

CITY OF BALTIMORE

**Brandon M. Scott
Mayor**

DEPARTMENT OF GENERAL SERVICES

**Chichi Nyagah-Nash
Director**

CONTRACT NO. GS 19817R

BALTIMORE STREET GARAGE RESTORATION

**15 GUILFORD AVENUE,
BALTIMORE, MARYLAND 21202**

**Bambi W. Stevens
Chief**

Major Projects & Energy Division

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**CITY OF BALTIMORE
DEPARTMENT OF GENERAL SERVICES
NOTICE OF LETTING**

Sealed Bids or Proposals, in duplicate, addressed to the Board of Estimates of the Mayor and City Council of Baltimore and marked for **GS 19817R – Baltimore Street Garage Restoration**, will be received at the Office of the Comptroller, Room 204, City Hall, Baltimore, Maryland until 11:00 A.M. on **WEDNESDAY, FEBRUARY 03, 2021**. Board of Estimates employees will be stationed at the Security Unit Counter just inside the Holliday Street entrance to City Hall from 10:45 A.M. to 11:00 A.M. every Wednesday to receive Bids. Positively no bids will be received after 11:00 A.M. The bids will be publicly opened by the Board of Estimates in Room 215, City Hall at Noon. Bid opening proceedings can be viewed live at <https://www.charmtvbaltimore.com/live-stream> at 12:00 Noon.

The Contract Documents may be purchased for a non-refundable cost of **\$50.00** by sending a letter to the Department of General Services, Capital and Energy Projects Division, Suite 204, 200 Holliday Street, Baltimore, Maryland 21202, Att. Azza Rizkallah **as of MONDAY, DECEMBER 28, 2020**. In the letter, include a \$50 check addressed to the Director of Finance, and a Fedex Acc. No. in order to ship the documents for your office. **Conditions and requirements of the Bid are found in the bid package.**

All contractors bidding on this Contract must first be pre-qualified by the City of Baltimore Boards and Commissions. Interested contractors should call 410 396-6883 or contact the Office of Boards and Commissions at 4 South Frederick Street, 4th Floor, Baltimore, MD 21202. **If a bid is submitted by a Joint Venture ("JV"), then in that event, the documents that establish the JV shall be submitted with the bid for verification purposes.** The Prequalification Category required for bidding on this project is **E13004 – REHABILITATION OF STRUCTURES**

The Cost Qualification Range for this work shall be **\$500,000.01 to \$1,000,000.00**

A "Pre-Bidding information" session will be conducted at **THE SITE: 15 GUILFORD AVE, BALTIMORE, MD 21202 on TUESDAY, JANUARY 05, 2021 AT 10:00 A.M.** All attendees are required to wear a face mask and maintain social distancing at all times during the pre-bid meeting.

Principal Items of work for this project are:

1. Lining and Sealcoating of Parking Lots
2. Rehabilitation of Structures
3. Concrete Construction

The MBE goal is **6%** The WBE goal is **3%**

APPROVED:

APPROVED:

Clerk, Board of Estimates

Chief, Capital Projects & Energy Division

Chief Solicitor

Chief, Minority and Women's
Business Opportunity Office

Director,
Department of General Services

ADDITIONAL BIDDING INFORMATION, REQUIREMENTS, AND CONDITIONS

1. Representatives from the Board of Estimates will be stationed at the Security Unit Counter just inside the Holliday Street entrance of City Hall from 10:45 a.m. to 11:00 a.m. every Wednesday to receive Bids.
2. Bid Guarantee: A certified check of the bidder or a bank cashier's check or a bank treasurer's check drawn on a solvent clearing house bank, made payable to the Director of Finance or a bid bond executed on the form as provided in the Bid or Proposal for an amount which is not less than that determined by multiplying the total bid submitted by two percent (2%) will be required with each bid over \$100,000.00. If the bid is less than or equal to \$100,000.00 no Bid Bond is required.
3. Bidders interested in utilizing the City's Self-Insurance Program for payment and performance security for contracts not exceeding \$100,000.00 may contact the Department of Finance, the Program Administrator, for eligibility requirements and premium costs.
4. **The Board of Estimates reserves the right to reject any and all Bids and/or waive technical defects, if in its judgment, the interest of the Mayor and City Council of Baltimore may so require.**
5. Pursuant to Article 5, Subtitle 28 of the Baltimore City Code (2000 Edition)-Minority and Women's Business Program, Minority Business Enterprise (MBE) and Women's Business Enterprise (WBE) participation goals apply to this contract.
6. This contract is subject to a **Performance Evaluation** by the Department of General Services.

END OF SECTION

NOTICE TO BIDDERS**SUPPLEMENTAL BIDDING INSTRUCTION**

The following instruction supplements the bidding instructions found elsewhere in the Bid Book and those referenced therein.

