

PURCHASING DIVISION
CITY OF WORCESTER
MASSACHUSETTS 01608-1895
ROOM 201 - CITY HALL
PHONE (508) 799-1220

SEALED BID INVITATION
(Supplies, Material, Equipment, Services)

AN EQUAL OPPORTUNITY AFFIRMATIVE ACTION EMPLOYER

SEALED BID NO. CR-7911-M3
DATE: October 11, 2022
CITY OF WORCESTER Christopher J. Gagliastro, MCPPO Purchasing Agent
BUYER: Maureen McKeon

NOTICE TO BIDDERS
TERMS AND CONDITIONS

All bids are subject to the terms and conditions and specificity herein set forth except where specifically deleted by the City of Worcester in Section No. 6 below.

COMPLETE ORIGINAL COPY (including ALL pages) OF THIS BID MUST BE SUBMITTED IN A SEALED ENVELOPE:

DATE: November 2, 2022 TIME: 10:00 A.M. LOCAL TIME

PLACE: Purchasing Division, Room 201, City Hall, Worcester, Massachusetts

MARK SEALED ENVELOPE **"Sealed Bid No. CR-7911-M3, Cold Patch Mix / DPW & P"**

The name and address of the bidder must appear in the upper left hand corner of the envelope. The City of Worcester is not responsible for bids not properly marked.

GENERAL

1. This Bid Invitation covers: provide cold patch mix as per the attached requirements and specifications of the City of Worcester Department of Public Works & Parks for a period of one year from December 14, 2019 thru December 13, 2020.
2. A certified check or bid bond made payable to the "City Treasurer, City of Worcester" in the Amount of \$ N/A must accompany this bid.
3. All bids received will be publicly opened and read in the Bid Room at City Hall at date and time shown above.
NO BID WILL BE ACCEPTED AFTER TIME AND DATE SPECIFIED
4. A performance bond in the amount of \$ N/A of the total dollar award is required.
5. A payment bond in the amount of \$ N/A of the total dollar award is required.
6. All terms and conditions are applicable to this proposal except the following section numbers which are hereby deleted from this invitation: 39 – 43
7. **Other: Please go to <http://www.worcesterma.gov/e-services/bids/closed-bids> to obtain results.**

Questions pertaining to this bid **must be** directed to Maureen McKeon via email at mckeonmp@worcesterma.gov

8. The following meanings are attached to the defined words when used in this bid form.
 - (a) The word "City" means The City of Worcester, Massachusetts.
 - (b) The word "Bidder" means the person, firm or corporation submitting a bid on these specifications or any part thereof.
 - (c) The word "Contractor" means the person, firm or corporation with whom the contract is made by carrying out the provisions of these specifications and the contract.
 - (d) The words "Firm Price" shall mean a guarantee against price increases during the life of the contract.
9. Any prospective bidder requesting a change in or interpretation of existing specifications of terms and conditions must do so within five (5) days (Saturdays, Sundays and Holidays excluded) BEFORE scheduled bid opening date. All requests are to be in writing to the Purchasing Division (or e-mailed at: mckeenmp@worcestermma.gov). No changes will be considered or any interpretation issued unless the request is in our hands within five (5) days (Saturdays, Sundays and Holidays excluded) BEFORE scheduled bid opening date.
10. The contractor will be required to indemnify and save harmless the City of Worcester, for all damages to life and property that may occur due to his negligence or that of his employees, subcontractors, etc., during this contract.
11. The Contract Agreement will be in the form customarily employed by the City of Worcester and is on file in the Purchasing Division at City Hall.
12. Bids which are incomplete, not properly endorsed, or signed, or otherwise contrary to these instructions will be rejected as informal by the Purchasing Agent. **Conditional bids will not be accepted.**
13. The Bidder must certify that no official or employee of the City of Worcester, Massachusetts is pecuniarily interested in this proposal or in the contract which the bidder offers to execute or in expected profits to arise therefrom, unless there has been compliance with provisions of G.L. C. 43 Sec. 27, and that this bid is made in good faith without fraud or collusion or connection with any other person submitting a proposal.
14. As the City of Worcester is exempt from the payment of Federal Excise Taxes and Massachusetts Sales Tax, prices quoted herein are not to include these taxes.
15. All prices are to be firm F.O.B. Destination, City of Worcester, Massachusetts, unless otherwise indicated by the City. **Time reserved for award is ninety days.**
16. In case of error in the extension prices quoted herein, the unit price will govern.
17. It is understood and agreed that should any price reductions occur between the opening of this bid and delivery of any order, the benefit of all such reductions will be extended to the City.
18. The City of Worcester reserves the right to reject any and all bids, wholly or in part, and to make awards in a manner deemed in the best interest of the City.
19. Awards will be made to the bidder quoting the lowest net price in accordance with the specifications.
20. The supplier will be bound by all applicable statutory provisions of law of the Federal Government, the Commonwealth of Massachusetts, the City of Worcester, and the Department of Public Safety of the Commonwealth of Massachusetts.
21. Any bid withdrawn after time and date specified, the bidder shall forfeit deposit on bid as liquidated damages.
22. The contractor will not be permitted to either assign or underlet the contract, not assign either legally or equitably any monies hereunder, or its claim thereto without the previous written consent of the City Treasurer and of the Purchasing Agent of the City of Worcester.
23. If this bid shall be accepted by the City, and the bidder shall fail to contract as aforesaid and to give a bond in the amount as specified in Section 4, within ten (10) days, (not including Sunday or a legal Holiday) from the date of the mailing of a notice from the City to him/her, according to the address given herewith, that the contract is ready for signature, the City may by option determine that the bidder has abandoned the contract and thereupon the

