

**BATTERY PARK CITY AUTHORITY**

**REQUEST FOR PROPOSALS**

**FOR**

**Battery Place Roadway Pavement Restoration II**

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## **I. SUMMARY**

Battery Park City Authority d/b/a Hugh L. Carey Battery Park City Authority (“BPCA”) requests proposals (each individually, a “Proposal” or collectively, the “Proposals”) from road construction entities (each individually, a “Proposer” or collectively, the “Proposers”) to provide asphalt paving services (“Asphalt Paving Services”) for the Battery Place Roadway Pavement Restoration project. The services required to be provided shall include, but not be limited to all services necessary to restore portions of Battery Place in accordance with the Drawings and Specifications attached hereto as Exhibit F.

Minority-Owned Business Enterprises (“MBE”) and Women-Owned Business Enterprises (“WBE”) are encouraged to submit Proposals.

This request for proposals, the attachments and any additional information submitted herewith, (collectively, the “RFP”) does not obligate BPCA to complete the selection and contract award process. BPCA reserves the right: 1) to accept or reject any and all Proposals; 2) to request additional information from any or all Proposers to assist BPCA in its evaluation process; 3) to amend or withdraw this RFP prior to the announcement of the selected Proposer; and 4) to award the proposed services, in whole or in part, to one or more Proposers. In case of an amendment to the RFP, all Proposers will be provided with a copy of any such amendment(s) and will be afforded the opportunity to revise their Proposals in response to the RFP amendment.

## **II. DESCRIPTION OF BPCA**

BPCA is a public benefit corporation created in 1968 under the laws of the State of New York for the purpose of financing, developing, constructing, maintaining, and operating a planned community development of the Battery Park City site as a mixed commercial and residential community.

Under the Battery Park City Authority Act (the “Act”), BPCA has the following powers, among others: to borrow money and to issue negotiable bonds, notes or other obligations and to provide for the rights of the holders thereof; to acquire, lease, hold, mortgage and dispose of real property and personal property or any interest therein for its corporate purposes; to construct, improve, enlarge, operate and maintain Battery Park City; to make bylaws for the management and regulation of its affairs, and, subject to agreements with bondholders, for the regulation of Battery Park City; to make contracts and to execute all necessary or convenient instruments, including leases and subleases; to accept grants, loans and contributions from the United States, or the State of New York or the City of New York (the “City”), or any agency or instrumentality of any of them, or from any other source and to expend the proceeds for any corporate purpose; to fix, establish and collect rates, rentals, fees and other charges; and to do all things necessary or convenient to carry out the powers expressly granted by the Act. BPCA has no taxing power.

Since its inception, BPCA has caused the staged development of Battery Park City, in individual parcels, creating a richly diversified mixed use community providing residential and commercial space, with related amenities such as parks, plazas, recreational areas and a waterfront esplanade. Most individual parcels of land in Battery Park City were developed into residential and commercial buildings by tenants (“Ground Lease Tenants”) under long-term ground leases with BPCA. The Ground Lease Tenants are responsible for the maintenance, insurance and defense and indemnification of BPCA with regard to those leased parcels.

One of BPCA’s key responsibilities under the Act is to operate, maintain and repair the parks and opens spaces in and around Battery Park City’s residential and commercial areas. This function has been delegated by BPCA to the Battery Park City Parks Conservancy Corporation (“BPCPC”) through a written Management Agreement. The BPCPC carries out its mission by maintaining 36 acres of parks, playgrounds and open spaces, including a mile-long waterfront esplanade. The BPCPC also develops programs and manages public events for the Battery Park City community. BPCA

owns and has built out a commercial condominium unit in a residential building in Battery Park City, which serves as the BPCPC headquarters.

To obtain a copy of BPCA's most recently completed audited financial statements, please visit BPCA's official website at [www.batteryparkcity.org](http://www.batteryparkcity.org). The audited financial statements and related reports found on BPCA's website will provide Proposers with an overview of the operations for which BPCA is responsible and the areas of expertise in which the selected Proposer must be proficient. For an overview of BPCPC's operations, please visit its website at [www.bpcparks.org](http://www.bpcparks.org).

### **III. SERVICES REQUIRED**

**A.** If selected, Proposer will be responsible for providing Asphalt Paving Services, delineated in Exhibit A (the "Scope of Work"), attached hereto.

**B.** All work to be performed by the selected Proposer shall be performed under the supervision of a Project Manager in charge of this engagement (the "Lead PM") who must ensure that the work completed for BPCA is performed competently and in a timely manner.

### **IV. KEY DATES, CONTRACT TERM AND MINIMUM QUALIFICATIONS**

#### **A. Key Dates**

The following is a list of key dates, up to and including the date Proposals are due to be submitted, which is subject to change at BPCA's discretion:

- Request for Proposals issued: Tuesday October 8, 2013
- Pre-proposal meeting: Wednesday October 16, 2013 at 9:30 AM. Meeting Location: 1 World Financial Center, 24th fl, New York, NY 10280 (attendance is highly recommended).
- Deadline to submit questions to BPCA: Friday October 18, 2013 by 5:00 p.m. (by email only).

All questions regarding this RFP should be submitted in writing via email to the "Designated Contact": Della Lee, Battery Park City Authority, at [Della.lee@batteryparkcity.org](mailto:Della.lee@batteryparkcity.org).

- Deadline for BPCA's response to substantive questions: Wednesday October 23, 2013 (via BPCA Website).
- **DUE DATE FOR RESPONSES TO RFP: Thursday October 31 , 2013 by 3:00 p.m. (the "Due Date").**
- Selection and notification of successful Proposer: To be determined.
- Contract start date: November 2013.

#### **B. Anticipated Contract Term**

It is anticipated that the term of the contract awarded pursuant to this RFP (the "Contract") will be for a period of three (3) months. BPCA reserves the right to terminate the Contract at any time, with or without cause, upon thirty (30) days' written notice.

#### **C. Minimum Qualification Requirements**

The following are the Minimum Qualification Requirements for this RFP. Proposals that fail to comply with these requirements will be rejected.

- 1) The Proposer must be licensed to do business in the State of New York.
- 2) The Proposer must have five (5) years prior experience providing Asphalt Paving Services.

## **V. GENERAL REQUIREMENTS**

### **A. Questions regarding MBE/WBE participation, joint ventures and sub-contracting goals**

Please see Exhibit B (attached) (“Diversity Exhibit”) for contractor requirements and procedures for business participation opportunities for New York State certified MBEs/WBEs and equal employment opportunities for minority group members and women.

For questions relating to MBE/WBE participation, joint ventures and sub-contracting goals ONLY, please contact “MBE/WBE Designated Contact” Mr. Anthony Peterson at 212.417.2337.

### **B. Restricted Period**

Applicants are restricted from making contact with anyone other than the Designated Contact or MBE/WBE Designated Contact specified above during the period from the date of publication of the notice of this RFP in the New York State Contract Reporter through approval of the Contract by BPCA (the “Restricted Period”). Employees of BPCA are required to record certain contacts during the Restricted Period, including, but not limited to, any oral, written or electronic communication with a governmental entity under circumstances where a reasonable person would infer that the communication was intended to influence BPCA’s conduct or decision regarding the governmental procurement, and to make a determination of responsibility based, in part, upon any such contact. Failure to abide by this process may result in a finding that the Proposer is a non-responsive Proposer.

### **C. Submission of Proposals**

Proposals are due no later than 3:00 p.m. on October 31, 2013.

Proposers must submit five (5) paper copies of their Proposals and one (1) electronic CD-Rom copy in a sealed package clearly marked “**Proposal Enclosed – Battery Place Roadway Pavement Restoration II**” to the Designated Contact by messenger, overnight courier or certified mail to the following address:

Della Lee  
Battery Park City Authority  
One World Financial Center, 24<sup>th</sup> Floor  
New York, NY 10281

BPCA is not responsible for any internal or external delivery delays which may cause any Proposal to arrive beyond the stated Due Date. To be considered, Proposals must arrive at the time and place specified herein and be time stamped by BPCA’s time stamp prior to the Due Date. Please leave ample time for building security, as late Proposals will not be accepted. Proposals submitted by fax or electronic transmission will NOT be accepted. A Proposer may, after submitting a Proposal, amend its Proposal by submitting a second, amended Proposal, clearly labeled “**Amended Proposal Enclosed – Battery Place Roadway Pavement Restoration II**” as long as the amended Proposal is submitted by the Due Date.

Public access to Proposals shall be governed by the relevant provisions of the Freedom of Information Law, Article 6 of the New York State Public Officers Law, and regulations adopted pursuant thereto.

#### **D. Mandatory Forms**

Proposers must complete and include with their Proposal all “Mandatory Forms,” which can be found at the following URL address: [http://www.batteryparkcity.org/pdf\\_n/Mandatory\\_Forms\\_Packet.pdf](http://www.batteryparkcity.org/pdf_n/Mandatory_Forms_Packet.pdf), by the Due Date.

These Mandatory Forms include the following:

- 1) NYS Standard Vendor Responsibility Questionnaire – Submit with the Cost Proposal (as described below), one (1) original unbound set of a completed NYS Standard Vendor Responsibility Questionnaire with original ink signatures. Do not include the Standard Vendor Responsibility Questionnaire in the bound copies of the Cost Proposal. The NYS Standard Vendor Responsibility Questionnaire must be notarized and signed by the individual(s) authorized to bind the Proposer contractually. Indicate the title or position that the signer holds within the Proposer.
- 2) State Finance Law § 139 Form 1 – one original unbound completed SFL 139 Form 1: Professional’s Certifications Pursuant to SFL § 139-j and § 139-k with original signature. State Finance Law § 139 Forms 1 must be signed by the individual(s) authorized to bind the Proposer contractually.
- 3) W-9 form.
- 4) Statement of Non-Collusion.
- 5) Diversity Forms.

### **VI. PROPOSAL FORMAT AND CONTENTS**

#### **A. Proposal Format**

The Proposal must be printed on either 8½” x 11” or 8½” x 14” paper. The Proposal will be evaluated on the basis of its content, not length. BPCA reserves the right to disqualify Proposals that fail to comply with any of these instructions.

#### **B. Proposal Content**

A Proposal in response to this RFP must include the following sections in the order listed:

- 1) Cover Letter, as follows:

The Proposal must include a signed Cover Letter from a person within the Proposer who is authorized to bind the Proposer. Cover Letters must be signed. **Proposals with unsigned Cover Letters will be rejected.**

**The Cover Letter must include a representation by the Proposer that, except as disclosed in the Proposal, no officer or employee of the Proposer is directly or indirectly a party to or in any other manner interested financially or otherwise in this RFP.**

- 2) Corporate Overview.
- 3) Proposer’s discussion of its understanding of the Services Required (see Section III).
- 4) Proposer’s Responses to the RFP Questions and RFP Additional Information Request, set forth below.
- 5) Proposer’s Cost Proposal, as described below.

**C. RFP Questions**

1. Briefly describe Proposer's background, staff, and history as they may be relevant to the services required, with an emphasis on paving in New York City.
2. Describe Proposer's experience and expertise relevant to the project.
3. Has Proposer or any of the Proposer's partners/employees been disciplined or censured by any regulatory body or filed for bankruptcy or reorganization or has had bankruptcy proceedings initiated against it/them within the last 5 years? If so, please describe the relevant facts.
4. Are there any potential conflict of interest issues in representing BPCA?
5. Are any of Proposer's employees or principals former employees of BPCA? If so, please list their names, current titles, and dates of employment with BPCA.
6. List any professional or personal relationships Proposer's employees may have with BPCA's Board and/or staff members of BPCA.
7. Identify the Lead person who will be the primary contact and lead person in providing services to BPCA, and who will be listed as a "key person" in any contract with BPCA.
8. Describe Proposer's proposed team's experience (including both direct contract work and work performed under subcontracts) with similar work for other public agencies and authorities, with a particular emphasis on New York State and City agencies and authorities or Federal government agencies or authorities. Include contract dates, the nature of the work performed, the contracting agency, the contract number (if known) and the agency supervisor for each.
9. Submit a discussion of Proposer's approach to the work which shall briefly address Proposer's conceptual step-by-step approach towards completion of the work and outline the proposed procedures for the executing the work.
10. Itemize the work intended to be performed with Proposer's resources and/or workforce as well as the work for which subcontractors will be utilized.
11. Provide a list of all proposed sub consultants for the completion of the work.
12. Discuss Proposer's ability to take stringent safety measures into account as to work done in occupied office spaces.
13. Identify any and all exceptions taken to BPCA's standard form of contract attached hereto as Exhibit C detailing the reasons for such exceptions. No exceptions to the contract will be considered by BPCA after submission of the proposals. BPCA maintains the right to reject proposals based on non-conformance with the standard form of contract.
14. Please provide any additional information which would serve to distinguish Proposer from other Proposers and that Proposer believes may be relevant to this RFP and Proposer's capability to perform the services requested.