EACH BIDDER IS HEREBY NOTIFIED THAT HE/SHE/IT MUST COMPLETELY FILL IN THE ORIGINAL BID AND THE REQUIRED BID/PROPOSAL AFFIDAVIT AND DOCUMENTS LOCATED IN THE BID BOOK. THE ORIGINAL BID, (WHICH MUST REMAIN ATTACHED TO THE BID BOOK) PLUS THE FULLY COMPLETED DUPLICATE BID MUST BE SUBMITTED IN THE BID ENVELOPE, IF ONE IS PROVIDED FOR THAT PURPOSE.

FAILURE TO FOLLOW THESE SIMPLE DIRECTIONS MAY CAUSE YOUR BID TO BE DECLARED UNRESPONSIVE AND THE BID MAY BE REJECTED BY THE BOARD OF ESTIMATES.

MINORITY AND WOMEN'S BUSINESS PROGRAM

- ❖ INCLUDED IN THIS CONTRACT IS A MINORITY AND WOMEN'S BUSINESS PROGRAM PACKAGE.
- ❖ MINORITY AND WOMEN'S BUSINESS PROGRAM PACKAGE FORMS MUST BE COMPLETED AND SUBMITTED WITH YOUR BID PROPOSAL.
- ❖ FAILURE TO SUBMIT THE INFORMATION AT THE TIME REQUESTED WILL BE CAUSE TO HAVE YOUR BID REJECTED.

BALTIMORE APPRENTICESHIP TRAINEE PROGRAM (BATP)

- ❖ INCLUDED IN THIS CONTRACT IS A BALTIMORE APPRENTICESHIP TRAINEE PROGRAM PACKAGE (BATP DOCUMENTS).
- ❖ BATP FORMS MUST BE COMPLETED AND SUBMITTED **WITH YOUR BID PROPOSAL**.
- ❖ FAILURE TO SUBMIT THE INFORMATION AT THE TIME REQUESTED MAY BE CAUSE TO HAVE YOUR BID REJECTED.
- ❖ COMPLETED BATP FORMS ARE ONLY REQUIRED FOR BIDS OF \$1,000,000.00 OR MORE.
- ❖ **NOTE:** ORIGINAL BATP FORMS ARE INCLUDED IN THE ACCOMPANYING MANILA BID ENVELOPE IF THE ENGINEER'S ESTIMATE FOR A PROJECT IS \$ 750,000.00 OR MORE.

**EMPLOY BALTIMORE AND
BALTIMORE CITY'S YOUTHWORKS PROGRAM**

- ❖ ALSO INCLUDED IN THIS CONTRACT IS AN EMPLOY BALTIMORE PACKET AND A BALTIMORE CITY'S YOUTHWORKS PROGRAM FORM.
- ❖ ALL FORMS IN THE EMPLOY BALTIMORE CERTIFICATION PACKET AND THE SINGLE PAGE BALTIMORE CITY'S YOUTHWORKS FORM MUST BE COMPLETED AND SUBMITTED WITH YOUR BID PROPOSAL.
- ❖ FAILURE TO SUBMIT THE INFORMATION AT THE TIME REQUESTED MAY BE CAUSE TO HAVE YOUR BID REJECTED.
- ❖ THE ACCOMPANYING MANILA BID ENVELOPE CONTAINS AN EMPLOY BALTIMORE PACKET AND BALTIMORE CITY'S YOUTHWORKS PROGRAM ORIGINAL DOCUMENTS WHICH MUST BE COMPLETED FOR ALL CONTRACTS.
- ❖ ALL FORMS IN THESE PACKETS MUST BE COMPLETED AND SUBMITTED **WITH YOUR BID PROPOSAL**.
- ❖ FAILURE TO SUBMIT THE INFORMATION AT THE TIME REQUESTED MAY BE CAUSE TO HAVE YOUR BID REJECTED.

LOCAL HIRING LAW

- ❖ ALSO INCLUDED IN THIS CONTRACT IS NOTIFICATION OF THE LOCAL HIRING LAW EFFECTIVE DECEMBER 23, 2013. PLEASE REFER TO THE "INSTRUCTION TO BIDDERS" SECTION AND THE "LOCAL HIRING LAW" SECTION WITHIN THIS SPECIFICATION FOR REQUIREMENTS OF THE LAW.