proposal and acceptance shall be null and void and the bid security accompanying this proposal shall become the property of the City as liquidated damages.

24. When quoting, the bidder shall submit a signed copy of this bid form, and if bid accepted by the City shall constitute part of the contract of purchase. Do not detach any part of this form 30B (Sealed Bid Goods & Services) when submitting a bid. Bidder must sign and return complete form 30B (Sealed Bid Goods & Services).
25. If in the judgment of the Purchasing Agent any property is needlessly damaged by an act or omission of the contractor or his/her employees, servants or agent, the amount of such damages shall be determined by the Purchasing Agent of the City of Worcester and such amount shall be deducted from any money due the contractor or may be recovered from said contractor in actions at law.
26. It is agreed that deliveries and/or completion are subject to strikes, lockouts, accidents and/or Acts of God.

INSURANCE AND WORKER'S COMPENSATION

27. COMMERCIAL GENERAL LIABILITY INSURANCE: Contractor to supply the City of Worcester with certificates of insurance evidencing general liability coverage of not less than \$ 1,000,000.00 per occurrence / \$ 2,000,000.00 aggregate.
28. AUTOMOBILE LIABILITY INSURANCE: Contractor to supply the City of Worcester with certificates of insurance evidencing automobile liability coverage, bodily injury and property damage combined single limit, of \$ 1,000,000.00 (all owned, hired, and non-owned autos).
29. COMPENSATION INSURANCE: The contractor shall furnish the City of Worcester with certificates showing that all of his/her employees who shall be connected with this work are protected under statutory worker's compensation insurance policies.
30. The Contractor shall carry public liability insurance with an insurance company satisfactory to the City so as to save the City harmless from any and all claims for damages arising out of bodily injury to or death of any person or persons, and for all claims for damages arising out of injury to or destruction of property caused by accident resulting from the use of implements, equipment or labor used in the performance of the contractor or from any neglect, default or omission, or want of proper care, or misconduct on the part of the Contractor or for anyone of his employ during the execution of the contract.
31. Prior to starting on this contract, the Contractor shall deposit with the Contracting Officer certificates from the insurer to the effect that the insurance policies required in the above paragraphs have been issued to the Contractor. The certificates must be on a form satisfactory to the Purchasing Agent.
32. Except as may otherwise be stated herein, the Contractor shall also carry bodily injury and property damage insurance in an amount not less than those set forth above covering the operation of all motor powered vehicles owned or operated by the Contractor and engaged in this contract.

DISCOUNT

33. Prompt pay discounts will be considered when determining the low bid except when prompt pay discounts are for a period of less than 30 days. In this event prompt pay discounts will not be taken into consideration when determining low bid.
34. Time, in connection with discount offered, will be computed from date of completion and/or delivery and acceptance at destination, or from date correct bill or voucher properly certified by the contract is received if the latter date is later than the date of completion and acceptance and/or delivery and acceptance.

GUARANTEE

35. The bidder to who a contract is awarded guarantees to the City of Worcester all equipment, materials and or workmanship for a period of one (1) year after final inspection and acceptance and shall replace promptly any defective equipment, materials and/or workmanship required without additional cost to the City.

DELIVERIES AND COMPLETION

36. It is understood and agreed that in the event of failure on the part of the bidder to indicate date of delivery and/or completion, delivery and/or completion will be made within twelve (12) days from date of notification. Should the successful bidder fail to make delivery or complete contract within time specified, the City reserves the right to make the purchase on such orders at the open market and charge any excess over contract price to the account of the successful bidder, who shall pay the same.
37. The contractor shall familiarize himself with the location and facilities for storage.
38. The City through its Purchasing Division reserves the right to divert delivery from one location to another, and to allow for any change in operating conditions or for any other cause not now foreseen and to proportion deliveries according to available storage facilities.