**D. RFP Additional Information Request**

1) Insurance/Bonding:

- a. Are there any limitations imposed on liability through Proposer's contracts?
- b. Describe the levels of coverage for any insurance Proposer carries. List the insurance carrier(s) or provide an insurance certificate showing Proposer's coverage in accordance with the following:
  - Commercial General Liability Insurance limits shall not be less than \$1,000,000 per each occurrence and \$2,000,000 in the aggregate. Excess Liability limits shall not be less than \$2,000,000 and Automobile liability limits shall not be less than \$1,000,000, Workman's Compensation not less than Statutory Limits/\$1M Employers Liability. **The costs of the insurance shall be included in the Proposal.** Battery Park City Authority, Battery Parks City Parks Conservancy to be listed as Additional Insured on CG 2010 (11/85) or similar and

Should be on all levels of Subs and also Hold Harmless in favor of BPCA. Policies should contain no limitations/exclusions for Labor Law claims.

- All Sub-contractors to provide a certificate naming the General Contractor, Battery Park City Authority and Battery Park City Parks Conservancy as additional insured for all coverage at a minimum of \$2,000,000.

- c. State whether or not Proposer can provide payment and performance bonds, the amounts thereof (both single and aggregate) and the name of Proposer's bonding company. Provide a letter from Proposer's surety stating that Proposer is able to provide 100% bonding for this project.

2) References:

Please provide at least three (3) client references for whom the Proposer has performed similar work to that requested in this RFP, including the name, address and telephone number for the client's.

3) Appendices:

- a. Include resumes for all key management personnel listed in the Proposal, including the staff that will be assigned to this project.

- b. Provide a copy of each addenda submitted by BPCA with regard to this Proposal (if applicable) and a signed acknowledgment of receipt of each addenda.

- 4) Financial Statements: Please provide a copy of Proposer's most recent Audited Financial Statements (within the last year).

**E. Cost Proposal**

Each "Cost Proposal" must be a lump sum amount (flat fee) with an itemized schedule of values for the services contemplated herein. **To submit a complete Cost Proposal, Proposer must submit each of the following:**

- 1) Cost proposal in the form attached hereto as Exhibit D ("Cost Proposal Form").
- 2) Labor rates in the form attached hereto as Exhibit E ("Labor Rates").

**VII. THE EVALUATION PROCESS**

**A. Objectives**

The primary objective of the evaluation process is to select a Proposer:

- That demonstrates a thorough understanding of the scope of the engagement and the specific responsibilities which it entails;
- Possesses adequate resources to handle assigned responsibilities and to handle unforeseen circumstances that may arise;
- Assigns highly skilled, experienced, diligent, responsible and professional personnel to perform the required services;
- Maintains high ethical standards and has an unblemished reputation;



- Has no conflict of interest between its representation of BPCA and that of other clients.

The selection process will begin with the review and evaluation of each of the written Proposals. The purpose of this evaluation process is twofold: (1) to examine the responses for compliance with this RFP and (2) to identify the complying Proposers that have the highest probability of satisfactorily performing the Services Required at a reasonable cost to BPCA. The evaluation process will be conducted in a comprehensive and impartial manner. The evaluation process will be conducted by a committee of BPCA's employees selected by BPCA (the "Committee"). **The Committee will evaluate the Proposals based upon the evaluation criteria for selection set forth below.**

BPCA reserves the right to reject and return unopened to the Proposer any Proposal received after the RFP Due Date. All timely submitted Proposals will be reviewed to determine if they contain all required submittals specified herein. Incomplete Proposals may be rejected.

#### **B. Interviews**

BPCA reserves the right to determine whether interviews will be necessary for any or all of the Proposers. The purpose of the interview is to further document a Proposer's ability to provide the Services Required, and to impart to the Committee an understanding of how specific services will be furnished. The proposed Lead PM, as well all other key personnel proposed to provide the services must be present and participate in the interview. The Proposer will be evaluated on the basis of whether the interview substantiates the characteristics and attributes claimed by the Proposer in its written response to this RFP and any other information requested by the Committee prior to the interview.

#### **C. Evaluation Criteria for Selection**

Selection will be based upon the following criteria:

- |   |  |     |
|---|--|-----|
| 1 | Cost Proposal:   | 45% |
| 2 | Expertise, Experience & Methodology:   | 25% |
| 3 | Schedule:  | 20% |
| 4 | Proposed MBE/WBE utilization plan (the "Utilization Plan") and/or Proposer MBE/WBE status: | 10% |

#### **D. Basis for Contract Award**

The Contract will be awarded to the highest technically rated Proposer whose Proposal is determined to be responsive and in the best interests of BPCA, subject to a determination that the Cost Proposal is fair and reasonable.

### **VIII. NON-COLLUSION**

By submitting a Proposal, Proposers hereby warrant and represent that any ensuing Contract has not been solicited or secured directly or indirectly in a manner contrary to the laws of the State of New York, and that said laws have not been violated and shall not be violated as they relate to the procurement or the performance of the Contract by any conduct, including the paying or giving of any fee, commission, compensation, gift, or gratuity or consideration of any kind, directly or indirectly, to any member of the board of directors, employee, officer or official of BPCA.

**EXHIBIT A**

**SCOPE OF WORK**

The Proposer shall provide Asphalt Paving Services consisting of the Scope of Work set forth below:

- Apply for and secure any and all necessary permits from the New York City Department of Transportation (“NYCDOT”) any other governmental agency with jurisdiction over the services contemplated herein.
- Discuss acceptable vibration limits with utility companies prior to milling and paving operations.
- Manage/Oversee site mobilization.
- Setup construction signs and work zone safety control.
- Prepare night-time operations plan and submit same to BPCA for review and approval.
- Setup lighting towers.
- Survey the project limits.
- Saw cut existing asphalt pavement at the limits of restoration.
- Mill existing bituminous concrete asphalt surface course within limits of work.
- Alter to finished grade Existing Drainage Structures, Utility Manholes and Valve Boxes, as necessary.
- Tack coat existing milled surface and pavement joints.
- Restore roadway with hot mix asphalt Type 6 - Top Course to mach existing grades.
- Perform all work in accordance with THE Drawings and Specifications attached hereto as Exhibit F.
- Restore existing White and Yellow Epoxy Reflectorized Pavement Stripes – 20 mils, to mach preconstruction layouts.

## **EXHIBIT B**

### **CONTRACTOR REQUIREMENTS AND PROCEDURES FOR BUSINESS PARTICIPATION OPPORTUNITIES FOR NEW YORK STATE CERTIFIED MBEs/WBEs AND EQUAL EMPLOYMENT OPPORTUNITIES FOR MINORITY GROUP MEMBERS AND WOMEN**

Pursuant to New York State Executive Law Article 15-A, BPCA recognizes its obligation under the law to promote opportunities for maximum feasible participation of certified MBE/WBEs and the employment of minority group members and women in the performance of BPCA contracts.

In 2006, the State of New York commissioned a disparity study to evaluate whether minority and women-owned business enterprises had a full and fair opportunity to participate in state contracting. The findings of the study were published on April 29, 2010, under the title “The State of Minority and Women-Owned Business Enterprises: Evidence from New York” (the “Disparity Study”). The report found evidence of statistically significant disparities between the level of participation of minority-and women-owned business enterprises in state procurement contracting versus the number of minority-and women-owned business enterprises that were ready, willing and able to participate in state procurements. As a result of these findings, the Disparity Study made recommendations concerning the implementation and operation of the statewide certified minority- and women-owned business enterprises program. The recommendations from the Disparity Study culminated in the enactment and the implementation of New York State Executive Law Article 15-A, which requires, among other things, that BPCA establish goals for maximum feasible participation of New York State Certified MBEs/WBEs and the employment of minority groups members and women in the performance of New York State contracts.

#### **Business Participation Opportunities for MBE/WBEs and minorities and women**

For purposes of this solicitation, BPCA hereby establishes an overall goal of 30% for MBE/WBE participation, 15 % for MBE participation and 15% for WBE participation (based on the current availability of qualified MBEs and WBEs). A contractor (“Contractor”) on the Contract must document good faith efforts to provide meaningful participation by MBE/WBEs as subcontractors or suppliers in the performance of the Contract and Contractor agrees that BPCA may withhold payment pending receipt of the required MBE/WBE documentation. The directory of New York State Certified MBE/WBEs can be viewed at: <http://www.esd.ny.gov/mwbe.html>.

For guidance on how BPCA will determine a Contractor’s “good faith efforts,” refer to 5 NYCRR §142.8.

In accordance with 5 NYCRR §142.13, Contractor acknowledges that if it is found to have willfully and intentionally failed to comply with the MBE/WBE participation goals set forth in the Contract, such finding constitutes a breach of Contract and BPCA may withhold payment from the Contractor as liquidated damages.

Such liquidated damages shall be calculated as an amount equaling the difference between: (1) all sums identified for payment to MBE/WBEs had the Contractor achieved the contractual MBE/WBE goals; and (2) all sums actually paid to MBEs/WBEs for work performed or materials supplied under the Contract.

By submitting a bid or Proposal, a Proposer agrees to submit the following documents and information as evidence of compliance with the foregoing:

- A. Proposers are required to submit a Utilization Plan with their bid or Proposal. Any modifications or changes to the Utilization Plan after the Contract award and during the term of the Contract must be reported on a revised Utilization Plan and submitted to BPCA.

- B. BPCA will review the submitted Utilization Plan and advise the Proposer of BPCA's acceptance or issue a notice of deficiency within 30 days of receipt.
- C. If a notice of deficiency is issued, Proposer agrees that it shall respond to the notice of deficiency within seven (7) business days of receipt by submitting to BPCA, at the address specified in this RFP, or by facsimile at 212-417-2279 a written remedy in response to the notice of deficiency. If the written remedy that is submitted is not timely or is found by BPCA to be inadequate, BPCA shall notify the Proposer and direct the Proposer to submit, within five (5) business days, a request for a partial or total waiver of MBE/WBE participation goals. Failure to file the waiver form in a timely manner may be grounds for disqualification of the bid or Proposal.
- D. BPCA may disqualify a Proposer as being non-responsive under the following circumstances:
  - 1) If a Proposer fails to submit a Utilization Plan;
  - 2) If a Proposer fails to submit a written remedy to a notice of deficiency;
  - 3) If a Proposer fails to submit a request for waiver; or
  - 4) If BPCA determines that the Proposer has failed to document good faith efforts.

Contractors shall attempt to utilize, in good faith, any MBE/WBE identified within its Utilization Plan, during the performance of the Contract. Requests for a partial or total waiver of established goal requirements made subsequent to the Contract award may be made at any time during the term of the Contract to BPCA, but must be made no later than prior to the submission of a request for final payment on the Contract.

Contractors are required to submit a Contractor's MBE/WBE Contractor Compliance & Payment Report to BPCA on a monthly basis over the term of the Contract documenting the progress made toward achievement of the MBE/WBE goals of the Contract.

#### **Equal Employment Opportunity Requirements**

The Contractor is required to ensure that it and any subcontractors awarded a subcontract over \$25,000 for the construction, demolition, replacement, major repair, renovation, planning or design of real property and improvements thereon (the "Work") except where the Work is for the beneficial use of the Contractor, shall undertake or continue programs to ensure that minority group members and women are afforded equal employment opportunities without discrimination because of race, creed, color, national origin, sex, age, disability or marital status. For these purposes, equal opportunity shall apply in the areas of recruitment, employment, job assignment, promotion, upgrading, demotion, transfer, layoff, termination, and rates of pay or other forms of compensation. This requirement does not apply to: (i) work, goods, or services unrelated to the Contract or (ii) employment outside New York State.

Proposer further agrees to submit with the Proposal a staffing plan identifying the anticipated work force to be utilized on the Contract and if awarded a Contract, will submit to BPCA a workforce utilization report identifying the workforce actually utilized on the Contract. Contractor will be required to make good faith efforts to achieve a participation goal of 30% of the total number of employees required for the work who are minority group members and a participation goal of 5% of the total number of employees required for the work who are women to perform the work.

Further, pursuant to Article 15 of the Executive Law (the "Human Rights Law"), all other New York State and Federal statutory and constitutional non-discrimination provisions, the Contractor and sub-contractors will not discriminate against any employee or applicant for employment because of race, creed (religion), color, sex, national origin, sexual orientation, military status, age, disability, predisposing genetic characteristic, marital status or domestic violence victim status, and shall also follow the requirements of the Human Rights Law with regard to non-discrimination on the basis of prior criminal conviction and prior arrest.

