residue shall be 140 degrees Fahrenheit minimum. Viscosity, absolute at 140 degrees Fahrenheit, shall be 8,000 poise minimum.

2.2 Aggregate

2.2.1. General

The mineral aggregate used shall be of the type and grade specified for micro-surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, chat, or other high quality aggregate or combination thereof.

2.2.2 Aggregate Physical Requirements

Grading - The aggregate including natural fines when tested by AASHTO methods T11 or T27 or ASTM C117 or C136, should met the referenced gradation requirements.

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Deleterious Substances - To limit the permissible amount of clay like fines in an aggregate, a sand equivalent value of sixty five (65) or higher is required when tested by ASTM 2419.

Soundness - The aggregate shall have a weighted loss of not more than fifteen (15) percent when the sodium sulfate test is used or twenty (20) percent when the magnesium sulfate test is used.

Hardness - The aggregate wear, from resistance to abrasion, shall be a maximum of thirty five (35) percent when using AASHTO T96 or ASTM C131 test methods.

2.3 Water

The water shall be potable and shall be free of harmful soluble salts.

2.4 Modifier

Special quick-setting emulsifier agents shall be milled into the asphalt emulsion. The emulsified asphalt shall be so formulated that when the paving mixture is applied at thickness of one inch with the relative humidity at not more than fifty (50) percent and the ambient air temperature of at least seventy five (75) degrees Fahrenheit, the material will cure sufficiently so that rolling traffic can be allowed in one hour with no damage to the surface, as verified by the Engineer.

2.5 Additives

A mineral additive shall be introduced to the mineral aggregate and may be any recognized brand of nonair entrained portland cement or hydrated lime that is free of lumps, or other approved mineral additive. It may be accepted upon visual inspection. The amount of mineral additive needed shall be determined by the laboratory mix design and will be considered as part of the material gradation requirement. A liquid field control additive is introduced and blended with water to provide effective control of the required quick-set properties. This additive shall be made available by the chemical supplier or emulsion manufacturer and certifiable as being compatible with the mixture.

3. ENGINEERING

3.1 General

Before work commences, the contractor shall submit a signed mix design covering the specific material to be used on the project. This design shall be performed by a qualified laboratory. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design.

3.2 Mix Design

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The qualified laboratory shall develop the job mix design and present certified test results for the contractors approval. Compatibility of the aggregate and emulsion shall be verified by the mix design. **The job mix formula shall provide a minimum Marshall stability of 1,800 pounds and a flow of six (6) to sixteen (16) units when tested according to the ASTM 1559 or AASHTO 245 procedure as modified.** All component material used in the mix design shall be representative of the material proposed by the contractor for use on the project.

3.3 Specifications

The Engineer shall approve the design mix and all micro-surfacing materials and methods prior to use. The component materials shall be within the following limits.

Residual Asphalt - Five (5) to nine (9) percent by dry weight of aggregate.

Mineral Additive - one half (0.5) to three (3) percent by dry weight of aggregate.

Latex Modifier - As required to provide specified properties.

Field Control Additive - As required to provide the specified properties.

Water - As required to produce consistency.

Aggregate - Recommended Gradations:

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<td>#100</td>
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<td>7-18</td>
</tr>
<tr>
<td>#200</td>
<td>5-13</td>
<td>4-12</td>
</tr>
</tbody>
</table>

**Suggested Application Rate:**

**Type II - Urban and Residential Streets**

Airport Runways: eighteen (18) to twenty two (22) pounds per square yard.

**Type III- Primary and Interstate Routes:**

Twenty five (25) to thirty (30) pounds per square yard.

Wheel Rut: Application rates as required.
4. EQUIPMENT

4.1 General

All equipment, tools, and machines used in the performance of this work shall be maintained in satisfactory working condition at all times to ensure a high quality product.

4.2 Mixing Equipment

The material shall be mixed by a self-propelled micro-surfacing mixing machine which shall be a continuous flow mixing unit able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral and field control additives, and water to a revolving multi-blade twin shafted mixer and discharge the mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral and field control additives, and water to maintain an adequate supply to the proportioning controls. The machine may be equipped with self-loading devices which provide for the loading of materials while continuing to lay micro-surfacing, thereby minimizing construction joints.