BOARD OF ESTIMATES RESOLUTIONS AND EXECUTIVE ORDER**EXECUTIVE ORDER**

WHEREAS, the Mayor and City Council of Baltimore ("City") wishes to encourage all contractors awarded City contracts to agree to employ skilled and qualified Baltimore City residents to meet the contractor's employment needs created as a result of the award of a City contract; and

WHEREAS, the Mayor's Office of Employment Development ("MOED") has established the EMPLOY BALTIMORE program designed to create opportunities for businesses that receive City contracts to meet their workforce needs; to access qualified City job seekers; and to ensure that City dollars contribute to the local economy; and

WHEREAS, MOED has a roster of Baltimore City residents, who are skilled and qualified for immediate employment by City contractors; and

WHEREAS, MOED wishes to establish and maintain an ongoing relationship with City contractors in an effort to address current and future employment and/or training needs; and

WHEREAS, increasing employment participation of City residents is good business and a means to improve Baltimore City's employment rate,

NOW, THEREFORE, I, Stephanie Rawlings-Blake, Mayor of the City of Baltimore, by virtue of the authority vested in me by the Charter of Baltimore City, do hereby promulgate the following **EXECUTIVE ORDER**:

1. This Executive Order shall apply to contracts awarded by the City that are in the amounts of \$50,000.01 to \$300,000.00, except for professional service contracts and emergency contracts.
2. Bidders on all contracts awarded by the City in the amounts of \$50,000.01 to \$300,000.00, except for professional service contracts and emergency contracts, shall complete the **Employ Baltimore Certification Statement** contained in the Bid Document and submit it with their bids.
3. Within two (2) weeks of receiving the award of a City contract, the contractor shall schedule a meeting with MOED to: (a) assess its employment needs, and (b) discuss other services provided by MOED. If applicable, MOED will then tailor specific hiring and/or training programs to benefit the contractor. The contractor will not receive its first progress payment under the contract, unless and until the said meeting has been scheduled.
4. Should the contractor's workforce plan indicate a need to fill new jobs, the contractor must agree to post these positions through MOED and its One Stop Career Center Network for a period of seven (7) days prior to publicly advertising the openings. This will enable MOED to identify and refer qualified City residents to the contractor as candidates for these job opportunities.

5. Each contractor shall submit an **Employ Baltimore** Employment Report to MOED on June 30th and December 31st during each and every year of its contract, and at the end of the contract, indicating the number of City residents on its payroll. The submission of the Employments Reports as required shall be a condition precedent to the City's release of a final payment or any and all retainage held by the City, pursuant to the contract.

6. A copy of this **Executive Order** shall be included in all bids, requests for proposals and/or contracts.

7. This **Executive Order** applies to all applicable City contracts entered into on or after December 23, 2013.

8. This **Executive Order** supersedes the Resolution of the Board of Estimates for the Employ Baltimore Executive Order signed by the Mayor on June 9, 2011, and shall take effect immediately.

IN WITNESS WHEREOF, I HAVE HEREUNTO
PLACED MY HAND AND THE GREAT SEAL
OF THE CITY OF BALTIMORE THIS

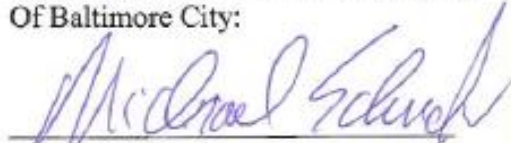
DAY OF

2013.



STEPHANIE RAWLINGS-BLAKE, MAYOR

Approved As To Form and Legal
Sufficiency By The Law Department
Of Baltimore City:



Michael Schrock
Chief Solicitor

ATTEST:



Custodian of City Seal

Alternate

APPROVED BY THE BOARD OF ESTIMATES:
DEC 18 2013





EXECUTIVE ORDER

WHEREAS, the Mayor and City Council of Baltimore ("City") is committed to promoting the well-being and positive development of the City's youth and providing educational and enrichment opportunities which will lead to academic improvement, safer environments and a reduction in high risk behavior; and

WHEREAS, Baltimore City has an estimated 76,000 citizens between the ages of 14-21, and

WHEREAS, the federal government ceased funding summer job programs for youth in 2000 after 25 years, causing local and state governments to join with businesses, philanthropic, faith-based, community, and educational organizations to obtain grants, tax-deductible donations and job opportunities to help these deserving youth; and

WHEREAS, the City and the Mayor's Office of Employment Development ("MOED") have established the Baltimore City's YouthWorks program to prepare dependable Baltimore City high school and college students for productive employment that meets the workforce needs of local businesses; and

WHEREAS, the City wishes to encourage all local businesses and contractors, service providers, consultants and vendors, etc. doing business with the City to employ skilled and qualified Baltimore City youth between the ages of 14-21, who meet the job ready status, as defined by Baltimore City's YouthWorks program, during the summer of 2008; and

WHEREAS, the need to help Baltimore City's youth has never been greater

NOW, THEREFORE, I Sheila Dixon, Mayor of the City of Baltimore, by virtue of the authority vested in me by the Baltimore City Charter, do hereby promulgate the following **EXECUTIVE ORDER**:

- 1 Henceforth, each and every Solicitation from every City Department, Agency and Office, where the Bid is expected to be \$25,000 or more, shall contain the attached form. Each and every Bidder shall provide the City with the (a) name, (b) complete address, (c) telephone number and (d) a contact person to assist MOED with the YouthWorks program.
2. MOED shall contact each and every business identified in §1 above and request that the business, contractor, service provider, consultant and vendor, etc. join with the City in reaching its goal of employing Baltimore City's YouthWorks referrals, or otherwise assist the Baltimore City's YouthWorks program.
- 3 MOED shall establish and maintain an ongoing relationship with City businesses, contractors, service providers, consultants and vendors, etc. in an effort to address their current and future employment and/or training needs.
- 4 This Executive Order shall take effect immediately

IN WITNESS WHEREOF, I HAVE
PLACED MY HAND AND THE
GREAT SEAL OF THE CITY OF
BALTIMORE THIS 14TH DAY OF
JANUARY 2008

(SIGNED) SHEILA DIXON, MAYOR

Approved As To Form And
Legal Sufficiency By The Law
Department Of Baltimore City

(Signed) Leslie S. Winner
Chief Solicitor

**RESOLUTION OF THE BOARD OF ESTIMATES
OF THE CITY OF BALTIMORE**

WHEREAS, the Mayor and City Council of Baltimore, acting by and through the Board of Estimates pursuant to Article VI, Section 4 of the Charter of Baltimore City, 1964 Revision, as amended, is responsible for awarding contracts and supervising all purchasing by the City; and

WHEREAS, the Board of Estimates wishes to insure that all City contractors, subcontractors and their agents and employees conduct themselves in accordance with established federal, state, and local laws.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ESTIMATES OF BALTIMORE CITY, that the following policy, which has always been applicable to City contracts, be formally adopted by this Board to apply to all City contractors, subcontractors and their agents and employees:

1. Contractors, subcontractors, and their agents and employees may not engage in unfair labor practices as defined under The National Labor Relations Act and applicable federal regulations and state laws.
2. Contractors, subcontractors, and their agents may not threaten, harass, intimidate or in any way impede persons employed by them who on their own time exercise their rights to associate, speak, organize, or petition governmental officials with their grievances.
3. If the Board of Estimates determines that a contractor, subcontractor, or their agents have violated the policy set forth in this Resolution said contractor, or subcontractor will be disqualified from bidding on City contracts, and if they are currently completing contracts, they will be found in default of their contracts.
4. A copy of this Resolution must be included in all City contracts.
5. This Resolution applies to all City contracts entered into after the date of its adoption and to each and every City contract, or subcontract in effect on the date of its adoption, and each department and agency of the City is charged with the responsibility of so notifying all present contractors, and subcontractors.
6. This Resolution takes effect immediately.

APPROVED BY THE BOARD OF
ESTIMATES

(Signed)
Shirley A. Williams June 29, 1994
Clerk Date

Approved As To Form And
Legal Sufficiency This
28th Day of June, 1994

(Signed)Leslie S. Winner
Leslie S. Winner
Principal Counsel

RESOLUTION OF THE BOARD OF ESTIMATES**APPRENTICESHIP TRAINING PROGRAMS**

WHEREAS, the Mayor and City Council of Baltimore, acting by and through the Board of Estimates, pursuant to Article VI, Section 4 of the Charter of Baltimore City, 1964 Revision, as amended, is responsible for awarding contracts and supervising all purchasing by the City; and,

WHEREAS, the Board of Estimates wishes to insure that all prime contractors performing under any City construction contract conduct apprenticeship training programs as a condition of their contracts;

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ESTIMATES OF BALTIMORE CITY, that the following policy applies to all prime contractors performing under any construction contract of the City that has a total cost of \$1,000,000.00 or more:

1. Prime Contractors shall conduct apprenticeship training programs as a condition of their contracts.
2. Prime Contractors shall submit to the contract administrator for the City agency supervising the contract, within ten days of their receipt of notice of award of each contract, evidence of its participation in a certified apprenticeship program that has been previously approved by the contract administrator, or an apprenticeship training action plan for approval by the contract administrator. Prime Contractors will further submit, from time to time as requested by the contract administrator, evidence of and statistics concerning the apprenticeship training actually performed by the Prime Contractors in connection with each City contract.
3. If the Board of Estimates determines that a Prime Contractor has violated the policy set forth in this Resolution, then the Prime Contractor may be disqualified from bidding on future City contracts, or may be found in default of its existing contract.
4. A copy of this Resolution must be included in all City contracts.
5. This Resolution applies to all City Contracts entered into after the date of its approval by the Board of Estimates.
6. This Resolution takes effect immediately.

NOTICE: Resolution effective February 05, 2014.