Please Note: Failure to comply with the foregoing requirements may result in a finding of non-responsiveness, non-responsibility and/or a breach of the Contract, leading to the withholding of funds, suspension or termination of the Contract or such other actions or enforcement proceedings as are allowed by the Contract.

For questions on MBE/WBE participation, joint ventures and sub-contracting goals ONLY, please contact Mr. Anthony Peterson at 212.417.2337.

**EXHIBIT C**

**BPCA's standard form of contract**

(attached)

**EXHIBIT D**

**COST PROPOSAL**

(Proposer to submit executed Cost Proposal on its letterhead)

Date:

Battery Park City Authority  
One World Financial Center - 24th Floor  
New York, New York 10281

Attention: Ms.Della Lee  
Administrative Assistant

Dear Ms. Lee:

The undersigned (the "Proposer") hereby proposes to provide all specified work necessary to perform the work for the **Battery Place Roadway Pavement Restoration II**. The Proposer agrees to commence the Work immediately upon receipt of the Initial Letter of Intent in accordance with the terms stipulated in the following pages, for the sum written below.

**A. Base Proposal**

A total Not to Exceed amount of \$\_\_\_\_\_ (\_\_\_\_\_ Dollars and \_\_\_\_\_ Cents) to perform all Work as described in the Authority's Request for Proposals for the Scope of Work (Exhibit A).

**B. Itemized Proposal and Labor Rates**

1. The Proposer has submitted with its proposal an itemized cost for the Work, according to the attached schedule of items, for the Scope of Work in Appendix V.
2. The Proposer has submitted with its proposal, labor rates for all trades, including all costs except overhead and profit. Prices shown include base hourly rate, overtime rate, insurance and benefits.

Name of Proposer:

\_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

**EXHIBIT E**

**LABOR RATES**

**(See attached)**



### LABOR RATES

The following labor rates are to be listed by craft and classification (Foreman, Journeyman, etc.) and are to include base wages, benefits, taxes, insurance and payroll costs complete. Overhead and profit are not to be included:

<u>CRAFT</u>	<u>CLASSIFICATION</u>	<u>HOURLY RATES</u>	<u>OVERTIME</u>
<u>LABORER</u> <u>CONCRETE</u>	_____	_____	_____
<u>CARPENTER</u>	_____	_____	_____
<u>IRON WORKER</u>	_____	_____	_____
<u>LABORER</u>	_____	_____	_____
<u>LABORERS - LESS</u> <u>SKILLED</u>	_____	_____	_____
<u>OPERATING</u> <u>ENGINEER</u>	_____	_____	_____
<u>FIELD</u> <u>SUPERVISOR</u>	_____	_____	_____
<u>FOREMAN</u>	_____	_____	_____
<u>TEAMSTER</u>	_____	_____	_____
<u>ELECTRICIAN</u>	_____	_____	_____
<u>PLUMBER</u>	_____	_____	_____

<Name of Company>  
<Name of Proposer>

\_\_\_\_\_  
Signed                      Date

By: <Printed Name>

**Battery Park City Authority**  
**Pier "A" – Battery Place Roadway Pavement Restoration**  
**Contract No. \_\_\_\_\_**

**Estimate of Quantities and Scope of Work:**

<u>Item Number:</u>	<u>Item Description:</u>	<u>Unit:</u>	<u>Quantity:</u>	<u>Price per Unit:</u>	<u>Total per Item:</u>
1254/11-01	Mobilization	L.S.	1.00		
1254/11-02	Work Zone Safety Control	L.S.	1.00		
1254/11-03	Night Time Operations	L.S.	1.00		
1254/11-04	Survey Operations	L.S.	1.00		
1254/11-05	Saw Cutting of existing asphalt pavement, asphalt surface course, or asphalt concrete overlay on concrete pavement	Linear Feet	50.00		
1254/11-06	Miscellaneous Cold Milling of Bituminous Concrete	Square Yard	550.00		
1254/11-07	Altering Existing Drainage Structures, Utility Manholes or Valve Boxes	Each	15.00		
1254/11-08	Tack Coat	Gallon	750.00		
1254/11-09	Hot Mix Asphalt Type 6 Top Course	Ton	550.00		
1254/11-10	White Epoxy ReflectORIZED Pavement Stripes – 20 mils	Feet	270.00		
1254/11-11	Yellow Epoxy ReflectORIZED Pavement Stripes – 20 mils	Feet	230.00		
	<b>TOTAL BID AMOUNT:</b>				

**Additional Items to be provided by Contractors for Bid Evaluation:**  
**Time and Materials Prices for Additional Work ONLY**

<u>A</u>	<u>LABOR COST:</u>	<u>Unit</u>	<u>\$ Per Unit</u>
1	Laborer Foremen (1 Foremen x 4 Days x 8 Hr)	Per Hr	\$ -
2	Laborer (1 Laborers x 4 Days x 8 Hr)	Per Hr	\$ -
3	Operating Engineer (1 Operator x 4 Days x 8 Hr)	Per Hr	\$ -
5	Teamster	Per Hr	\$ -

**EXHIBIT F**

**DRAWINGS & SPECIFICATIONS**

(Attached)

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **Estimate of Quantities and Scope of Work:**

##### **Item**

**Number: Item Description: Unit: Quantity:**

**Price per**

**Unit:**

**Total per**

**Item:**

1254/11-01 Mobilization L.S. 1.00

1254/11-02 Work Zone Safety Control L.S. 1.00

1254/11-03 Night Time Operations L.S. 1.00

1254/11-04 Survey Operations L.S. 1.00

1254/11-05

Saw Cutting of existing asphalt

pavement, asphalt surface course, or

asphalt concrete overlay on

concrete pavement Linear Feet 50.00

1254/11-06

Miscellaneous Cold Milling of

Bituminous Concrete Square Yard 550.00

1254/11-07

Altering Existing Drainage

Structures, Utility Manholes or Valve

Boxes Each 15.00

1254/11-08 Tack Coat Gallon 750.00

1254/11-09 Hot Mix Asphalt Type 6 Top Course Ton 550.00

1254/11-10

White Epoxy Reflectorized Pavement

Stripes – 20 mils Feet 270.00

1254/11-11

Yellow Epoxy Reflectorized Pavement

Stripes – 20 mils Feet 230.00

**TOTAL BID AMOUNT:**

#### **Additional Items to be provided by Contractors for Bid Evaluation:**

**Time and Materials Prices for Additional Work ONLY**

**A LABOR COST: Unit \$ Per Unit**

1 Laborer Foremen (1 Foremen x 4 Days x 8 Hr) Per Hr \$ -

2 Laborer (1 Laborers x 4 Days x 8 Hr) Per Hr \$ -

3 Operating Engineer (1 Operator x 4 Days x 8 Hr) Per Hr \$ -

5 Teamster Per Hr \$ -

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

## **GENERAL PROVISIONS - MEASUREMENT AND PAYMENT**

### **MEASURING QUANTITIES.**

All contract payments, including the final, will be made for quantities of work performed and materials placed in accordance with the contract documents as determined by the measurements of the Engineer, and the resulting quantities shall be accepted as final, conclusive and binding upon the Contractor. Various methods of quantity computation may be used by the Engineer, including but not limited to: manual arithmetic calculations, manual measuring tools such as a planimeter, and computer tools/software. The Engineer will choose the computation method, and the method may vary by contract and by contract pay item as appropriate. The Engineer will choose the method by which the work will be measured, such as: measure from documents/data (contract plans, cross sections, CADD files, etc.) or measure from field survey of completed work, with the goal of obtaining reasonably accurate quantities of work for payment using a commensurate amount of effort and resources.

### **COMPENSATION FOR ALTERED QUANTITIES.**

The BPCA reserves the right to order changes in quantities of contract pay items as is necessary to complete the work, in accordance with the intent of the contract documents.

**A. Major Items.** For Major Items (Any contract pay item for which the original unit bid price multiplied by the original item quantity exceeds \$100,000.00), payment will be made for all extra work at the contract unit bid price for work up to 125% of the original contract quantity. For Major Item quantities less than 75% or more than 125% of the original contract quantity, consideration of contract adjustment will be in accordance to renegotiation procedures set by BPCA for Major Items.

Total payments made for all work on a Major Item that decreases to below 75% of the original contract item quantity, will not exceed the total payments which would have been made if the original contract quantity had been completed at the original unit price bid.

**B. Minor Items.** For Minor Items (Any contract pay item that does not meet the definition of a Major Item), payment will be made for extra work at the contract unit bid price, except for any extra work that is both: (1) more than 200% of the original contract quantity and (2) results in an increase of more than \$1,000 from the original contract amount, will be in considered a Significant Change.

or Minor Items where the contract bid price does not exceed 125% of either the statewide or regional weighted average bid price, the contract bid price may be extended up to a increase of \$5,000 from the original contract amount.

### **EXTRA WORK AND TIME RELATED COMPENSATION.**

The Contractor will be compensated for extra work under existing unit prices in accordance with Compensation for Altered Quantities, by agreed price in accordance with Agreed Price Work, or by force account in accordance with Force Account Work.

**A. Agreed Price Work.** Agreed prices for new items of work or materials in accordance with one of the methods outlined below may be accepted by the Engineer and incorporated into an order-on-contract as the BPCA may deem them to be just and fair and beneficial to the Authority. An order-on-contract

containing an agreed price not supported by one of the following may be subsequently rejected by the BPCA.

**1. Original Contract Bid Price.** The original contract bid price, adjusted for documented increase or decrease in material cost, equipment rate, mobilization, and/or site conditions.

**2. Weighted Average Bid Price.** Reference to the statewide or regional weighted average bid price for a minimum of 3 contracts for similar type, quantity, and/or location of work from the Weighted Average Item Price Report or other recent contracts, adjusted for documented increase or decrease in labor, materials, equipment, mobilization, and/or site conditions.

**3. Average of 3 Bidders.** For work in unusual circumstances or unusual site conditions, the average bid price for the 3 lowest responsible bidders presented in the Tabulation of Bids for that contract. If less than 3 responsible bids were received, this option shall not be used.

**4. Price Analysis.** A price analysis shall be based on an estimated breakdown of charges listed in Force Account Work below, using the equipment and other rates in effect when the agreed price is developed by the Contractor. The analysis shall be based on crew composition, material prices, equipment production and overall production rates that are reasonable in comparison with contract bid price work. Equipment rates shall be used with no rate adjustment factor and no regional adjustment factor. An appropriate type and size of equipment similar to that available on the contract site, if present, shall be used.

Labor rates may be determined using 15% of wages and supplemental (fringe) benefits for FICA, Medicare, paid holidays, Federal unemployment tax, and State unemployment insurance in lieu of a detailed accounting. Overhead and profit will not be allowed on the labor markup.

**Battery Park City Authority**  
**Pier “A” – Battery Place Roadway Pavement Restoration**  
***KS Engineers, P.C.***

Due to the cost and effort associated with development, a price analysis should generally be reserved for extra work under an individual contract pay item or a single price analysis, of more than \$1,000. The Contractor shall provide a price analysis within 10 work days of request by the Engineer. The BPCA will accept or reject the Contractor’s proposed agreed price within 10 work days of receipt of a complete price analysis.

**B. Force Account Work.** Where there are no applicable unit prices for extra work and agreed prices cannot be readily established or substantiated, the Contractor will be paid by Force Account for the actual, reasonable and verifiable cost of the items listed below. The Contractor shall maintain and submit force account records in accordance with §109-05C. Force Account Report.

**1. Contractor Charges.** At the preconstruction meeting, the Contractor should provide the Engineer documentation supporting its Commercial General Liability Insurance rates for the current period, and provide updates within 30 days after the renewal date, to assist in timely preparation and review of force account reports.

**a. Labor.** Necessary labor costs include wages, supplemental (fringe) benefits, payroll taxes, state unemployment insurance, workers compensation insurance and other such reasonable charges that are paid by the Contractor pursuant to existing written agreements with its employees and/or labor organizations. Each class of labor shall be billed separately at actual payroll rates; average rates based on different classes of labor will not be accepted. The wage rate for an individual worker may be up to 110% of the prevailing wage, provided the Contractor documents through certified payrolls that the worker has and continues to be paid more than the prevailing wage for contract work. No reimbursement will be made for travel, lodging, signing bonuses, or other similar payments made to workers.