4.3 Proportioning Devices

Individual volume or weight controls for proportioning each material to be added to the mix, i.e., aggregate, emulsified asphalt, mineral and field control additives, and water shall be provided and properly marked. These proportioning devices are usually revolution counters or similar devices and are used in material calibration and determining the materials output at any time.

4.4 Emulsion Pump

The emulsion pump shall be a heated positive displacement type.

4.5 Spreading Equipment

The surfacing mixture shall be spread uniformly by means of a mechanical type spreader box attached to the mixer, equipped with paddles to agitate and spread the materials throughout the box. A front seal shall be provided to insure no loss of the mixture at the road contact point. The rear seal shall act as final strike off and shall be adjustable. The mixture shall be spread to fill cracks and minor surface irregularities and leave a uniform skid resistant application of material on the surface. The spreader box and rear strike off shall be so designed and operated that a uniform consistency is achieved to produce a free flow of material to the rear strike off. The longitudinal joint where two passes join shall be neat appearing, uniform and lapped. All excess material shall be removed from the job site prior to opening the road. The spreader box shall have suitable means provided to side shift the box to compensate for variations in pavement width and longitudinal alignment. A Rut Box shall be available to prefill wheel ruts when necessary prior to overlay to eliminate puddles or runoff interruption. The box shall be readily adjustable.
from four to six (4-6) feet width with hydraulically adjusted strike off screeds to attain maximum grade and profile.

4.6 Auxiliary Equipment

Suitable surface cleaning equipment, traffic control equipment, hand tools and any support equipment shall be provided as necessary to perform the work.

5. MACHINE CALIBRATION

Each mixing unit to be used in performance of the work shall be calibrated in the presence of the Engineer prior to construction, or previous calibration documentation covering the exact materials to be used may be acceptable provided they were made during that calendar year. The documentation shall include the individual calibration of each material at various settings, which can be related to the matching metering devices.

6. WEATHER LIMITATIONS

The material shall be spread only when the road surface and atmospheric temperatures are at least forty five (45) degrees Fahrenheit and rising and the weather is not rainy and there is no forecast of temperatures below thirty two (32) degrees Fahrenheit within forty eight (48) hours from the time of placement of the mixture.

7. NOTIFICATION AND TRAFFIC CONTROL

7.1 Notification

All homeowners and businesses affected by the construction shall be notified one day in advance of the surfacing. This notification shall be in the form of a written posting stating the times and dates that construction is expected on their road.

7.2 Traffic Control

Suitable methods shall be used by the contractor to protect the micro-surface from traffic until the new surface will support traffic without damage. All traffic control methods used shall be in accordance with the Engineer’s specifications and shall be employed in a safe manner.

8. SURFACE PREPARATION

8.1 General
The area to be surfaces shall be thoroughly cleaned of vegetation, loose aggregate and soil, particularly soil that is bound to the surface. Manholes, valve boxes and other service entrances will be protected from the surfacing material.

8.2 Cracks in Surface

If directed by the towns’ representative the contractor shall pretreat the cracks in the pavement surface with fiber reinforced crack filler consistent with Specification No. 1B for Random Crack Sealing by Fiber Reinforced Method prior to the application of microsurfacing.

8.3 Tack Coat

If required by the plans, the contractor shall apply a tack coat consisting of one part emulsified asphalt and three parts water with a distributor at 0.10-0.15 gallons per square yard. This emulsified asphalt should be the CSS1H emulsion grade. It is recommended that a tack coat always be applied to a concrete or brick surface.

9. STOCKPILE

Precautions shall be taken to insure that stockpiles do not become contaminated. The mineral aggregate shall be screened prior to being weighed for job site delivery. This weight shall be done by means of a scale approved by the Engineer.

10. APPLICATION

10.1 General

The surface should be pre-wetted by fogging ahead of the spreader box when required by local conditions. The rate of application of the fog spray shall be adjusted during the day to suit temperatures, surface texture, humidity, and dryness of the pavement surface.

The micro-surfacing mixture shall be of the desired consistency upon leaving the mixer and no additional materials should be added. A sufficient amount of material shall be carried in all parts of the spreader at all times so that a complete coverage is obtained. Overloading of the spreader shall be avoided. No lumping, balling, or unmixed aggregate shall be permitted.