**RESOLUTION
OF
THE BOARD OF ESTIMATES OF BALTIMORE CITY
THE REGULATION OF BOARD OF ESTIMATES MEETINGS AND PROTESTS**

WHEREAS, the Mayor and City Council of Baltimore, acting by and through the Board of Estimates ("Board"), pursuant to Article VI, § 1 et seq. of the Charter of Baltimore City, 1996 Edition, as amended (HEREIN after referred to as "Charter"), is responsible for formulating and executing the fiscal policy of the City, approvals of settlements, acquisitions and dispositions of real property, awarding contracts and supervising purchasing by the City; and other duties as prescribed in the Charter; and

WHEREAS, the Board, pursuant to Article VI, § 1 of the Charter is composed of the Mayor, President of the City Council, Comptroller, City Solicitor, and Director of Public Works, and the President of the City Council shall be President of the Board, and one of the members shall act as Secretary; and

WHEREAS, the members of the Board meet in public forum each Wednesday at 9:00 a.m. (unless in periodic recess) in the Hyman Pressman Hearing Room to conduct the business of government; and

WHEREAS, the Board, pursuant to Article VI, § 2 et seq. of the Charter, may promulgate rules and regulations and summon before it heads of departments, bureaus or divisions, municipal officers, and members of commissions and boards; and

WHEREAS, in the interest of promoting better government, order and efficiency the Board wishes to establish certain rules, applicable to all private individuals, business entities, fraternal organizations, special interest groups, associations and other entities, etc. (HEREIN after collectively referred to as "entity") who wish to speak at the meetings of the Board.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ESTIMATES OF BALTIMORE CITY, that the following rules for the conduct of Board meetings be formally adopted by the Board to apply to all issues to be acted upon, considered, noted, or received at any given meeting:

1. Anyone wishing to speak before the Board, whether individually or as the spokesperson of an entity must notify the Clerk of the Board in writing no later than by noon on the Tuesday preceding any Board meeting, or by an alternative date and time specified in the agenda for the next scheduled meeting. The written protest must state (1) whom you represent and the entity that authorized the representation (2) what the issues are and the facts supporting your position and (3) how the protestant will be harmed by the proposed Board action.

2. Requests to speak on matters submitted to the Board for its information, notation or status report from a previous Board action may be heard at the discretion of the President of the Board. This rule does not preclude the submitting agency from orally presenting the report or matter at the meeting of the Board.

3. Matters may be protested by any entity directly and specifically affected by a pending matter or decision of the Board. The person or entity must submit a written protest of that matter or pending decision. In order for a protest to be considered, the protestant must be present at the Board of Estimates meeting.

4. An entity affected by the disposition of the matter in a way different than an average taxpayer or citizen and who so specifies to the satisfaction of the Board may have their protest heard and considered by the Board. However, the President of the Board reserves the right to call a person or organization to give testimony that he/she determines furthers the effective and fair decision making process of the Board. Protests filed by persons not affected by the disposition of the matter in a way different than an average taxpayer or citizen will be handled and responded to as may be determined by the Clerk of the Board.

5. Protests may be submitted, orally presented and argued by representatives or entities directly impacted by a matter or pending decision before the Board. A Procurement Lobbyist, as defined by Part II, Sec. 8-8 (c) of The City Ethics Code must register with the Board of Ethics as a Procurement Lobbyist in accordance with Section 8-12 of The City Ethics Code. If any member of the Board has sufficient information to determine that Section 8-12 has not been complied with, he or she may make a complaint to the Board of Ethics.

6. The President of the Board shall have the right to limit all speakers to items and issues on the Board agenda, as well as provide a maximum time limit available to a speaker who wishes to address the Board.

7. In the interest of promoting order and efficiency of hearings, persons who are disruptive to the hearing may be required to leave the hearing room.

8. A copy of this Resolution shall be posted in the Department of Legislative Reference, the President of the Board's web site, and the Secretary to the Board's web site and shall be included in all Solicitations.

9. This Resolution shall apply to all Board meetings which are convened two (2) weeks or more after its formal adoption.

Adopted by the Board of Estimates:

Bernie N. Taylor JAN 22 2014
Clerk Date

Approved As To Form and Legal
Sufficiency This 14th Day of
January, 2014

[Signature]
Chief Solicitor

SECTION 00025
SPECIAL PROVISIONS

SP-1 CONTRACT DOCUMENTS

The Contract Documents for this project consist of but are not limited to, the following:

1. **Contract Book** which contains:

- A. Notice of Letting
- B. Special Provisions
 - 1) Instruction to Bidders
 - 2) Special Conditions
 - 3) Construction Details and Materials
 - 4) Notice of Proposed Change Order
 - 5) Extra Work Certification
 - 6) Subcontractors acknowledgement of progress payment
- C. Bid or Proposal and Detached Duplicate
- D. Agreement
- E. Bonds

May contain: Addendum

2. **Contract Plans**

The following numbered and titled Plans form a part of these Contract Documents. The Engineer will furnish, from time to time as the work progresses, such supplemental drawings as may necessary for further illustrating the details of the permanent work, and the Contractor will be required to abide by any modifications, supplemental Plans and Specifications that may be furnished by the Engineer.