At the Contractor’s option, a labor markup of 15% of all wages, not including supplemental (fringe benefits), for FICA, Medicare, paid holidays, Federal unemployment tax, and State unemployment insurance in lieu of a detailed accounting. Overhead and profit will not be paid on the labor markup. Workers compensation insurance rate will be the base rate and the territorial differential only established by the NYS Workers Compensation Insurance Rating Board, subject to the Construction Employment Limitation Program limits. No other additional charges or modifiers will be included. Insurance and other costs incurred or limited on a weekly basis will be reimbursed based on the percentage of the employees weekly gross wages paid under force account.

**b. Materials.** Materials are necessary products incorporated in the temporary or permanent work, including transportation to the site. Transportation may be accounted for under materials as either a unit price for transportation or equipment/operator charges. Equipment charges for transportation of materials shall be accounted for as equipment in accordance with Section Equipment with no allowance for overhead and profit. Materials will be measured as quantities incorporated, with no reduction for required overlap, and appropriate waste due to construction and/or installation.

Oxygen, acetylene, propane, welding rods, grinding wheels, saw blades, hammer and drill bits, drill steel, and tooth-bits consumed in progressing the work are considered to be materials for which reimbursement will be made. Other materials which are consumed in progressing the work are considered to be included in overhead and no separate reimbursement will be made. Material acquired by direct purchase shall be documented by bills or acceptable invoices. All prices on used material incorporated in either temporary or permanent work shall be billed at a fair value, less than the original cost when new. A reasonable salvage credit will be determined by the Engineer in coordination with the Contractor for substantial salvageable material recovered.

**c. Equipment.** Equipment, other than small tools, used by the Contractor shall be of suitable size and suitable capacity required for the work to be performed. If the Contractor elects to use equipment of a higher rate than the equipment suitable for the work, payment will be made at the rate applicable to the suitable equipment. The equipment actually used and the suitable equipment upon which the rate is based will be recorded as a part of the force account report. Usage will be recorded in hours to the nearest whole hour. The Engineer will determine the suitability of the equipment. If there is a differential in the rate of pay of the operator of oversize or higher rate equipment, the rate paid for the operator will likewise be related to the suitable equipment.

**(1) Contractor Owned Equipment.** The Contractor will be reimbursed for its ownership costs and for its operating costs for self owned equipment at the rates listed in the a Rental Rate Blue Book for Construction Equipment at published by PRIMEDIA Information, Inc. (hereafter referred to as the Blue Book) in effect at the time the work is performed.

**a) Ownership Costs.** The rates for ownership costs will reimburse the Contractor for all non-operating costs of owning equipment, including depreciation on the original purchase, major overhaul repairs, cost of facilities capital, normal risk insurance, property taxes, storage, licenses, record keeping costs, overhead, and profit.

In the event that the Contractor does not have a needed type or piece of equipment on the contract site, the Contractor will be paid for the reasonable cost of moving the equipment onto and away from the contract site.

The hourly rate for the first 8 hour shift will be the Blue Book monthly rate divided by 176 multiplied by the rate adjustment factor and then multiplied by the regional adjustment factor. The hourly rate for subsequent shifts during the same day will be 75% of the first shift hourly rate. Equipment required to be present, but idle, will be paid at 50% of the first shift hourly rate. Reimbursement will be made for the product of the hours of actual use or hours it is required to be present, and not available for mobilization elsewhere, multiplied by the hourly rate.

**b) Operating Costs.** The rate for operating costs includes preventative and field maintenance, fuel, lubricants, and other operating expendables. Operating cost does not include the operator=s wages. Reimbursement will be made for the product of the number of hours of actual use multiplied by the operating rate. The hourly rate will be paid for all hours of operation, including those during subsequent shifts on the same day.

**c) No Established Rate.** In the event that rates are not established in the Blue Book for a particular piece of equipment, the Contractor shall contact the Blue Book publisher to establish rates. If the publisher will not establish rates, the BPCA will establish rates for ownership costs and operating costs for that piece of equipment consistent with its cost and expected life.

**(2) Rented Equipment.** In the event that the Contractor does not own a specific type of equipment and must obtain it by rental, the Contractor will be paid for the time that the equipment is used to



accomplish the work or is required to be present, plus the reasonable cost of moving the equipment onto and away from the contract site.

**a) Rental Costs.** The Contractor will be paid the invoiced rental rate for the equipment, not to exceed the Blue Book ownership rate.

**b) Operating Costs.** The Contractor will be paid for the operating cost of the equipment in accordance with Section B.1.c.(1)b) unless reflected in the rental price.

**c) Rates Including Operator.** In the event that the Contractor rents equipment with an operator or fully fueled and/or maintained equipment such as cranes, concrete pumpers, trucks, etc. payment will be made on the basis of an invoice for the rental of the equipment and the costs of moving to and from the site, provided the total rate is substantiated by area practice. The rate including operator will not exceed the total of the ownership rate and the operating rate from the Blue Book, and the prevailing wage rate of an appropriate operator, if an operator is supplied.

**(3) Maximum Ownership/Rental Costs.** The maximum amount paid for the ownership costs of Contractor owned or the rental costs of rented equipment, is limited to the original purchase price as listed in the a Green Guide for Construction Equipment at published by PRIMEDIA Information, Inc. If the ownership or rental reimbursement is limited by the original purchase price, the Contractor will be reimbursed for the operating cost per hour for each hour of actual use.

**d. Sales Taxes.** Sales taxes, if any, required to be paid on rented equipment or materials not permanently incorporated into the work.

**e. Overhead.** Overhead will be computed at ten percent (10%) of items B.1.a. Labor (but not including the premium portion of overtime) and §109-05B.1.b. Materials, and will be defined to include the following:

- (1) Additional premium on bond, additional premium for insurance required by the BPCA other than Workers Compensation Insurance and Commercial General Liability Insurance;
- (2) All salary and expenses of executive officers, supervising officers/ employees, superintendents, and clerical or administrative employees, including payroll taxes, unemployment insurance, workers compensation insurance, and charges that are paid by the Contractor to or on behalf of those employees pursuant to written agreement with its employee(s) and/or labor organizations;
- (3) Minor equipment such as small tools, including shovels, picks, axes, saws, bars, sledges, lanterns, jacks, etc., and other miscellaneous supplies and services;
- (4) Contractor's field office rental, utility charges, potable water, sanitation, cleaning, computers, CADD equipment, drafting equipment reproduction costs, etc.

**f. Profit.** Profit will be computed at ten percent (10%) of items Section B.1.a. Labor (but not including the premium portion of overtime) and Section B.1.b. Materials.

**g. Commercial General Liability (CGL) Insurance.** Commercial General Liability (CGL) insurance will be reimbursed at the rate paid by the Contractor in accordance with the method procured from its insurer.

(1) Contractors that pay commercial general liability on the basis of a percentage of payroll will be paid that percentage of item Section B.1.a. Labor.

(2) Contractors that pay commercial general liability on the basis of a percentage of gross sales will be paid that percentage of items Section B.1.a. through f.

**2. Subcontractor Charges.** When the work is performed by a Subcontractor, the Contractor will be paid the actual and reasonable cost of such subcontracted work as outlined above in Section B B.1.a through Section B.1.g, plus an additional overhead of five percent (5%) of the cost of items Section B.1.a. Labor and Section B.1.b. Materials.

**3. Service Charges.** When work is performed by, and a fee is paid to, a service provider, the Contractor

will be paid the actual cost of the service fee plus five percent (5%) for contract supervision, overhead and profit. This 5% will be applied once to the service fee regardless of the firm making direct payments to the service provider.

**C. Force Account Report.** Payment for force account work will be made on the basis of the following reports. Reports shall be submitted in a format acceptable to the Department. Appropriate forms are available from the Department.

If the Engineer disagrees with the accuracy, applicability, or reasonableness of any portion of a Contractor's submission, he/she shall promptly notify the Contractor. The Engineer will make any notations, remarks or comments on the records that may assist in final payments and then sign and date to indicate receipt, but not necessarily concurrence.

**1. Daily Summary.** The Contractor shall deliver a daily summary of force account work to the Engineer not later than close of business on the work day following that for which the work is reported. This summary shall be dated and signed by the Contractor's authorized representative. The summary shall contain:

- a. The contract number, other contract information, and the Contractor name/information.
- b. A brief description of the work performed and the work location for that day.
- c. A list of personnel by name, including the hours worked, and labor classification.
- d. A list of materials used indicating the quantity and nature. The cost shall be documented later by proper receipts.
- e. A list of equipment used indicating the number of hours used and the type, manufacturer, model, model year, size of equipment, and any required attachments.

**2. Weekly Labor Summary.** Within 5 calendar days after the end of each pay period, the Contractor should deliver to the Engineer a Force Account Summary of Labor used on the work, which shall include the name, labor classification, hours worked, hourly rate of pay, supplemental (fringe) benefits, and/or other items as shown on the certified payroll. If the Contractor does not provide the Engineer with Weekly Labor Summaries, no progress payments on that force account will be made.

**3. Force Account Report Submission.** On completion of the specific force account work, the Contractor shall deliver to the Engineer a Force Account Report, wherein all labor, materials, equipment, and other charges are shown and totaled. The Force Account Report shall be dated and signed by the Contractor's authorized representative. When the Contractor and the Engineer agree on the Force Account Report, the Engineer will prepare and submit an order-on-contract containing the Force Account Report to the Regional Construction Engineer for approval.

**4. Force Account Review.** The BPCA will review the Force Account Report and make any notations, remarks or comments on this form that may assist in final payments. The emphasis of this review will be on labor rates, payroll taxes, material costs, equipment rates, insurance rates, conformance with payment provisions of technical specifications, and overall documentation.

**5. Late Submissions.** In the event the Contractor fails to deliver the required force account documentation to the Engineer in a timely manner, and as a result the order-on-contract for the force account work is not fully approved at the date of final acceptance, the required final payment date will be extended by the number of calendar days between final acceptance and the issuance of this force account order-on-contract, attributable to the Contractor's late force account submissions.

**ELIMINATED MATERIALS.**

Materials required by the contract documents and not incorporated into the work due to changes caused by field conditions or revisions to the design by the State after the material was ordered or purchased may be eligible for reimbursement. Materials will be eligible for reimbursement if they are

determined by the BPCA to be unique to the contract, and meet one or more of the following conditions:

- The material order cannot be canceled or changed to reflect the revised quantity required.
- The material cannot be restocked or the cost of restocking is excessive.
- The Contractor or Subcontractor does not maintain a supply of the material.
- The cost of the material exceeds \$1000.00 or five percent (5%) of the item, whichever is greater.

The Contractor will be reimbursed its material cost minus salvage value, or the material cost plus necessary delivery costs to a site identified by the Engineer, if the Department opts to take the material. Overhead and profit will be paid once, at a maximum of five percent (5%) for all materials not incorporated into the work, regardless of whether the Contractor or the Subcontractor pays for the material and/or delivery costs.

## **Item 1254/11- 01 - MOBILIZATION**

### **DESCRIPTION.**

Under this work the Contractor shall provide necessary bonds, insurance, and pre-financing and shall set up his necessary general plant, including shops, storage areas, office and such sanitary and other facilities as are required by local or state law or regulation.

### **MATERIALS.**

Such materials as required for mobilization and that are not to be part of the completed contract shall be as determined by the Contractor, except that they shall conform to any pertinent local or State Law, regulation or code.

### **CONSTRUCTION DETAILS.**

The work required to provide the above facilities and service for mobilization shall be done in a safe and workmanlike manner and shall conform with any pertinent local or State Law, regulation or code. Good housekeeping consistent with safety shall be maintained.

### **METHOD OF MEASUREMENT.**

Payment for mobilization will be made on a lump sum basis.

### **BASIS OF PAYMENT.**

The amount bid for mobilization shall not exceed four percent (4%) of the total contract bid price excluding the bid price for mobilization. Should the bidder exceed the foregoing four percent (4%), the BPCA will make the necessary adjustment to determine the total amount bid based on the arithmetically correct proposal.

The amount bid shall include the furnishing and maintaining of services and facilities noted under DESCRIPTION SECTION, to the extent and at the time the Contractor deems them necessary for his operations, consistent with the requirements of this work and the respective contract.

The amount bid shall be payable to the Contractor with the first contract payment made for other contract work.

Payment will be made under:

**Item No. Item Pay Unit**

**1254/11- 01 Mobilization Lump Sum**

## Battery Park City Authority

### Pier “A” – Battery Place Roadway Pavement Restoration

#### Item 1254/11- 02 - WORK ZONE SAFETY CONTROL

##### DESCRIPTION

###### General.

Work zone traffic control shall consist of all work to provide for the safe and efficient movement of pedestrian, bicycle and vehicle traffic through or around work zones, and to protect workers and the public from damage to person and property which may result, directly or indirectly, from any construction operations, under the direction of a trained, responsible person, as shown in the contract documents, the MUTCD and as directed by the Engineer. The duration of this work shall be from the date any work is started on the contract site, including mobilization of equipment, signs, offices, and shops until the date of contract final acceptance. Temporary materials and components that are furnished by the Contractor shall remain the property of the Contractor.