No streaks, such as those caused by oversized aggregate, will be left in the finished surface. If excessive oversize develops, the job will be stopped until the contractor proves to the Engineer that the situation has been corrected.

10.2 Joints
No excessive buildup, uncovered areas or unsightly appearances shall be permitted on longitudinal or transverse joints. The contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. When possible, longitudinal joints shall be placed on lane lines. Half passes and odd widths passes will be used only in minimum amounts. If half passes are used, they shall not be the last pass of any paved areas.

10.3 Mix Stability

The micro-surfacing mixture shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess water or emulsion and free of segregation of the emulsion and aggregate fines from the coarser aggregate.

10.4 Hand Work

Areas which cannot be reached with the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement. Care shall be exercised to leave no unsightly appearance from handwork.

The same type finish as applied by the spreader box shall be required. Handwork shall be completed at the time of the machine applying process.

10.5 Lines

Care shall be taken to insure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a good appearance.

10.6 Rolling

If required by the plans, specified areas shall be rolled by a self-propelled ten (10) ton pneumatic roller with a tire pressure of fifty (50) pounds per square inch and equipped with a water spray system.

11. QUALITY CONTROL

11.1 Materials

The contractor will permit the Engineer to take samples of the aggregate and asphalt emulsion to be used in the project at the Engineer’s discretion. Gradation and sand equivalent tests may be run on the aggregate and residual asphalt content test on the emulsion. Test results will be compared to specifications. Tests will be run by a qualified
laboratory at the expense of the buyer. The buyer must notify the contractor immediately if any test fails to meet the specifications.

11.2 Micro-Surfacing Mixture

Samples of the mixture should be taken daily and may be taken directly from the mixing unit(s). Consistency and residual asphalt content tests may be made on the samples and compared to the specifications. Tests will be run by a qualified laboratory at the expense of the buyer. The buyer must notify the contractor immediately if any test fails to meet specifications.

The Engineer may use the recorder and measuring facilities of the unit to determine application rates, asphalt emulsion content, mineral and field control additives, and water.

11.3 Non-Compliance

If any two successive tests fail on the stockpile material, the job shall be stopped. It is the responsibility of the contractor, at his own expense, to prove to the Engineer that the conditions have been corrected. If any two successive tests on the mix from the same machine fail, the use of the machine shall be suspended. It will be the responsibility of the contractor, at his own expense, to prove to the Engineer that the problems have been corrected and that the machine is working properly.

12. PERFORMANCE

It is the intention of this Public Agency not to award a contract for Micro-Surfacing work under this or any other proposal if the bidder 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 him to prosecute the work successfully and to complete it within the time named in the contract; and that the Public Agency reserves the right to reject this or any other proposal or to award the contract as is deemed to be to the best interest of said Public Agency.

13. PERFORMANCE WARRANTY

The contractor must furnish the following warranty after completion of the work and prior to final payment:

The Contractor hereby warrants that all workmanship and all materials furnished under the contract comply fully with requirements of these Micro-Surfacing Specifications. If at any time within two years after the date of the final inspection, any unfaithful or defective work should appear, which in the opinion of the Buyer is due to inferior materials or workmanship, the Contractor warrants to do whatever is necessary to remedy the defects immediately without cost to the Buyer. The Buyer will notify the Contractor
in writing of the defects and the repairs to be made, and the Contractor will begin repairs within a mutually agreed time frame.
EXTENDO-PAVE CRACK SEALING SPECIFICATIONS

1. SCOPE OF WORK

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, and vegetation removal and sterilization of cracks where necessary.

2. MATERIAL

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

(a) The asphalt binder shall consist of a blend of neat asphalt binder and chemically modified crumb rubber (CMCR) that meets the following specifications:

- PG 64-34 or PG 70-34 after modification
- Viscosity of not more than 3PaS at 300 degrees Fahrenheit
- Modification at a minimum shall consist of 5% CMCR and the maximum particle size for the CMCR shall be 80 mesh (#80 sieve)
- The performance grade of the neat asphalt binder shall not exceed a PG 58-XX
- The asphalt supplier shall provide testing for the neat asphalt binder and modified asphalt binder in accordance with AASHTO M320