SAMPLING AND ANALYSIS

39. Each bidder must state the commercial name of the product quoted, name, and address of operator or agent from whom the product will be purchased and in addition shall furnish an analysis of the product, date of analysis, by whom made and their address.
40. Samples of the product to be delivered may be taken by a representative of the City, either prior to delivery or while it is being delivered in the storage facilities at destination, or will be taken from the storage facilities to which the product has been delivered as determined from time to time by the Purchasing Agent. Bidder agrees to furnish the necessary manual labor, without additional cost required to assemble the physical samples, which is to be performed under the direction of the City representative.
41. The representative of the City taking the samples shall be given the opportunity, while sampling, to affix his or her signature to the delivery slip each item represented in his/her sample.
42. Any product after the sampling and analysis, not found meeting the requirements of the contract shall be sufficient cause for the cancellation of the contract at the option of the Purchasing Agent.
43. If any product is found that does not meet the analysis submitted by the bidder in his/her proposal, the Purchasing Agent may, at his or her option, exercise his/her right to reject the product and require that all or any part thereof shall be removed promptly by and at the expense of the contractor and replace it forthwith with a product satisfactory to the Purchasing Agent, or to retain the product and compensate the contractor in an amount as determined by the Purchasing Agent and the City Manager.
44. It is understood and agreed that it shall be a material breach of any contract resulting from this bid for the Contractor to engage in any practice which shall violate any provisions of Massachusetts General Laws, Chapter 151B, relative to discrimination in hiring, discharge, compensation, or terms, conditions or privileges of employment because of race, color, religious creed, national origin, sex, age or ancestry.
45. The undersigned as bidder, declares that the only parties interested in this proposal as principals are named herein; that this proposal is made without collusion with any other person, firm or corporation, that no officer or agent of the City is directly or indirectly interested in this bid; and he/she proposes and agrees that if this proposal is accepted he/she will contract with the City in accordance with the specifications, also the terms and conditions as spelled out in this bid form.
46. No Person, including but not limited to corporations, partnerships, limited partnerships or limited liability corporations, shall be eligible to receive a contract under this invitation to bid and/or requires for proposal if that person has been convicted of any felony offense involving the distribution of controlled substances as that term is defined under Chapter 94C of the General Laws and, for contracts to be performed for on-site services to the Worcester Public Schools, if that person or any person to be employed by that person in the performance of such on-site services has been convicted of a "sex offense" or a "sex offense involving a child" or a "sexually violent offense" or would meet the definition of "sexually violent predator" as those terms are defined in Section 178C of the General Laws and who must register with the sex offender registry board.

47. The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ for work or services relating to this contract any unfit person or anyone not skilled in the task assigned to him. In light of the fact that the performance of this contract requires the Contractor and its employees to have significant interaction with the public, the Contractor shall require all employees who may perform services under this contract to conduct themselves in a courteous, professional manner. If the Contractor is notified by the Contract Officer that any person engaged upon the work is incompetent, unfaithful, disorderly, discourteous, or otherwise unsatisfactory, then such person shall be discharged from providing services or work pursuant to this contract. Without limiting the generality of the foregoing, intimidation, threats and/or violent conduct of any kind or nature directed to members of the public are absolutely prohibited. Failure to comply with this requirement shall be grounds for termination of the contract.
48. The Contractor's performance may be evaluated on an ongoing basis including but not limited to consideration of complaints received from members of the public. In order to facilitate this evaluation, the Contractor shall provide the City with documents and records upon request. The Contractor shall further obtain from its employees authorization that appropriate City personnel may obtain all available criminal offender information ("CORI") from the Criminal History Systems Board. A high number of unresolved complaints, any number of complaints that are particularly severe, or employment of individuals who have been convicted of assault or other violent crimes shall be grounds for the early termination or non-renewal of the contract by the City.
49. The procurement officer shall award the contract to the lowest responsible and responsive bidder. The term "responsible bidder" means "a person who has the capability to perform fully the contract requirements, and the integrity and reliability which assures good faith performance." Consistent with its duty to maintain public order and promote public safety, the City has determined that this contract is of a type and nature so as to be particularly sensitive due, at least in part, to the contractor's inherent access and dealings with the members of the general public. Therefore, the City has concluded that additional scrutiny is justified as it determines whether a particular bidder is responsible, having the integrity and reliability to properly perform the requested services. This may entail consideration of the contractor's system of oversight, training and supervision of its employees, including but not limited to its requirement of a high standard of customer service and courtesy in its dealings with the public. The bidder's care and diligence in hiring and assigning its employees will also be considered. In making its determination, the City reserves the right to examine any and all information at its disposal, including but not limited to prior City contracts, the experiences and information obtained from current and former customers (whether identified by the bidder as references or not), as well as other sources available to the City, including but not limited to court documents, newspapers, financial reports (such as DUNS), and certain police data and reports.
50. The Contractor, acting through its owner(s) or any of its employees, or its agents or sub-contractors and any of their employees, shall not engage in any behavior, whether during the course of its duties under this contract or at any other time, that is illegal, criminal or otherwise shocking or offensive to the general public. The determination whether any particular behavior is illegal, criminal or shocking to the general public shall rest in the sound judgment of the Contracting Officer or the City Manager. In making such determination, the Contracting Officer or the City Manager shall apply the general standards of the community. No criminal conviction or formal charges shall be required to make such determination. Such behavior need be something more than trivial and something which would cause the general public to have concerns either about the safety of individuals coming in contact with the Contractor or about the character and integrity of the individuals with which the City does business. Violation of this provision shall be grounds for immediate and unilateral termination of this contract by the City upon five days' notice as otherwise provided herein