The Plans referred to in the Contract Documents are entitled:

CITY OF BALTIMORE
DEPARTMENT OF GENERAL SERVICES
CONTRACT NO. GS 19817R
BALTIMORE STREET GARAGE RESTORATION

These documents contain drawings as shown in the Table of Contents.

3. **Standard Specifications**

The City of Baltimore, Department of Public Works, Specifications for Material, Highways, Bridges, Utilities and Incidental Structures, Issue of 2006 is hereby made part of these Contract Documents and hereinafter referred to as "Standard Specifications".

Any references in the Contract Documents made to an Article, Section, Paragraph or Table shall refer to the Standard Specifications, unless otherwise noted.

4. **Book of Standards**

The City of Baltimore, Department of Public Works, Book of Standards are hereby made a part of these Contract Documents and hereinafter referred to as "Book of Standards". Any reference in the Contract Documents made to a Standard Number shall refer to the Book of Standards, unless otherwise noted.

The Book of Standards is available online at:

<https://transportation.baltimorecity.gov/transportation/bookofstandards>

5. **Guidelines for the Performance Evaluation of Design Consultants and Construction Contractors**

Pursuant to and in accordance with provisions of Article VI, Section 11 (c) AND 11(f) of the Charter of Baltimore City 1996 Edition, the City of Baltimore, City of Baltimore Rules for Qualification of Contractors, Performance Evaluations of Construction Contractors and Consultants and Procedures and Guidelines for Hearings before the Office of Boards and Commissions Review Committee November 30, 2016, Guidelines have been promulgated for the evaluation of the performance of design consultants and construction contractors and are hereby made a part of these Contract Documents.

SECTION 00100
INSTRUCTIONS TO BIDDERS

IB-1 PURCHASE OF THE STANDARD SPECIFICATIONS

The Standard Specifications, at a charge of \$35.00 per copy, may be obtained at

The Cummings Building
1st Floor Service Counter
401 E. Fayette Street
Baltimore, MD 21202

between the hours of 9:00 A.M. to 4:00 P.M. except Saturday, Sunday, and holidays. Checks must be made payable to the Director of Finance.

The Standard Specification is also available free online for download at:

<http://generalservices.baltimorecity.gov/gs-major-projects/greenbook>

IB-2 SCOPE OF WORK

The Principal Items of work under this Contract are as shown on the **NOTICE OF LETTING**

IB-3 LOCATION(S) OF WORK

Work under this Contract will be restricted to the location(s) listed herein. There shall be no deviation from the location(s) so specified either by additions, subtractions or alterations by the Contractor or his representative without advance written permission from the Engineer.

IB-4 CONTRACT BOOK

The successful Bidder, upon execution of the Agreement and Bonds, will receive up to five (5) copies of the Contract Book – no charge.

IB-5 BALTIMORE APPRENTICESHIP TRAINEE FORMS (BATP)

Also included in this contract is a Baltimore Apprenticeship Trainee Program package (BATP documents). The duplicate BATP forms must be completed and submitted with your bid proposal. Completed BATP forms are only required for bids of \$1,000,000.00 or more. Failure to submit the information at the time requested MAY be cause to have your bid rejected.

IB-6 EMPLOY BALTIMORE PACKET

Also included in this contract is an Employ Baltimore Packet. The accompanying manila bid envelope contains Employ Baltimore Packet duplicate documents which must be completed for all contracts with bids in excess of \$50,000.01. All forms in the Employ Baltimore Packet must be completed and submitted with your bid proposal. Failure to submit the information at the time requested may be cause to have your bid rejected.

IB-7 LOCAL HIRING LAW

Article 5, Subtitle 27 of the Baltimore City Code, as amended (the “Local Hiring Law”) and its rules and regulations apply to contracts and agreements executed by the City on or after the Local Hiring Law’s effective date of December 23, 2013. The Local Hiring Law applies to every contract for more than \$300,000 made by the City, or on its behalf, with any person. It also applies to every agreement authorizing assistance valued at more than \$5,000,000 to a City subsidized project. Unless the Mayor’s Office of Employment Development (“MOED”) grants an exception under the Local Hiring Law, at least 51% of the new jobs required to complete the contract of project must be filled by Baltimore City residents.

1. Within two (2) weeks of the Board of Estimate’s award of the contract or approval of the agreement, the contractor shall have a meeting, whether in person or via telephone, with MOED to complete an employment analysis and review the workforces plan required for such contract or agreement. The contractor will not receive any payments under the contract or agreement, unless and until the employment analysis is performed. Contact information for MOED can be found on its website: www.oedworks.com.
2. Should the contractor’s workforce plan indicate a need to fill new jobs, the contractor shall post the new job opening with MOED’s One Stop Career Center Network for a period of seven (7) days prior to its publicly advertising these opening. Further, the contractor shall interview qualified Baltimore City residents referred from MOED, and unless granted an exception, fill at least fifty-one percent of the new jobs required to complete the contract or project, with Baltimore City residents.