(b) Fiber reinforcing materials shall be short-length polyester fibers having the following properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length*</td>
<td>0.25in.+0.02</td>
</tr>
<tr>
<td>Elongation at Break; ASTM D2256-90</td>
<td>38%</td>
</tr>
<tr>
<td>Melting Point; ASTM D3418-82</td>
<td>&gt;475 degrees F (246 degrees C)</td>
</tr>
<tr>
<td>Crimps/Inc; ASTM D3937-90</td>
<td>None</td>
</tr>
<tr>
<td>Cross Section</td>
<td>Round</td>
</tr>
<tr>
<td>Denier; ASTM D1577-90</td>
<td>4.5 Nominal dpf</td>
</tr>
<tr>
<td>Tensile Strength; ASTM D2256-90</td>
<td>&gt;70,000 psi</td>
</tr>
<tr>
<td>Diameter</td>
<td>0.0085 in. **</td>
</tr>
<tr>
<td>Specific Gravity; ASTM D792-91</td>
<td>1.32 to 1.40</td>
</tr>
</tbody>
</table>

* At temperatures ranging from ambient to maximum finished product mix temperature
** Subject to Normal Variations

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.

Micro-Surfacing MS-15-7146
Bid Opening 5/21/2015 10:00 A.M.
3. EQUIPMENT

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

(a) Air Compressor: Air compressors shall be portable and capable of furnishing not less than 100 cubic feet of air per minute at not less than ninety (90) pounds 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.

(b) 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.

(c) Melter: The unit used to melt or maintain 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 degrees Fahrenheit. 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 degrees Fahrenheit and 550 degrees Fahrenheit and must be capable of pumping an eight (8) percent fiber content blend.

4. PREPARATION OF CRACKS

(a) Debris and Vegetation Removal: All cracks shall be blown clean and sterilized by use of a propane air torch generating 2,000 degrees Fahrenheit and 3,000 foot/second velocity to eliminate all vegetation, dirt, moisture and seeds. All debris removed from the cracks shall be removed from the pavement surface immediately by means of a power sweeper, hand or air broom.

(b) General: No crack sealant material shall be applied in wet cracks or, where frost, snow or ice is present nor when ambient temperature is below twenty five (25) degrees Fahrenheit.

5. PREPARATION AND PLACEMENT OF SEALANT

Micro-Surfacing MS-15-7146
Bid Opening 5/21/2015 10:00 A.M.
(a) The asphalt-fiber compound shall be thoroughly mixed for a minimum of one hour before application can begin. Whenever material is added to the tank, sealing operations shall be suspended for one (1) hour to allow for the minimum required mixing time. Minimum application temperature shall be 320 degrees Fahrenheit.

(b) 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 three and one half (3.5) inches. Once the pavement cracks are sealed the width of the sealant on the pavement (overbanding) shall be no greater than three (3) inches. When traffic requires immediate use of the roadway, a boiler slag aggregate shall be broadcast over the cracks to prevent sealant from being picked up.

6. 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 engineer in charge.

7. PERFORMANCE

(a) It is the intention of the Public Agency not to award a contract for this work under this or any other proposal if the bidder 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 him to prosecute the work successfully and to complete it within the time named in the contract; and the Public Agency 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 Public Agency.

(b) Properly formulated and mixed asphalt fiber compound overbanding shall not be greater than three (3) inches in width. Penalties will be imposed upon the contractor for overbanding beyond three (3) inches.

(c) The contractor must submit the following with his bid proposal:

- A list of six (6) jobs which he has successfully completed, giving the name and the address of these projects so they can be investigated prior to the award of the contract.
- The trade name of the crack sealant the bidder intends to use.
- The manufacturer of the crack sealant the bidder intends to use.

(d) The Owner will require the contractor to successfully perform a 200 foot test strip in the field prior to commencing work under the contract.

(e) Manufacturer’s certificate of material compliance will be furnished to the Owner certifying conformance to the above material specifications.
MEASUREMENT & PAYMENT

The unit of measure shall be a lump sum payment per street completed.

Payment shall be at the unit price bid in the proposal and shall be full compensation for furnishing, preparing, placing the material specified and furnishing of all labor, equipment and incidentals for the satisfactory completion of this item.
APPENDIX A – PLANS
APPENDIX B – PREVAILING WAGE