GIVE FULL NAMES AND RESIDENCES OF ALL PERSONS INTERESTED IN THE FOREGOING PROPOSAL.

(NOTICE: Give first and last name in full; in case of corporations, give corporate name and names of President, Treasurer, and Manager; and in case of firms give names of the individual members)

Name	Address	Zip Code
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

KINDLY FURNISH THE FOLLOWING INFORMATION REGARDING BIDDER:

(1) If a Proprietorship

Name of Owner _____

Business Address _____

Zip Code _____ Telephone No. _____

Home Address _____

Zip Code _____ Telephone No. _____

(2) If a Partnership

Full names and addresses of all partners

<u>Name</u>	<u>Address</u>	<u>Zip Code</u>
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_____	_____	_____
_____	_____	_____
_____	_____	_____

Business Address _____ Zip Code _____

Tel. No. _____

(3) If a Corporation

Full Legal Name _____

State of Incorporation _____ Qualified in Massachusetts ? Yes _____ No _____

Principal Place of Business _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

Place of Business in Massachusetts _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

GIVE THE FOLLOWING INFORMATION REGARDING SURETY COMPANY

Full Legal Name of Surety Company _____

State of Incorporation _____ Admitted in Massachusetts ? Yes _____ No _____

Principal Place of Business _____

Street P.O. Box

City/Town State Zip

Place of Business in Massachusetts _____

Street P.O. Box

City/Town State Zip

Telephone No. _____

NOTE

The Office of the Attorney General, Washington, D.C. requires the following information on all bid proposals amounting to \$1,000.00 or more.

F.I.D. Number of bidder _____

This number is regularly used by companies when filing their "EMPLOYER'S FEDERAL TAX RETURN, U.S." Treasury Department Form 941.

AUTHORIZED SIGNATURE OF BIDDER _____ TITLE _____
PLEASE SIGN

DATE _____ BID SECURITY \$ _____

The name of Customer Service Representative and the Contract Administrator responsible for servicing this account in the event of contract award are:

NAME (PLEASE PRINT) *Customer Service Rep.* _____ TEL. NO. _____

NAME (PLEASE PRINT) *Contract Administrator* _____ TEL. NO. _____

FAX NUMBER _____ FAX # _____

E-MAIL (Customer Service Rep.): _____

E-MAIL (Contract Administrator): _____

UNDER MASSACHUSETTS GENERAL LAWS, CHAPTER 30B: SECTION 10, THE FOLLOWING CERTIFICATION MUST BE PROVIDED:

Section 10. A person submitting a bid or a proposal for the procurement or disposal of supplies, or services to any governmental body shall certify in writing, on the bid or proposal, as follows:

" 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."

(Please Print) _____
Name of Person Signing Bid

Signature of Person Signing Bid

Company

No award will be made without vendor certification of the above.

Bidders must state and identify the product offered, such as manufacturer's name, trade name, brand name and quality next to each item. WE MUST KNOW WHAT HAS BEEN OFFERED.

The quantities shown herein are estimated only and the Contractor will be required to furnish all quantities ordered by the City during the period of the contract.

YES X NO _____

Delivery to be made to: DPW & Parks Locations as required

This Bid includes addenda numbered _____

NO PRICE ADJUSTMENTS ALLOWED. PRICES QUOTED ARE FINAL. CHECK BEFORE SIGNING!

BIDDER TO COMPLETE ITEMS BELOW

Item No.	Estimated Annual Quantity	Description			Unit Price	Total Amount
		Provide Cold Patch Mix for DPWP as per attached requirements and specifications Bidders may bid on one or all items, but must bid on both A & B for each group. Award to be made by group. Questions pertaining to this bid must be directed to Maureen McKeon via email at mckeonmp@worcesterma.gov				Refer to Pricing Page

TERMS, PROMPT-PAY DISCOUNT _____% 30 DAYS, NET 45 DAYS.