###### Basic Work Zone Safety Control.

Work shall consist of controlling traffic over a reasonably smooth traveled way which shall be marked by signs, delineators, channelizing devices, pavement markings, and other devices as shown in the contract documents or as directed by the Engineer.

Work after sunset and before sunrise shall include additional requirements for nighttime operations including, but not limited to, a written plan for nighttime operations, additional worker and equipment protection, additional channelizing devices and contract site patrol.

The Contractor shall conduct its operations to ensure the safety and convenience of travelers and abutting property owners as well as the safety of all workers on the contract. Travelers include, but may not be limited to motorists, motorcyclists, bicyclists and pedestrians.

Maintain Public Access. Work shall consist of maintaining public access to intersecting roads, residences, business establishments, adjacent property, bus stops and transportation facilities for pedestrians, and bicyclists.

**Construction Signs.** Work shall consist of furnishing, installing, moving, deactivating, maintaining, and removing construction signs as directed by the Engineer.

**Flagging and Traffic Control.** Work shall consist of furnishing the necessary traffic control equipment and flaggers for adequate traffic control.

Interim Tubular Markers. Work shall consist of furnishing, installing, moving, and maintaining interim tubular markers attached to the pavement as directed by the Engineer.

Construction Barricades. Work shall consist of furnishing, installing, moving, maintaining, and removing construction barricades, as directed by the Engineer.

##### MATERIALS.

All materials used shall comply with the requirements of Materials Data Sheets and Manufacturing Specifications.

**Construction Signs.** Fabrication of all components shall produce a finished sign panel. Holes may be punched or drilled. Edges shall be smooth and true and free from burrs or ragged breaks. Sign panels,

including face shape, color, dimensions, and characters shall be fabricated using colors, character series and sizes, symbols, route shields and borders as shown in the MUTCD or ordered by Engineer.

**CONSTRUCTION DETAILS.**

**General.** The Contractor shall each designate a trained, responsible person who has the primary responsibility and sufficient authority for implementing the work zone traffic control plan and other safety and mobility aspects as necessary. The Contractor's responsible person shall be appropriately experienced and trained in accordance with the level of decisions that the individual will be required to make, reflecting current industry practices and Authority requirements.

The pedestrians' safe access from the street or highway, sidewalks, walkways, or other accommodations shall be provided by Contractor to allow their safe passage as ordered by the Engineer. When sidewalks, walkways, or shoulders must be temporarily closed to facilitate construction operations, accommodations for safe pedestrian passage shall be maintained at all times, unless other temporary pedestrian accommodations are approved by the Engineer.

**Maintain Public Access.** The Contractor shall provide and maintain at all times safe and adequate ingress and egress for intersecting sidewalks, residences, business establishments, adjacent properties, bus stops and other transportation facilities for vehicles, pedestrians and bicycles; at existing or at new access points, consistent with the work, unless otherwise authorized by the Engineer. Whenever construction operations disrupt or interfere with normal traffic patterns, intersections, business establishment access points, and driveways shall be clearly marked using channelizing devices. Where pedestrian facilities exist, or where pedestrian traffic is reasonably anticipated, the Contractor shall maintain pedestrian access on at least one side of the highway or street at all times, and ensure accessibility for persons with disabilities in accordance with the contract documents and consistent with provisions of the Americans With Disabilities Act. Pedestrian access may be provided using existing pedestrian facilities, temporary sidewalks or walkways, or alternate paths. Where a sidewalk is closed, it shall be marked with construction barricade and a SIDEWALK CLOSED sign. Advance warning signs and directional guidance shall be provided to direct pedestrians to alternate paths and crosswalks and to alert motorists. Potentially hazardous areas adjacent to sidewalks, walkways, or other areas used by pedestrians shall be protected to prevent pedestrian intrusion in accordance with Restricted Areas Protection Specifications – New York State Standard Specifications Section 619-3.

**Construction Vehicles and Equipment.** All construction vehicles and equipment operating within the contract limits, whether in the work space, in the traffic space, in spoil areas, in storage areas, or any other areas of the contract, shall be operated at all times with due consideration for the safety of the public and workers.

All trucks with a GVWR greater than 10,000 lbs shall display a minimum 2 inch wide band of reflective sheeting on the front, rear and each side. The sheeting need not be continuous, but the sum of the length of the segments shall be at least one-half the length of the body or trailer. The centerline of the sheeting shall be between 15 inches and 60 inches above the ground. All equipment shall display a minimum 2 inch wide band of reflective sheeting on the front and rear (100 square inches per end minimum) as practicable.

All vehicles and equipment within the contract limits and on the roadway shall be equipped with, and operate, a rotating amber beacon which shall be visible from all directions for a minimum of 1,000 feet during daylight. Strobe lights will not be allowed. If visibility of the amber beacon is blocked by a portion of the vehicle or equipment, additional beacons shall be provided. Short-term delivery vehicles not equipped with rotating amber beacons shall display four-way emergency flashers when in the temporary traffic control zone. Beacons shall be mounted in a manner which does not cause glare for the driver or operator.

Any vehicle with a GVWR greater than 10,000 lbs and with restricted visibility to the rear shall be equipped with a operational audible backup alarm. Any vehicle with a non-operational backup alarm shall be taken out of service until the alarm is repaired.

**Contract Site Patrol.** The Contractor shall provide adequate personnel and supervision to conduct operations and patrol the contract site to ensure that conditions are adequate for public safety and convenience at all times. The Contractor shall patrol the site as often as necessary during working and non-working hours to adjust and maintain signs, channelizing devices, and other traffic control devices and safety features.

**BASIS OF PAYMENT.**

The lump sum price bid for basic work zone traffic control shall include all labor, materials and equipment necessary to complete the work.

Progress payments will be made at 20 percent of the lump sum price bid when 10 percent of the contract work, excluding basic work zone safety control, contingency items and mobilization, has been completed. The remaining 80 percent will be paid in subsequent contract payments, in proportion to the amount of other contract work completed, less any non-payment for deficient work zone traffic control. Deficient work zone traffic control credit will be taken by BPCA as an amount calculated as a total amount bid for this Item divided by the total length of construction (calendar days) multiplied on a number of occurrences.

**Payment will be made under:**

**Item No. Item Pay Unit**

**Item 1254/11- 02 - WORK ZONE SAFETY CONTROL Lump Sum**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

***KS Engineers, P.C.***

## **1254/11- 03 Night Time Operations**

### **DESCRIPTION:**

Nighttime Operations Work shall consist of developing a Nighttime Operations and Lighting Plan, and furnishing, installing, operating, maintaining, moving and removing lighting equipment for nighttime construction operations as shown in the contract documents or as directed by the Engineer.

### **MATERIALS:**

Not specified.

### **CONSTRUCTION DETAILS:**

Nighttime Operations Work occurring after sunset and before sunrise will be considered nighttime operations. All workers involved in nighttime operations shall wear protective helmets and nighttime apparel in accordance with OSHA Requirements. High Visibility Apparel at all times.

Vehicles operating on the pavement of a closed roadway or travel lane shall display four-way flashers or rotating amber beacons at all times. Vehicles using headlights, except for rollers and vehicles retrieving channelizing devices shall travel facing in the same direction as adjacent traffic in order to avoid glare and confusion to drivers.

The Contractor shall meet the following additional requirements for work zone traffic control during nighttime operations.

A. Nighttime Operations and Lighting Plan. Thirty days prior to the start of nighttime operations, the Contractor shall submit a written Nighttime Operations and Lighting Plan to the Engineer for approval. The plan shall detail all aspects of the traffic control setup, the functions, responsibilities and identities of the traffic control supervisor and other details as necessary. It shall include a contingency plan identifying foreseeable problems and emergencies that may arise, and the approach that will be used to address them. This plan shall be revised and updated by the Contractor as necessary during the progress of the work to accommodate conditions on the contract.

The Contractor shall submit a Nighttime Operations and Lighting Plan to the Engineer, at a scale and printed size similar to the contract plans and appropriate to adequately describe the work, including the following:

- Layout showing location of light towers, including typical spacing, lateral placement and mounting height, and clearly show the location of all lights necessary for all work to be done at night.

- Description of light towers to be used and electrical power source.
- Specific technical details on all lighting equipment, including brand names, model numbers, power rating and photometric data.
- Details of any hoods, louvers, shields or other means to be used to control glare.
- Attachment and mounting details for lights to be attached to equipment.
- Lighting calculations confirming that the illumination requirements will be met by the layout.

The Contractor shall maintain a supply of emergency flares for use in the event of unanticipated situations such as traffic accidents, equipment breakdowns, failure of lighting equipment, etc.

B. Lighting for Nighttime Operations. Prior to the first night of nighttime operations, the Contractor shall set up and operate the lighting equipment at night as a trial run to demonstrate its ability to establish a



safe, properly illuminated, nighttime operation. The Contractor shall furnish the Engineer with a photometer, capable of measuring the level of illumination, for use as necessary to check the adequacy of illumination throughout nighttime operations.

1. Equipment. The Contractor shall supply all lighting equipment required to provide a work zone safe for the workers and traffic. Material and/or equipment shall be in good operating condition and in compliance with applicable safety and design codes.

a. Light Towers. Light towers shall be provided as a primary means of illumination, and shall provide Level I illumination throughout the work space. They may be supplemented to the extent necessary by lighting fixtures mounted on construction equipment to provide Level II or Level III illumination where required for paving, milling and similar moving operations. Light towers shall be sturdy and freestanding without the aid of guy wires or bracing, and shall be capable of being moved as necessary to keep pace with construction operations. Light towers shall be positioned to minimize the risk of being impacted by traffic on the roadway or by construction traffic or equipment.

b. Light Towers on Paving, Milling, and Finishing Machines. If needed to supplement portable and/or trailer-mounted light towers, towers shall be affixed to paving, milling, and finishing machines to provide the required level of illumination in front of and behind the machine. No portion of machine-mounted light towers shall exceed a height of 13 feet above ground. Luminaries shall be aimed and adjusted to provide uniform illumination with a maximum uniformity ratio of 5:1. The hopper, auger, and screed areas of pavers and the operator's controls on all machines shall be uniformly illuminated.

c. Construction Equipment Lights. All construction equipment, including rollers, backhoes, loaders, and other equipment operating in areas not illuminated to a minimum of Level I illumination, shall be equipped with a minimum of two 500 watt flood lights facing in each direction to provide a minimum of 1 foot-candles of horizontal illumination measured 60 feet in front of and behind the equipment. In areas illuminated to a minimum of Level I, construction equipment may move unescorted. In nonilluminated areas, construction equipment shall be equipped with conventional vehicle headlights, shall be illuminated with flood lights on the vehicle, or shall be escorted to permit safe movement. Headlights shall not be permitted as the sole means of illumination while working.

d. Equipment Mounting. The Contractor shall provide suitable brackets and hardware to mount lighting fixtures and generators on machines and equipment. Mountings shall be designed so that light fixtures can be aimed and positioned as necessary to reduce glare and to provide the required illumination. Mounting brackets and fixtures shall not interfere with the equipment operator or any overhead structures, and shall provide for secure connection of the fixtures with minimum vibration.

e. Portable Generators. The Contractor shall provide portable generators to furnish adequate power to operate all required lighting equipment. Fuel tank capacity and availability of fuel on site shall be sufficient to permit uninterrupted operation throughout the planned shift.

Adequate switches shall be provided to control the various lights. All wiring shall be weatherproof and installed in accordance with 29 CFR 1926 Subpart K requirements. All power sources shall be equipped with a Ground-Fault Circuit Interrupter.

2. Illumination Requirements. Tower-mounted luminaires, whether fixed, portable, trailer mounted, or equipment-mounted, shall be of sufficient wattage and/or quantity to provide the required level of illumination and uniformity over the area of operation.

The uniformity of illumination, defined as the ratio of the average illumination to the minimum illumination over an area requiring an indicated illumination level, shall not exceed 5:1.

Illumination levels on approach roadways should be increased sequentially to prevent motorists from becoming disoriented by rapid changes from full dark to very bright conditions.

Existing street and highway lighting shall not eliminate the need for the Contractor to provide lighting.