DELIVERY AND/OR COMPLETION TO BE MADE WITHIN _____ DAYS FROM DATE OF NOTIFICATION BY THE CITY.

NAME OF BIDDER _____

PRICING PAGE – CR-7911-M3, COLD PATCH MIX / DPWP

TO BE AWARDED ON THE TOTAL PRICE OF GROUP (i.e. 1A + 1B).

Group 1: U.P.M. Mix as per attached specifications					
Item #	Estimated Annual Quantity	Measure	Description	Unit Cost per Ton	Extended Cost
1A	100	Tons	Delivered to D.PW. Yard		
1B	50	Tons	Picked up by City Truck		
TOTAL GROUP # 1 (A+B)					

Group 2: High Performance Permanent Cold Patch (QPR) as per attached specifications					
Item #	Estimated Annual Quantity	Measure	Description	Unit Cost per Ton	Extended Cost
2A	150	Tons	Delivered to D.PW. Yard		
2B	50	Tons	Picked up by City Truck		
TOTAL GROUP # 2 (A+B)					

Group 3 High Performance Cold Patch (All Patch) as per attached specifications					
Item #	Estimated Annual Quantity	Measure	Description	Unit Cost per Ton	Extended Cost
3A	150	Tons	Delivered to D.PW. Yard		
3B	50	Tons	Picked up by City Truck		
TOTAL GROUP # 3 (A+B)					

SPECIFICATIONS/REQUIREMENTS – COLD PATCH MIX / DPW & P ~ BID #: CR-7911-M3

U.P.M. MIX

AFFIDAVIT: It shall be the responsibility of the successful bidder to furnish an affidavit that his product meets or exceeds the above specifications. The affidavit shall have attached analysis done by an independent testing laboratory certifying that the material conforms to these specifications.

PERFORMANCE GUARANTEE

- The supplier of the material shall guarantee the performance of the patching mix to meet the following requirements:
 - A. The material shall remain workable, in an uncovered stockpile, if applicable, for a period of not less than 12 months.
 - B. Containerized material, if applicable, shall have a shelf life and remain workable for a period of not less than 12 months.
 - C. Repaired potholes shall not show any significant signs of shoving, rutting, tracking, kick-up or ravel-out within a period of 12 months from the time of repair.
- In the event the material furnished does not meet all of the above requirements suppliers shall replace the unsatisfactory with approved material at the Department's option.
- In the event that the replacement option is exercised, the supplier shall be required to remove the unused portion of the unacceptable material at no expense to the Department and deliver an equal quantity of acceptable material. The material shall be delivered to the location(s) designated by the Engineer within 14 days from the date of written notification from the Department. The acceptable material shall be provided and delivered at no extra charge to the Department.

PROCEDURE FOR COATING

- Wet Stone Coating Test - Place four hundred and seventy (470) grams of designated stone in tin container of a minimum one quart size. Cover the stone with distilled water for 5 minutes. Drain off excess water leaving stone in wet condition. Immediately add thirty (30) grams of Liquid asphalt to stone and stir vigorously using spatula.
- If aggregate is not coating completely, apply heat to can while stirring; do not heat the material over one hundred fifty degrees F (150 degrees F). If, after heating, at least ninety-five percent (95%) coating of aggregate surface (by visual inspection and estimation) is not obtained, the material is considered to be unacceptable.
- Immediately after performing stone coating test and recording results, the mixture which has passed the coating test will be transferred to a glass container of approximately one thousand (1000) ml capacity. After mixture has cooled approximately 80 minutes to room temperature, immerse the sample in a stock solution of strip test material (see note). The sample shall be completely covered with the strip test solution and allowed to stand for twenty-four (24) hours. After twenty-four (24) hours the sample shall be removed from the strip test solution, spread on a flat surface and inspected immediately (within one minute). If at least ninety percent (90%) coating of aggregate surface is not retained (by visual inspection and estimation) the Material is considered unacceptable.

NOTE: The strip test solution shall be made by dissolving the specified amount of the strip test material into one (1) gallon of distilled water, making sure that the powder is completely dissolved before using.