Consideration will be given to the amount of illumination provided by existing lights in determining the wattage and/or quantity of lights to be provided. Such consideration shall be presented in the Contractor=s Nighttime Operations and Lighting Plan. In the event of any failure of the lighting system, nighttime operation(s) shall be discontinued until the required level of illumination is restored.

a. Level I (5 foot-candles). Level I illumination shall be provided for all areas of general construction operations to include all work operations by Contractor=s personnel, including work zone traffic control set-up and operations, staging, excavation, cleaning and sweeping, spoil disposal, landscaping, planting and seeding, layout and measurements ahead of the actual work, borrow areas, spoil areas, and truck cleanout areas. Level I illumination shall be provided at the area of lane and/or road closure tapers continuously, including the setup and removal of the closure tapers. Level I illumination shall be provided a minimum of 400 feet ahead and 800 feet behind a paving or milling machine, or for the entire area of concrete placement or pavement work if less than 1500 feet. This area shall be extended as necessary to incorporate all vehicle and equipment operations associated with the paving operation. The only exception to the requirement for Level I illumination throughout the area of construction operations is that finish rollers can work beyond the area of Level I illumination using floodlights mounted on the roller.

**METHOD OF MEASUREMENT:**

The work under nighttime operations will be measured for payment on a lump sum basis.

**BASIS OF PAYMENT:**

The lump sum price bid for portable lighting shall include all labor, materials and equipment necessary to complete the work.

Progress payments will be made based on the lump sum price bid as follows: 20 percent when the Nighttime Operations and Lighting Plan has been accepted and satisfactory lighting of nighttime operations has begun; the remaining 80 percent will be paid in progress payments per week of nighttime operations completed. The amount of such weekly payment will be determined by dividing 80 percent of the lump sum amount bid by the number of weeks of nighttime operations in the approved Nighttime Operations and Lighting Plan.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/11- 03 Nighttime Operations Lump Sum**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **Item 1254/11- 04 – SURVEY OPERATIONS**

##### **DESCRIPTION**

Survey Operations - This work shall consist of providing all necessary surveying to establish, spatially position, measure, navigate to and verify the locations of existing and proposed features and measure quantities of items in accordance with the contract documents or as directed by the Engineer. This work includes but is not limited to the establishment or reestablishment of primary and secondary control, the stakeout of proposed features, the location or verification of existing items or of constructed items, and the coordination and sharing of engineering data with the Authority or other contract project Engineers.

##### **MATERIALS**

None specified

##### **CONSTRUCTION DETAILS**

None specified

##### **BASIS OF PAYMENT**

The price bid shall include the cost of furnishing all labor, materials and equipment necessary to satisfactorily complete the work. Progress payments will be made in proportion to the amount of work completed as determined by the Engineer.

**Payment will be made under:**

**Item No. Item Description Pay Unit**

**1254/10- 04 Survey Operations Lump Sum**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **1254/11- 05**

#### **Saw Cutting of Existing Asphalt Pavement, Asphalt Surface Course, or Asphalt Concrete Overlay on Concrete Pavement**

##### **Pavement**

##### **DESCRIPTION**

Under this item, the contractor shall saw cut existing asphalt pavement, concrete pavement, asphalt surface course, or asphalt concrete overlay on concrete pavement at the locations indicated on the plans or where directed by the Engineer.

##### **MATERIALS**

None specified.

##### **CONSTRUCTION DETAILS**

Existing pavement and overlay shall be saw cut perpendicular to the roadway surface along neat lines, and to the depth indicated on the plans and typical sections. A power saw approved by the Engineer shall be used for cutting asphalt surface course and asphalt overlay. A power saw shall be used for cutting concrete pavement. After the existing asphalt pavement, concrete pavement, asphalt surface course or overlay has been saw cut through, the contractor may use pry bars, pneumatic tools or other methods approved by the Engineer, to pry loose the existing pavement from that pavement which is to remain. A pavement breaker, under the supervision of the Engineer, may be used to break up the pavement to be removed after the pavement has been completely saw cut through and completely free from the pavement to remain.

Any existing pavements and curbs not indicated to be removed that are damaged by the contractor's operations, shall be repaired by him to the satisfaction of the Engineer at no additional cost to the State. The quantity to be measured will be the number of feet of saw cutting done in accordance with the plans, typical sections and the directions of the Engineer.

No saw cutting will be measured for payment under this item which the contractor may choose to do for his own convenience.

##### **METHOD OF MEASUREMENT**

The quantity to be measured will be the number of feet of saw cutting done in accordance with the plans, typical sections and the directions of the Engineer.

No saw cutting will be measured for payment under this item which the contractor may choose to do for his own convenience.

##### **BASIS OF PAYMENT**

The unit price bid per feet of saw cutting shall include the cost of all labor, materials, and equipment necessary to complete the work.

Payment for removal and disposal of cut pavement shall be paid for under the appropriate excavation item.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/10- 05**

**Saw Cutting of Existing Asphalt Pavement, Asphalt Surface Course,  
or Asphalt Concrete Overlay on Concrete Pavement Linear Feet**



## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **1254/10- 06 Miscellaneous Cold Milling of Bituminous Concrete**

##### **DESCRIPTION**

This work shall consist of the milling, shaping and removal of portions of existing surfaces by a cold milling process, and subsequent cleaning, utilizing equipment and procedures meeting the requirements in this specification.

The work shall consist of Miscellaneous Cold Milling or Production Cold Milling of bituminous or portland cement concrete as indicated in the contract documents and as shown on the plans.

##### **MATERIALS**

Equipment - Milling machines shall be power operated, self-propelled machines capable of removing the desired thickness of existing surfaces. The machines shall have sufficient power, traction and stability to accurately maintain depth of cut and slope. They shall be capable of producing a finished profile and cross slope to within 1/4 inch of that required and shall produce a uniform surface texture free from gouges and ridges greater than 3/8 inch in depth.

The machines shall be equipped with a means to control dust and other particulate matter created by the cutting action.

The machines shall have an integral loading system or sufficient equipment shall be provided to accomplish complete removal of milled material at a rate equivalent to the milling rate.

Vacuum trucks, street sweepers or power brooms shall be used to clean the milled surfaces. The Engineer may disallow the use of power brooms in urban, residential or other sensitive areas if the dust raised by the broom is deemed by the Engineer to be objectionable.

Disposal of Material - Material removed during the milling process, including foreign debris within or on the pavement, shall become the property of the Contractor and shall be disposed of at a site obtained by the Contractor

##### **CONSTRUCTION DETAILS**

General - Milling shall be performed at the locations and in accordance with the details indicated on the plans.

When indicated on the plans, profile and cross slope shall be controlled by a taut reference string line.

The reference elevation and string line shall be established by the Contractor and subject to the approval of the Engineer.

Areas not accessible to the milling machine, such as around and/or adjacent to inlets, manholes, curbs and transverse joints on structures, may be removed by a small milling machine, handwork or other methods approved by the Engineer.

All milled material, including that removed by other means, shall be immediately removed from the milled surfaces and adjacent surfaces. Surfaces shall be cleaned of all fines and dust prior to opening to traffic. The Contractor shall conduct operations in such a manner that dust is controlled and is not objectionable. Milled and adjacent surfaces shall be cleaned again, as directed by the Engineer, prior to the placement of tack coats, or pavement courses if traffic has been allowed on the milled surface and/or if more than 48 hours have elapsed since the initial cleaning.

The Contractor shall maintain drainage at catch basins, according to the details shown on the plans, or in a manner approved by the Engineer.

When working adjacent to traffic, the Contractor shall immediately remove material that is spilled on the

traveled way.

Milled surfaces to be overlaid with asphalt concrete shall be covered with at least a single course of asphalt concrete before the end of the paving season. Portland cement concrete overlays shall be completed over milled surfaces before the end of the paving season. Damage to milled surfaces resulting from traffic or other causes such as, but not limited to, raveling, fuel spillage or any contaminants which would inhibit bond, shall be repaired or remilled by the Contractor in a manner approved by the Engineer. Production Cold Milling - Production cold milling of bituminous or Portland cement surfaces shall be performed in accordance with the details and at the locations indicated on the plans.

Miscellaneous Cold Milling - Miscellaneous cold milling of bituminous or Portland cement surfaces shall be performed in accordance with the details and at the locations indicated on the plans.

Production Cold-Mill Surface Planing - Production cold-mill surface planing of bituminous concrete surfaces shall be performed in accordance with the details and at the locations indicated on the plans.

When specified, the milling machine shall control the profile and cross slope with a moving reference at least 30 feet in length. The moving reference may be a floating beam, ski, or other suitable type such that the resulting milled surface is sufficiently even.

In areas accessible to the milling machine, construct a milled surface to a maximum 1/2 inch tolerance. If the pavement surface is not being constructed or has not been constructed to this tolerance based upon visual observation or upon riding quality, the Engineer may test the surface with a 15 foot straight edge or string line placed parallel to the centerline of the pavement and with a 10 foot straight edge or string line placed transversely to the centerline of the pavement on any portion of the pavement.

Variations exceeding 1/2 inch will be satisfactorily corrected at no additional cost to the Authority.

#### **METHOD OF MEASUREMENT**

The quantity shall be measured as the number of square yards of pavement surface milled in accordance with the plans and this specification.

In no case will a deduction in area be made for minor unmilled areas due to catch basins, manholes, transverse joints, or minor low areas in pavements from the measured surface area that has been milled. Minor unmilled or low areas are those areas of 10 square yards or less.

#### **BASIS OF PAYMENT**

The unit price bid per square yard shall include the cost of furnishing all labor and equipment necessary to complete the milling, including the removal of pavement by other means, the removal and disposal of milled material, the removal and hauling of milled material to a designated storage area when indicated in the contract documents and cleaning the resultant surface after milling. No payment will be made for additional cleaning that may be necessary just prior to placement of any overlaying pavement courses or tack coats. The cost of maintaining drainage shall be included in the price bid for work zone traffic control. The cost of providing tack coats, overlay courses, and temporary pavement wedges around drainage structures, manholes, valve boxes, bridge abutments and beginning and ends of milled pavement shall be paid for separately.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/10- 06 Miscellaneous Cold Milling of Bituminous Concrete square yard**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **1254/10- 07**

#### **Altering Existing Drainage Structures, Utility Manholes or Valve Boxes**

##### **DESCRIPTION**

General - This work shall consist of the construction or alteration of drainage structures, manholes, leaching basins and transverse drainage interceptors in accordance with these specifications, the contract plans and the standard sheets.

Adjustment Rings and Frames for Drainage Structures and Manholes. The Contractor shall furnish and install prefabricated adjustment rings and frames for drainage structures and manholes. The extensions shall elevate and support drainage structure grates or manhole covers without the necessity of removing the original drainage structure frame or manhole casting, when the roadway is resurfaced.

##### **MATERIALS**

Drainage Structures and Manholes - Materials used for the construction of drainage structures and manholes shall be as indicated on the plans, and/or Standard Sheets.

Dowels shall be fabricated from epoxy coated bar reinforcement.

Altering Drainage Structures, Leaching Basins and Manholes - Materials for the repair and alteration of existing structures shall meet the requirements indicated on the contract plans. Structures originally constructed with concrete block, common brick or concrete brick shall be altered with Precast Concrete Driveway and Sidewalk Pavers.

##### **CONSTRUCTION DETAILS**

Altering Drainage Structures and Utility Manholes - Reconstruction and adjustment of existing drainage structures shall be as detailed and specified on the contract plans. Construction with cast-in-place concrete shall conform to the requirements of Section 555, Structural Concrete.

Frames, grates and covers to be reused shall be removed, cleaned and reset at the required elevations. New frames, grates and manhole covers shall be installed when specified. Upon completion, each structure shall be cleaned of any accumulation of silt, debris or foreign matter of any kind and shall be kept clear of such accumulation until final acceptance of the work.

Adjustment Rings and Frames for Drainage Structures and Manholes - Prior to the placement of the surface course and after the placement of the binder course, when required, the Contractor shall install adjustment rings and frames for manholes and drainage units. The adjustment ring or frame shall be placed so the manhole cover or drainage unit grate will not protrude above the finished surface of the pavement. To assure a firm and secure fit with the adjustment ring or frame, the seat of the existing manhole casting or drainage unit frame shall be free of all foreign material at the time of installation. The entire assembly shall be set on the seat of the existing manhole casting or drainage unit frame and the locking devices shall be tightened evenly. The manhole cover or drainage unit grate shall then be set upon the seat of the adjustment ring or frame.

The Contractor shall be responsible for insuring that the adjustment rings and frames are compatible with the existing manhole castings and covers or drainage frames and grates.

All rings or frames shall be protected from displacement caused by traffic maintained on the roadway or equipment used in the paving operation.

The Contractor shall have the option of removing and resetting the existing manhole casting or drainage



unit frames to the required grade where shown on the plans or approved by the Engineer.

**METHOD OF MEASUREMENT**

Altering Drainage Structures, Leaching Basins and Manholes - Altering drainage structures, leaching basins and manholes will be measured by the number of structures altered.

**BASIS OF PAYMENT**

Altering Drainage Structures, Leaching Basins and Manholes - The unit price bid for each shall include the cost of all materials, labor and equipment necessary to satisfactorily complete the work including all necessary cleaning, excavation, backfill, and replacement of any pavement, shoulder and sidewalk courses, subcourses, curbs, drives, lawns and any other surface. Frames, covers or grates to be reused that are broken by the Contractor's operations shall be replaced at the Contractor's expense. New frames, covers and grates will be paid for under the appropriate payment items for Frames and Grates.

Adjustment Rings and Frames for Drainage Structures and Manholes - The unit price bid for each adjustment ring or frame shall include the cost of all material, labor and equipment necessary to satisfactorily install the adjustment rings and frames. If the Contractor elects to reset the existing casting or frames, the costs of the work involved in the removal and replacement of existing disturbed pavement shall be included in the price bid for the adjustment rings and frames.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/11- 07**

**Altering Existing Drainage Structures, Utility**

**Manholes or Valve Boxes each**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

## **1254/11- 08 Tack Coat**

### **DESCRIPTION**

This work shall consist of preparing and treating an existing portland cement concrete surface or hot mix asphalt surface, excluding the surface of permeable base material with tack coat in accordance with the Contract documents and as directed by the Engineer.

### **MATERIALS**

The tack coat shall meet the requirements of Tack Coat. This material will be sampled and tested in accordance with the Materials Method for NYSDOT Standards

Asphalt Emulsion - Quality Assurance - Rapid setting emulsions modified with chemical additives for fast breaking may be used as a tack coat at no additional cost to the state. Requests made to the Engineer to use these chemically modified rapid setting tack coats shall be done a minimum of 14 days prior to use.

The Materials Bureau will be informed by the Engineer to determine if the proposed tack coat is acceptable for use.

### **CONSTRUCTION DETAILS.**

Equipment - A distributor shall be used for applying tack coat. The distributor shall be capable of applying the tack coat uniformly on variable widths of surface up to 15 feet, with uniform pressure, and with an allowable variation from any specified rate detailed in Table 407-1 Tack Coat

Application Rates not exceeding 0.02 to 0.03 gallons per square yard. Distributor equipment shall include a quantity measuring system and a thermometer for measuring temperature of tank contents. This equipment shall be calibrated within the last 12 months in accordance with ASTM D 2995 Standard Practice for Estimating Application Rate of Bituminous Distributors. A copy of the signed and dated calibration certification detailing the equipment by its serial number or other unique identifier shall be given to the Engineer prior to use. Distributors shall be equipped with a power unit for the pump and full circulation spray bars shall be adjustable both laterally and vertically. An attached bristle broom designed such that it drags on the pavement behind the spray bars may be attached to the distributor. If the broom is used, it shall be adjustable laterally and vertically so that the full width of the applied tack coat is bristled uniformly into the pavement surface. A bituminous material sampling valve shall be attached to the distributor. When samples are taken through such valves, they shall be considered representative of all material in the distributor tank. The distributor tank will be equipped with an agitator that is capable of ensuring the emulsion is homogenous.

It is preferred that the asphalt emulsion stored in the distributor tank be heated and maintained at a temperature range between 85°F and 160°F. Smaller hand operated power spray units will be permitted only in areas where the use of a distributor is impractical.

The Engineer will determine the final acceptance of all equipment used for applying the tack coat.

Application of Emulsion Material - The asphalt emulsion contained in the distributor tank shall be homogenous. Emulsified asphalts held in storage tanks, drums, or distributors for long periods are subject to settlement. The asphalt emulsion shall be sufficiently agitated or circulated to ensure a homogenous emulsion prior to sampling or application. The tack coat shall be applied to a prepared clean pavement and in a manner to offer the least inconvenience to traffic and to reduce pickup or tracking of the bituminous material. Upon application the material shall be as uniformly spread across the width of the designated area.

The tack coat shall not be applied on a wet pavement surface or when the pavement surface temperature is below the temperature requirements outlined in Table 402-2 Temperature and Seasonal Requirements. The Engineer will approve the temperature and areas to be tack coated prior to application. To avoid “boil-off” of the water, the asphalt emulsion shall not be heated above 195°F. The application rate shall be as determined in Table 407-1. These are recommended application rates for tack coat on various surfaces types and may be modified by the Engineer based on prior experience.

**TACK COAT APPLICATION RATES**

Surface Type Application Rate (gallons per square yard)

New Hot Mix Asphalt 0.03 - 0.04

Milled Surfaces and Existing Hot Mix Asphalt 0.05 - 0.06

Portland Cement Concrete 0.05 - 0.06

Vertical Surfaces (curbs, drainage structures, and appurtenances) 0.06 - 0.07

**METHOD OF MEASUREMENT.**

The quantity to be measured for payment will be in gallons of asphalt emulsion for tack coat measured at 60°F to the nearest gallon. The following formula will be used to calculate material quantity at 60°F:

Volume 60°F = Volume D x [1 - (ΔT x 0.00045)]

ΔT = Delivered Temperature (°F) - 60

Volume D = Quantity Delivered (gallons)

**BASIS OF PAYMENT.**

The unit price bid per gallon for tack coat shall include the cost of all labor, materials, and equipment necessary to satisfactorily complete the work.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/11- 08 Tack Coat Gallon gallons**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **1254/11- 09 Hot Mix Asphalt Type 6 Top Course**

##### **DESCRIPTION**

These general specifications apply to plant mixed Hot Mix Asphalt (HMA) for use by municipalities such as Towns, Counties, etc. Modifications of these general requirements will be indicated in the specific requirements for each item. These mixes are suitable for low to moderate traffic volumes.

This work will consist of one or more courses of HMA constructed on the prepared foundation in accordance with these specifications and the specific requirements of the item under contract, and in reasonably close conformance with the lines, grades, thickness and typical sections shown on the plans or established by the Engineer.

Appropriate mix types with corresponding friction aggregates and Performance Graded Binder (PG Binder) grades must be specified and used based on the traffic levels and the project location.

##### **MATERIALS**

General - Use all materials for HMA production such as aggregates, PG Binder, Reclaimed Asphalt Pavement (RAP), mineral filler or any other materials meeting the State’s requirements.

Composition of Mixtures - The HMA plant mix will generally be composed of a mixture of aggregate, Reclaimed Asphalt Pavement (RAP), filler if required, and PG Binder. For any HMA required by the plans or itemized proposal, formulate a job mix formula that satisfies the General Limits imposed by Composition of Hot Mix Asphalt Mixtures. In addition, the formula will state the mineral aggregate sources, and the PG Binder used in the mixture. For Type 6F2, 6F3, 7F2, and 7F3 mixtures, determine the optimum asphalt content for the proposed gradation using the Marshall Mix Design Method (50 blows). The resultant mixture shall meet the following Marshall Mix Properties:

Mix Property Type 6F2, 6F3 Type 7F2, 7F3

Air Voids, % 3.0 - 5.0 3.0 - 5.0 Voids in Mineral Agg. (VMA), %, min. 14 16

Voids Filled with Binder (VFB), % 65 - 78 65 - 78 Produce, deliver to the work site, and incorporate the mixture into the work within 20°F of the temperature specified by the Engineer but within the mixing and placing temperature range imposed by the aggregates will be those noted in the job mix formulas. The PG Binder will be accepted on the basis of PG Binder supplier’s certification.

Perform quality control tests during HMA production to ensure specification compliance. The plant mixed material will be accepted after blending and mixing at the plant. The pavement courses will be accepted after all paving operations are completed.

Aggregates - Fine aggregate will consist of materials conforming to the requirements of

Fine Aggregate - In addition, fine aggregate may consist of screenings, free from deleterious materials and manufactured from sources of stone, gravel, or slag meeting the requirements §703-02, Coarse Aggregate. Coarse aggregate will consist of crushed stone, crushed gravel, or crushed slag conforming to the requirements of except for gradation.

When aggregates from approved natural fine sand sources are combined with coarse aggregates in the mixture, aggregate particles will meet additional requirements as follows:

- Particles in the No. 1A and No. 1 primary sizes will meet the quality requirements and will have a minimum of 85 percent, by weight, of the particles with at least two fractured faces.
- Particles in the No. 2, No. 3 and No. 3A primary sizes will meet the quality requirements and will have a minimum of 75 percent, by weight, of the particles with at least one fractured face Slag aggregate may be used only when an alternate pay item which takes the mix yield differential into account is included

on the plans or in the itemized proposal.

### **CONSTRUCTION DETAILS**

The contractor is responsible for Quality Control (QC). QC is defined as all activities required to produce HMA that meets all specification requirements. The Contractor will produce HMA in accordance with the State approved Control Plan and assume responsibilities for all QC activities at the production facilities. Mixing Plant are not required. In addition, the oven's capacity will be a minimum of 1 1/2 cubic feet. The HMA mixing plant inspection facilities shall include mixture design equipment for Marshall method as detailed below.

#### **Equipment for Marshall Design Method**

A. Marshall Compactor. A compactor will meet the requirements of AASHTO T245. Mount the compactor on a solid base. The compactor will be automatically driven, have a stroke counter, and be capable of automatically stopping after applying the desired number of strokes. The compaction hammer shall weigh 10 pounds ( $\pm 0.02$  pounds).

B. Marshall Specimen Mold Assembly. The specimen mold assembly will meet the requirements of AASHTO T245. The assembly shall consist of a compaction mold, base plate, and collar. Provide a minimum of three specimen mold assemblies and an adequate supply of 4 inch paper discs.

C. Marshall Specimen Extractor. Supply an extractor, meeting the requirements of AASHTO T245, to extract the 4 inches Marshall specimens from the compaction molds.

D. Hot Plate. Supply a hot plate suitable for heating the Marshall Compaction hammer. A hot plate meeting the requirements of Sample Drying Appliance, will be acceptable.

#### **Conditioning of Existing Surface.**

Clean the surface of the existing pavement prior to placing any HMA. When specified in the contract documents:

- Clean and fill the joints and cracks under the provisions of Section 633, Conditioning Existing Pavement.
- Apply a thin, uniform tack coat under the provisions of Section 407, Tack Coat, to all contact surfaces of existing HMA and Portland Cement Concrete layers including such areas as adjacent pavement edges, curbing, gutters, manholes and other structures, immediately prior to placing the HMA mixture against them.
- If the pavement surface is rutted, fill all depressions and wheel path ruts prior to the paving of the truing and leveling course, as directed by the Engineer. For wheel path ruts 1/4 inch or greater, but 3/4 inch or less, use Shim Course. Otherwise, for ruts greater than 3/4 inch, use a Type 7 mixture or other appropriate mixture.
- Place a truing and leveling course of a minimum variable thickness of proper plant mix necessary to bring the surface of the existing pavement to the same transverse slope and longitudinal grade required for the finished pavement surface. For compacted thickness up to 2 inches, use a Type 6 or Type 7 mixture. For compacted thickness in excess of 2 inches, use a Type 3 mixture. Pay special attention to the proper compaction of thin sections.

Compaction Immediately after the HMA mixture has been spread, struck off and surface irregularities adjusted, thoroughly and uniformly compact it by rolling. Roll the surface when the mixture is in the proper condition and when the rolling does not cause undue displacement, cracking or shoving. Initially roll all courses with the roller traveling parallel to the centerline of the pavement beginning at each edge and working toward the center. Roll the banked curves starting at the low side edge and working toward the super-elevated edge.

Correct at once any displacement occurring as a result of reversing the direction of the roller, or from other causes, by the use of rakes and addition of fresh mixture as required. Exercise care in rolling so as

not to displace the line and grade of the edges of the HMA mixture. To prevent adhesion of the mixture to the drum(s) and pneumatic tires, keep the drum(s) and the pneumatic tires properly moistened with water or water mixed with small quantities of detergent or other approved material. Any petroleum products or solvents having an adverse effect upon the HMA pavement will not be permitted for use. There shall be no visible defects, such as shallow ruts, ridges, roller marks, cracking, tearing, segregation, or any other irregularities as determined by the Engineer, in the pavement when the rolling operation is complete. If these defects are present, correct these defects to the satisfaction of the Engineer or relay the pavement at no additional cost.