2 oz. Westolite XXX powder made by: West Chemical Products, Inc.
42 -18 West Street
Long Island City, N.Y. 11101

OR

1 oz. State Chemical A25 made by: State Chemical Mfg. Co.
3100 Hamilton
Cleveland, OH 44114

REPORTING

- Coating Test - Report the percent coated as one of the following:
 - Passes 85% Stripping Test
 - Fails 90% Stripping Test

COATING AND STRIPPING TEST FOR LIQUID ASPHALT MATERIAL

APPARTUS

- A. Containers for mixing such as 1 quart to 1 gallon also open mouthed friction top tin cans.
- B. Containers for stripping test - Glass containers or beakers of 1000 ml capacity or greater.
- C. Scales - With a capacity of 1000 grams or greater, accurate to +/- 0.1 gram,
- D. Spatula - Steel, with a stiff blade 1/2 to 1" in width and 4-6" in length or the equivalent.
- E. Heat Source - Heat lamp, oven, Bunsen burner, hot plate or any convenient heat source capable of heating the mixing can.
- F. Plastic Jug - One gallon capacity for stock solution of Westolite XXX or State Chemical A-25.
- G. Thermometer - With a minimum range of 0 degree - 100 degree F, capable of being read to the nearest degree.

MATERIALS

- A. Aggregates - Shall be as outlined in the aggregate section of Specification.
- B. Liquid Asphalt Material - The test bituminous material meeting the property requirements as specified in the liquid asphalt section of Specification.
- C. Westolite XXX or State Chemical A-25 powder.
- D. Distilled Water - The test water must have a ph. of 6.0 to 7.0. No electrolytes of any kind shall be used for ph. Correction.

AGGREGATE

Soundness Loss (Sodium, 5 cycles)	ASTM C 88	12.0 maximum
Los Angeles Abrasion Loss	ASTM C 131	45.0% maximum
Specific Gravity	ASTM C 127	2.45-2.75
Absorption	& 128	1.0-3.0%
Minus 200 Sieve Wash Loss	ASTM C 117	2.5 maximum

PREPARATION OF MIXTURE

- The mixture shall be prepared whenever possible with no heat applied to the aggregate and the asphalt heated to a temperature between 90 degree - 275 degree F.
- Heat may be applied to the aggregate under the following conditions:
 - Frozen Aggregate
 - The plant has a bag system for dust collection
 - When the screens clog because of moisture
 - When determined as necessary by laboratory testing
- Under these conditions, moderate amount of heat may be applied to the aggregate (not to exceed 170 degree F.
- Mixing in the pug mill should be for 30 to 45 seconds or until the aggregate is uniformly coated.

MIXTURE

- The mixture shall consist of an aggregate and asphalt combined in a pug mill in the following proportions:

Aggregate	95.0 to 93.5%
Asphalt	5.0 to 6.5%

- The asphalt cold mix shall meet the following requirements:

Coating and Stripping		Above 95%
Extraction of Bituminous Material	ASTM D 2172	3.5 min. 9.0% max.
Shelf Life	Visual	One Year Minimum

GENERAL

This bituminous patching mix is designed for use when the outside ambient temperature is in the range of -15 degree F to 100 degree F.

The bituminous patching mix shall consist of asphalt and aggregate within prescribed quantities to make a mixture which will provide satisfactory coating, workability and adhesion characteristics. The patching mixture will be able to function as a patch during cold, damp as well as during hot weather in bituminous and concrete pavement. The asphalt blend and aggregate shall conform to the following requirements.

LIQUID ASPHALT

Kinematic Viscosity @ 140 degree F (60 degree C)	ASTM D 2170	350 to 4000 cSt
Flash Point, Tag Open Cup	STM D 1310	200 degree F (93 degree C min)
Percentage of Water	STM D 95	Less Than 0.2%
Distillation to 680 degree F (360 degree C)	ASTM D 402	See Values Below

Temperature		Volume % Total	
Minimum/Maximum		Distillate	Volume % Original Sample
To 437 degree F (225 degree C)		Minimum/Maximum	
To 500 degree F (260 degree C)		0/0	0/0
To 600 degree F (316 degree C)		0/0.5	0/0
Residue from distillation to		10/85	0/18
		73/95	880 degree F (360 degree C) % Volume by difference

TEST ON RESIDUE FROM DISTILLATION

Absolute viscosity @ 140 degree F (60 degree C)	ASTM D 2171	275 +/- 150
Penetration, Modified with Cone	ASTM D 5**	180 minimum
Ductility, 39 degree F (4 degree C), 1 cm/minute	ASTM D 113	100 minimum
Solubility in Trichloroethylene	ASTM D 2042	99 0% minimum

* These values are typical (Specific for most localities), but they may vary slightly due to geographic differences in asphalt.

** Make this test in accordance with ASTM Method D 5, except utilize a penetration cone in place of the standard penetration needle. The cone shall conform to the requirements give in ASTM Method D 217, except that the interior construction may be modified as one desires. The total mixing weight of the cone and attachments must be 150 +/- 0.1 gram. Also the level of water in the transfer dish shall be lowered to less than the height of the sample and decant water from the top of the sample before transferring from the bath to the penetrometer.

MATERIAL SPECIFICATION
QPR HIGH PERFORMANCE PERMANENT COLD PATCH

DESCRIPTION : This material shall be a plant mixed, high performance pavement patching material capable of storage in an uncovered outdoor stockpile for a minimum of 2 years. It shall be composed of laboratory approved mineral aggregates and modified bituminous QPR2000® Liquid Blend from TCG Materials (New York) Incorporated capable of coating wet aggregates (up to 4% moisture) without stripping and have stripping resistance of retained costing of not less than 95%. The permanent asphalt repair shall be uniform, remain flexible and cohesive to -15 degree F and be capable of retaining adhesive qualities in wet applications. The patching materials shall be able to repair asphalt, concrete, surfaced treated roads and not require be removing and replacing if ever the pavement is overlaid.

MATERIALS

A) Aggregate

The aggregate shall consist of 100% crushed limestone or a laboratory approved equivalent under ASTM C-136. All aggregate is to be from approved sources, and representative samples of both fine and coarse aggregate shall be from the plant site and laboratory tested. Sampling and testing methods shall be in accordance with accepted local practice.

Gradation analysis to comply with all local requirements. Recommended gradation analysis is as follows:

<u>SCREEN SIZES</u>	<u>PERCENTAGE PASSING</u>
3/8"	90-100
#4	20-55
#8	5-30
#16	0-10
#50	0-5
#200	0-2

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

ASTM	C-88	Soundness Loss	12-0% Max.
ASTM	C-131	Los Angeles Abrasion	40.0% Max.
ASTM	C-117	-200 Sieve (by wash)	2.0% Max.
ASTM	C-127, 128	Absorption	10 - 2.0% Max.
ASTM	C-127, 128	Specific Gravity	2.55 - 2.75% Max.
ASTM	C-123	Soft Aggregates	3.0% Max.

Aggregate Acceptance: Aggregate compatibility approval must be obtained from TCG Materials (New York) Incorporated prior to material mixing at any mixing plant.

B) Bituminous Material

The modified bituminous liquid blend shall be QPR2000® from TCG Materials (New York) Incorporated which meets the following requirements.

ASTM	D-1310	Flashpoint (TOC):	200 degree F (94 degree C) min
ASTM	D-2170	Kinematic Viscosity at 60 degree C (140 degree F):	300-4,000
ASTM	D-95	Water:	0.2% maximum
ASTM	D-402	Distillate Test:	(Volume of original sample)

To 457 degree F (225 degree C)	None
To 500 degree F (260 degree C)	0-5%
To 600 degree F (315 degree C)	0 - 25%
Residue from distillate at 680 degree F (360 degree C)	72 - 95%

RESIDUE TESTS

ASTM	D-2171	ABS. VISCOSITY AT 140 degree F (60 degree C):	125-425 poises
ASTM	D-5	Penetration:	200 minimum
ASTM	D-113	Ductility at 39 degree F (4 degree C) 0.4 in. /Min:	100 minimum
ASTM	D-2042	Solubility in Trichloroethylene:	99% min

- QPR2000® Liquid Blend shall be shipped from authorized blending terminal locations. Liquid shall be completely blended at terminal under supervision of authorized Quality Control personnel. No additives.
- Modifiers or extra ingredients are to be introduced into the liquid blend at any time after shipment from terminal. A copy of bill of lading and material certification shall accompany every shipment. Liquid Blend shall be shipped in insulated tankers to maintain oil temperature during transportation.

PLANT MIX

- The cold mix shall consist of aggregates meeting section A) Aggregate and the bituminous liquid blend meeting material section B) Bituminous Material as indicated in the proposed job mix formula. Bituminous material shall be accepted at the supplier's source and at the plant site on the basis of a supplier material certification.
- The preferred mixing ratio shall be 5.5% liquid blend or 110 Lbs. per finished ton (2000 Lbs.) of mixed material. Continuous on-site testing will determine exact final mixing ratio which will be identified in the final job mix formula.
- All aggregate percentages are based on the total weight of the aggregate. The bituminous liquid blend content is based on the total weight of the mix.
- The job mix formula information shall provide:
 - Aggregate gradation band and aggregate type.
 - Bituminous material - amount and type including any additives used.
 - Temperature ranges for material preparation.

PLANT PREPARATION AND OPERATION

- The mixture is to be produced through a conventional hot asphalt plant only under the direct supervision of a qualified TCG Materials (New York) Incorporated Quality Control Representative. The bituminous liquid blend shall not be heated above 300 degree F. The final mixture must be tested in accordance with TCG Materials (New York) Incorporated Quality Control requirements.