Along forms, curbs, headers, walls and other areas not accessible to the rollers, thoroughly compact the mixture with mechanical tampers as directed by the Engineer. On depressed areas, use a trench roller or a small vibratory roller with the approval by the Engineer. Cleared compression strips also may be used. Remove and replace any mixture that becomes loose and broken, mixed with dirt, or is in any way defective with fresh HMA mixture which shall be compacted to conform with the surrounding area. Correct any area showing an excess or deficiency of HMA material to the satisfaction of the Engineer. When using vibratory compaction, assume full responsibility for the cost of repairing all damages which may occur to the highway components and adjacent property including buried utility and service facilities.

Use either of the two compaction options listed below except that the shim course must be compacted with a minimum of three passes of a pneumatic rubber tired roller unless otherwise approved by the Engineer for variance. Option B - Vibratory Compaction is not permitted when compacting HMA concrete courses on structural bridge decks, or other structures with less than 2 feet of cover.

A. Option A. Three Roller Compaction Train. Under this option, initially roll all HMA mixtures with an approved steel-wheel roller operating in a static mode. Overlap the previous roller pass by one-half the width of the roller. Immediately following the initial rolling, roll the mat with an approved pneumatic rubber - tired roller. A minimum of 3 passes of the rubber-tired roller will be required. One pass is defined as one movement of the roller over any point of the pavement in either direction.

Immediately following the intermediate rolling, finish roll the mat with a steel-wheel roller to remove all shallow ruts, ridges, roller marks, and other irregularities from the surface.

Use this option only when the compacted thickness of the finished mat is 4 inches or less. Unless approved by the Engineer, the roller speeds shall not exceed 3 mph. When paving multiple lanes simultaneously, increase the required number of rollers proportionately for each additional full lane width unless otherwise permitted by the Engineer.

B. Option B - Vibratory Compaction. Under this option, use vibratory rollers appearing on the current Approved List - HMA Concrete Vibratory Compaction Equipment. For each project where a vibratory roller is used, furnish a vibrating reed tachometer for the exclusive use of the Engineer. The vibrating reed tachometer must have a frequency range of 1000 to 4000 vpm with a minimum reed interval of 50 vpm between 1000 and 2000 vpm and a minimum reed interval of 100 vpm between 2000 and 4000 vpm.

Operate vibratory rollers at a uniform speed not exceeding 2 1/2 mph (220 fpm) on all pavement courses. Complete all turning of the compaction equipment on material which has had a minimum of one roller pass.

The required number of passes is recommended and may be increased or decreased if, in the opinion of the Engineer, adequate density can be achieved. Complete all breakdown roller passes before the mat temperature falls below 250°F. One vibratory pass is defined as one movement of one drum of the roller over any point of the pavement in either direction. One static pass is defined as one movement of the roller over any point of the pavement in either direction. Remove all ruts, ridges, roller marks or other

irregularities from the surface using static rolling. The Engineer may alter the compaction procedures for small areas where the specified procedures are not practical.

If the Engineer determines that unsatisfactory compaction is being obtained or damage to highway components and/or adjacent property is occurring using vibratory compaction equipment, then immediately cease using this equipment and proceed with the work in accordance with the conventional compaction procedures stipulated under Option A at no additional cost.

When the compaction procedure being used fails to produce results acceptable to the Engineer, adjust the procedure to obtain the desired results. Rollers will move at a slow and uniform speed. The roller drive roll or wheel will be nearest the paver.

**METHOD OF MEASUREMENT.**

The Engineer shall measure the quantity of the HMA placed and compacted in the accepted work. The quantity shall be measured in tons to the nearest 0.01 and determined from the delivery ticket. Each delivery vehicle supplying HMA mixture shall be accompanied with a delivery ticket indicating the total quantity in tons being delivered. The quantity on the delivery ticket shall be determined from the automated proportioning system or the delivery vehicle weigh system. The delivery ticket shall contain the following minimum information:

- Ticket Number
- Plant Identification
- Contract Number
- Material Description, (including the PG-Binder Grade)
- Quantity of Material in Vehicle
- Date and Time

Make one legible copy of the delivery ticket available to the project inspector prior to the placement of the mixture.

**BASIS OF PAYMENT.**

The unit bid price per ton for all pavement courses shall include the cost of all material, labor and equipment necessary to complete the work, including any cleaning pursuant to cleaning of foreign material from the pavement as a result of construction operations; all necessary repairs to highway components and/or adjacent property caused by construction operations; any necessary work to correct surface tolerances; and the scheduling and sequencing of work to conform with weather and seasonal limitations, and all temporary materials and work and/or repairs associated with paving operations outside the specified weather and seasonal requirements. Cleaning, sealing, and filling the cracks will be paid under this Item. Tack coat will be paid under Tack Coat Item.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/11- 09 Hot Mix Asphalt Type 6 Top Course ton**

**EPOXY REFLECTORIZED PAVEMENT MARKINGS**

## **Battery Park City Authority**

### **Pier “A” – Battery Place Roadway Pavement Restoration**

#### **1254/11- 10 White Epoxy Reflectorized Pavement Stripes – 20 mils**

#### **1254/11- 11 Yellow Epoxy Reflectorized Pavement Stripes – 20 mils**

##### **DESCRIPTION.**

Under this work, the Contractor shall furnish and apply epoxy reflectorized pavement markings at the location and in accordance with patterns indicated on the plans or as ordered by the Engineer, and in conformance with the MUTCD and these specifications.

The epoxy marking material should be hot-applied by spray methods onto bituminous and portland cement concrete pavement surfaces at the thickness and width shown on the Contract Documents. Following an application of glass beads, the cured epoxy marking shall be an adherent reflectorized stripe.

##### **MATERIALS.**

Materials shall conform to the requirements of White and Yellow Epoxy Reflectorized Pavement Markings.

##### **CONSTRUCTION DETAILS**

General. All pavement markings and patterns shall be placed as shown on the Contract Documents and in accordance with the MUTCD.

Before any pavement marking work is begun, a schedule of operations shall be submitted for the approval of the Regional Director and his/her authorized representative.

At least five (5) days prior to starting striping, the Contractor shall provide the Engineer with the epoxy manufacturer's written instructions for use. These instructions shall include, but not be limited to, material mixing ratios and application temperatures.

When pavement markings are applied under traffic, the Contractor shall provide all necessary flags, markers, signs, etc. in accordance with the MUTCD to maintain and protect traffic, and to protect marking operations and the markings until thoroughly set.

The application of pavement markings shall be done in the general direction of traffic. Striping against the direction of traffic flow shall not be allowed.

The Contractor shall be responsible for removing, to the satisfaction of the Engineer, all tracking marks, spilled epoxy, and epoxy markings applied in unauthorized areas.

When necessary the Contractor shall establish marking line points at 30 feet intervals throughout the length of the pavement or as directed by the Engineer.

##### **Atmospheric Conditions.**

Epoxy pavement markings shall only be applied during conditions of dry weather and on substantially dry pavement surfaces. At the time of installation the pavement surface temperature shall be minimum of 50°F and the ambient temperature shall be a minimum of 50°F and rising. The Engineer shall be the sole determiner as to when atmospheric conditions and pavement surface conditions are such to produce satisfactory results.

##### **Surface Preparation.**

The Contractor shall clean the pavement and existing durable markings to the satisfaction of the Engineer. Surface cleaning and preparation work shall be performed only in the area of the epoxy markings application.

At the time of application, all pavement surfaces and existing durable markings shall be free of oil, dirt, dust, grease and similar foreign materials. The cost of cleaning these contaminants shall be included in the bid price of this item.

In addition, concrete curing compounds on new portland cement concrete surfaces and existing painted



pavement markings on both concrete and bituminous pavement surfaces shall be cleaned and paid for in accordance with Cleaning and Preparation of Pavement Surfaces for Pavement Markings Specs.

Epoxy Applying Equipment.

Mobile applying equipment for the placement of epoxy reflectorized pavement markings shall be approved by the Director (Materials Bureau) prior to the start of work.

In general, a mobile applicator shall be a truck mounted, self-contained pavement marking machine, specifically designed to apply epoxy resin materials and reflective glass spheres in continuous and skip-line patterns. The applying equipment shall be maneuverable to the extent that straight lines can be followed and normal curves can be made in true arc. In addition, the truck mounted unit shall be provided with accessories to allow for the marking of legends, symbols, crosswalks, and other special patterns. At any time throughout the duration of the project, the Contractor shall provide free access to his epoxy applying equipment for inspection by the Engineer or his authorized representative.

The Engineer may approve the use of a portable applicator in lieu of mobile truck mounted accessories for use in applying special markings only, provided such equipment can demonstrate satisfactory application of reflectorized epoxy markings in accordance with these specifications. The applying equipment shall be capable of installing a minimum of 100,000 feet of epoxy reflectorized pavement markings in an eight hour day and shall include the following features:

1. Individual tanks for the storage of Part A and Part B of the epoxy resin and for the storage of reflective glass spheres.
2. Heating equipment of sufficient capacity to maintain the individual epoxy resin components at the manufacturer's recommended temperature for spray application.
3. Glass bead dispensing equipment and the capacity of applying the spheres a minimum rate of 20 lb/gal of epoxy resin composition.
4. Metering devices or pressure gauges on the proportioning pumps, positioned to be readily visible to the Engineer.
5. All necessary spray equipment, mixers, compressors, and other appurtenances for the placement of epoxy reflectorized pavement markings in a simultaneous sequence of operations as described in §685-Application of Epoxy Reflectorized Pavement Markings.

Application of Epoxy Reflectorized Pavement Markings. Epoxy reflectorized pavement markings shall be placed at the width, thickness, and pattern designated by the Contract Documents.

Marking operations shall not begin until applicable surface preparation work is completed and approved by the Engineer, and the atmospheric conditions and pavement surface temperature are acceptable to the Engineer.

Pavement markings shall be applied by the following simultaneous operation:

1. The pavement surface is air-blasted to remove dirt and residues.
2. The epoxy resin, mixed and heated in accordance with the manufacturer's recommendations, is uniformly hot-sprayed onto the pavement surface at the minimum specified thickness.
3. Reflective glass spheres are injected into, or dropped onto, the liquid epoxy marking at a minimum rate of 20 lb/gal of epoxy resin.

Defective Epoxy Pavement Markings.

Epoxy reflectorized pavement markings, which after application and curing are determined by the Engineer to be defective and not in conformance with this specification, shall be repaired. Repair of defective markings shall be the responsibility of the Contractor and shall be performed to the satisfaction of the Engineer as follows:

1. Insufficient film thickness and line width; insufficient glass bead coverage or inadequate glass bead retention. Repair Method. Prepare the surface of the defective epoxy marking by grinding or blast

cleaning. No other cleaning methods will be allowed. Surface preparation shall be performed to the extent that a substantial amount of the reflective glass spheres are removed and a roughened epoxy marking surface remains. Immediately after surface preparation remove loose particles and foreign debris by brooming or blasting with compressed air. Repair shall be made by restriping over the cleaned surface in accordance with the requirements of this specification and at the full thickness indicated on the Contract Documents.

2. Uncured or discolored epoxy\*; insufficient bond (to pavement surface or existing durable marking). Repair Method. The defective epoxy marking shall be completely removed and cleaned to the underlying pavement surface in accordance with the requirements of Section 635 - Cleaning and Preparation of Pavement Surfaces, at the Contractor's expense. The extent of removal shall be the defective area plus any adjacent epoxy pavement marking material extending three feet in any direction.

After surface preparation work is complete, repair shall be made by reapplying epoxy over the cleaned pavement surface in accordance with the requirements of this specification.

Uncured epoxy shall be defined as applied material that fails to cure (dry

All work in conjunction with the repair or replacement of defective epoxy reflectorized pavement markings shall be performed by the Contractor at no additional cost to the State.

**METHOD OF MEASUREMENT.**

Pavement striping will be measured in feet along the centerline of the pavement stripe and will be based on a 4 inch wide stripe. Measurement for striping with a plan width greater or less than the basic 4 inches as shown on the plans or directed by the Engineer, will be made by the following method: Plan Width of Striping (inches) x Feet/4 inches

**BASIS OF PAYMENT.**

The accepted quantities of markings will be paid for at the contract unit price, which shall include the cost of furnishing labor, materials and equipment to satisfactorily complete the work. The cost for maintaining and protecting traffic during the marking operations shall be included in the price bid. The cost of removal of concrete curing compounds and existing pavement markings will be paid under separate items and are not included in this item.

No payment will be made for the repair or replacement of defective epoxy reflectorized pavement markings.

No payment will be made for the number of feet of skips in the dashed line.

**Payment will be made under:**

**Item No. Item Pay Unit**

**1254/11- 10 White Epoxy Reflectorized Pavement Stripes – 20 mils FEET**

**1254/11- 11 Yellow Epoxy Reflectorized Pavement Stripes – 20 mils FEET**