ENVIRONMENTAL TOXICITY TESTING

- The modified bituminous cold patch QPR2000® must have an independent test conducted by a certified laboratory as to toxicology results in a Static Acute Bio Assay Procedures for Hazardous Materials which determines effect of runoff into waterways, lakes, ponds and groundwater.

STOCKPILE INSPECTION

- Prior to production the stockpile site is to be inspected for any contaminant such as dirt, sand or debris that may affect the quality of the QPR2000® High Performance Cold Patch. The stockpile area should be a hard surface, preferably paved with concrete or a bituminous surface.

SPECIFICATION SAMPLING

- A one quart sample of the QPR2000® Liquid Blend will be retained at the asphalt depot prior to shipping. On delivery of the tank truck an additional one quart sample will be taken by an authorized representative of TCG Materials (New York) Incorporated. This sample will be returned to the laboratory for testing to insure no contamination has occurred in transit.

QPR20000® QUALITY CONTROL

- On each load a Quality Control Report will be prepared by an authorized representative of TCG Materials (New York) Incorporated. All phases of production of the plant operation and the material testing on each 150 tons of production will be prepared and entered accordingly in each category.
- The following Site Tests will be completed including Spot Test, Strip Resistance, Coating Observation, and Roll Test. A typical one quart sample will be forwarded to TCG Materials (New York) Incorporated for further testing as below.

TRAINING OF INSTALLATION CREWS

- The successful bidder must make available a complete training program for all road crews to ensure correct patching methods along with updates on this subject. In addition the supplier must provide an installation chart to the volume of material required to repair utility cuts and other excavated areas for references by installers.

QUARTERLY FIELD INSPECTIONS

- QPR2000® field stockpiles will be inspected every three months by an authorized representative of TCG Materials (New York) Incorporated who will perform ASTM D-1664 Coating and Stripping tests on the QPR2000®. Any unsuccessful tests will result in re-examination by the technical section to examine the material. Any failed product will not be shipped until written authorization has been completed by the technical section. Records will be maintained by TCG Materials (New York) Incorporated for future reference. The final mixture must be approved by a representative of TCG Materials (New York) Incorporated.

STOCKPILING

- Two (2) year shelf life. QPR2000® may be stockpiled up to 2 years in an uncovered outdoor stockpile.

TESTING

- After cold mix is manufactured through the approved plant, three (3) further tests are conducted to meet specifications.

ASTM	D-2171	Extraction of asphalt	4.5 - 7% maximum
ASTM	D-1664	Coating and stripping tests for both wet and dry aggregates	

- The cold mix, 50 grams is put into 400 ml of distilled water in a beaker and boiled for 3 min. and stirred at one revolution per second. Retained coating must be in excess of 95% for passing.

PERFORMANCE GUARANTEE

- QPR2000® High Performance Cold Patch, when applied according to our directions to deteriorated concrete or bituminous pavement surfaces is guaranteed to adhere permanently to the repaired area for the life of the repair or until the surrounding pavement area fails. TCG Materials (New York) Incorporated will replace actual volumes of QPR2000® at no charge for an QPR2000® High Performance Cold Patch that should ever ravel or release from a repaired area.

ALL PATCH

HIGH PERFORMANCE STOCKPILE COLD PATCH

Description This bituminous patching mix shall consist of an asphalt and aggregate mixture which will provide satisfactory adhesive, cohesive and workability characteristics. This patching mixture can be stockpiled year- round and can be applied under all weather conditions. It can be applied to asphalt and concrete surfaces as well as exposed wood or steel without the necessity of any additional tack coat or primers. The liquid asphalt and aggregate utilized shall meet the following specifications.

Liquid Asphalt: The liquid asphalt shall be ALL PATCH LA from All States Asphalt Inc. which nets the following requirements.

Kinematic Viscosity @ 60 C, cSt	350-4,000
Flash Point (ASTM D92), 00C	93 C min
Solubility in Trichloroethylene	99% min
Discillation Test (ASTM D-402)	
225 C (% by volume of original sample)	0
206 C (% by volume of original sample)	0-5
315 C (% by volume of original sample)	0-20
Total % Residue from Distillation @ 360C	70-95

Test on Residue:

Absolute Viscosity @ 60 C, poises	120-440
Penetration, modified with cone (ASTM D-5)	200 min.
Ductility @ 4 C (1 cm/min)	85 min.

Aggregate The aggregate shall be crushed stone meeting the following gradation.

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8"	90 - 100
#4	20 - 55
#8	0-20
#50	0-4
#200	0-2

Mixture The mixture shall consist of an aggregate and asphalt, combined in a pug mill at a temperature not to exceed 75 C, with asphalt content (ASTM D-2172) between 5.0 and 6.5 percent. The patch material shall have a minimum of 95% coating.