IB-8 BALTIMORE CITY’S YOUTHWORKS PROGRAM

Also included in this contract is a Baltimore City’s Youthworks Form. The accompanying manila bid envelop contains a Baltimore City’s Youthworks Form duplicate document which must be completed for all contracts. The single page Baltimore City’s Youthworks Form must be completed and submitted with your bid proposal. Failure to submit the information at the time requested MAY be cause to have your bid rejected.

IB-9 CONTRACTORS EXPENSES, PERMITS, LICENSES, CHARGES, AND NOTICES

Per the City of Baltimore, Department of Public Works, Specifications for Material, Highways, Bridges, Utilities and Incidental Structures, Issue of 2006, Sections 00 73 18 – Contractors Expense and 01 41 26 – Permits, Licenses, Charges, and Notices in the Baltimore City Green Book, the Contractor is responsible for all permit fees. “Permit fees” shall include all fees associated with any permit necessary for the Contractor to perform work, including the building permit. Information regarding the cost of the building permit, trade permits and other permits can be found at http://static.baltimorehousing.org/pdf/permits_fees.pdf.

IB-10 BOND PREMIUM

A letter from the bonding company with the bonding rate is required. Awarded Contractor is required to provide this information upon executing the Payment and Performance Bonds.

IB-11 CERTIFICATION TO ACCOMPANY REQUESTS FOR PROGRESS PAYMENTS or REQUESTS FOR PAYMENTS Per the City of Baltimore, Department of Public Works, Specifications for Material, Highways, Bridges, Utilities and Incidental Structures, Issue of 2006, Sections 01 29 76, the following language shall be included in all requests for progress Payments:

**CITY OF BALTIMORE
DEPARTMENT OF GENERAL SERVICES**

CONTRACT NUMBER: GS 19817R

PROJECT: BALTIMORE STREET GARAGE RESTORATION

DATE: _____
(Preferably as of end of month)

To the Director of Finance:

In reference to the above referenced contract, we hereby certify that as of the above date no extra work or other conditions that would give rise to additional costs have been authorized either in writing, verbally, or otherwise except that which is represented by fully executed Change Orders Expenditure Authorization Requests and that as of the above date we are not aware of any condition that would give rise to any additional claim upon the Mayor and City Council of Baltimore in reference to the above project, EXCEPT AS FOLLOWS:

(List exceptions here):

Supporting Documents
Attached hereto:

CERTIFIED CORRECT:

1. Contractor's Release
conditional upon Final payment

Name of Contractor

2. Subcontractors' Acknowledgement
of progress Payment and Release

Date of Certification

By: _____
Authorized Signature

THIS FORM MUST ACCOMPANY ALL REQUESTS FOR PAYMENTS.

IB-12 SUBCONTRACTOR'S ACKNOWLEDGEMENT OF PROGRESS PAYMENT

Per the City of Baltimore, Department of Public Works, Specifications for Material, Highways, Bridges, Utilities and Incidental Structures, Issue of 2006, Sections 01 29 77, the following language shall be included in all requests for progress Payments:

**SUBCONTRACTOR'S ACKNOWLEDGEMENT
OF PROGRESS PAYMENT**

NOTICE: THIS DOCUMENT STATES THAT YOU HAVE BEEN PAID FOR PERFORMING CERTAIN SERVICES. PLEASE READ IT CAREFULLY BEFORE SIGNING.

As of the date listed below, the undersigned subcontractor has received progress payments

totaling \$ _____ **to date** for labor, services, equipment, or materials
furnished to _____
(Name of General Contractor)

on the following contract of the Mayor and City Council of Baltimore:

Contract No. GS 19817R – BALTIMORE STREET GARAGE RESTORATION

Is your company's work on this contract completed _____ Yes _____ No

Dated: _____
Subcontractor Name (Company)

By _____
Name (Signature)

Name (Printed) Title

THIS FORM MUST ACCOMPANY ALL REQUESTS FOR PAYMENT

IB 13 BID DOCUMENT CHECKLIST*

The following must occur as part of your bid submission or your bid may be deemed non-responsive:

DONE	REQUIRED ACTIONS
<input type="checkbox"/>	Each Addendum issued must be acknowledged on the specific Addendum form and attached to the contract specification with the bid submission.
<input type="checkbox"/>	Bid Prices for each and every item and the total must be entered where indicated. <u>Make sure that the Unit Price item (s) is filled out.</u>
<input type="checkbox"/>	Follow all of the instructions on the Minority Business forms contained in the bid/specification package: Complete each line with the <u>exact</u> information that is requested; If a total subcontract value is requested, do not enter a percentage instead; Execute the form on behalf of the bidder; Confirm that the proposed subcontractor has executed the form.
<input type="checkbox"/>	Provide one original Bid Bond (with original Power of Attorney) or other acceptable bid security in acceptable amount along with a copy of the bid bond or other bid security: If locally funded, 2% of the total bid amount
<input type="checkbox"/>	Complete and answer all Bid/proposal Affidavits located after the Bid or Proposal. Ensure that a representative with the proper authority signs in the appropriate pages. Should a representative who is NOT an officer or director of the company execute the bid, attach legal evidence of his/her ability to do so.
<input type="checkbox"/>	Complete the Employ Baltimore Certification Statement for projects \$300,000.00 and below, and/or the Local Hiring Certification and Compliance Statement for projects \$300,000.00 and above
<input type="checkbox"/>	Ensure the Duplicate Bid is an <u>exact replica</u> of the Original Bid and submit with the Original Bid.

***PLEASE NOTE- This list is not intended to be exhaustive nor all inclusive, but is provided for bidder's guidance and informational purposes only.**

IB-14 DIGITAL SPECIFICATIONS & DRAWINGS

Specifications & Drawings for this project have been provided as PDF files on the enclosed CD. All documents on the CD are part of the Bid documents.

IB-15 CDC Guidelines

All individuals, including Contractors and sub-contractors, on City property and in its facilities shall wear cloth face coverings and practice social distancing, consistent with CDC guidelines.

END OF SECTION

SPECIAL CONDITIONS**SC-1 MINIMUM WAGE RATES**

The Baltimore City Code Art. 5 Subtitle 25 "Prevailing Wages for Work Under Construction Contracts" establishes what is more commonly referred to as the City's "Prevailing Wage" requirement. Contractors awarded City Construction contracts are required to pay their employees a "prevailing Wage" to be determined each year by the Board of Estimates. Contractors must become thoroughly familiar with the "Prevailing Wage" requirement. A copy of the City Code Art. 5 Subtitle 25 can be found on the City of Baltimore's website (<http://civilrights.baltimorecity.gov/wage-commission>).

Included is a copy of the Prevailing Wage Rates that apply to this contract and Art. 5 subtitle 25-9 (Required Records-In General) and subtitle 25-10 (Required Records-Project Payroll Reports), which sets forth certain reporting requirements. An example of a payroll report is also included to be used in complying with Subtitle 25-10. If you find it more convenient you may use your own payroll form so long as it provides the information required and is in close conformity with the form enclosed. Copies of completed payroll reports shall be submitted as follows:

One Copy: Office of Civil Rights & Wage Enforcement
7 E. Redwood St. 9th Flr.
Baltimore, MD 21202
Phone (410)-396-4835
Fax: (410) 752-3190

One Copy: Contracting Agency

If you need additional clarification regarding Article 5, Subtitle 25, please contact the Wage Commission at 410-396-4835.

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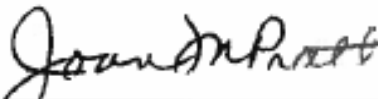
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CLASSIFICATION NO. 1

The following minimum hourly wage rates shall apply to all contracts in excess of One Hundred Thousand Dollars (\$100,000) in connection with new building construction, major remodeling and rehabilitation of buildings and for construction, reconstruction, erection, conversion installation, alteration, renovation, razing, demolition, moving or removing on any airport, pier wharf, sewer, drain, main, conduit, machinery or mechanical, electrical or other equipment or any other operation, or work to be done or performed in, on, upon or in connection with any building, bridge over water, tunnel, tower, stack, filtration plant, waste water or sewage treatment works, pumping stations, and other such structures.

<u>JOURNEYMEN</u>	<u>HOURLY RATE</u>	<u>FRINGE BENEFITS</u>	<u>TOTAL</u>
Asbestos Workers/Insulation Mechanics	\$36.53	\$16.00	\$52.53
Boilermakers	17.62	6.96	24.58
Bricklayers	32.00	11.56	43.56
Carpenters/Resilient & Soft Floor Layers	26.66	15.00	41.66
Millwright	32.11	16.75	48.86
Piledriver	31.13	15.65	46.78
Cement Mason/Plasterers	28.45	11.47	39.92
Electricians	38.00	18.19	56.19
Elevator Construction Mechanic	46.88	39.37	86.25
Firestop Mechanic	23.33	7.95	31.28
Glaziers	30.13	22.00	52.13
Ironworkers			
Ornamental	30.13	22.00	52.13
Structural	30.13	22.00	52.13
Reinforcing Rodmen	30.13	22.00	52.13
Fence Erectors	28.70	20.66	49.36
Laborers			
General Laborers: Flaggers, Tool and Material Handlers (Except Tenders), Clean-Up, Janitors, Truck Checkers, Dumpmen, Spotter, Landscape Laborer, Mulcher, Watchmen (Including Fire Watchmen)	18.25	6.29	24.54
Construction Laborers: All Laborers not Otherwise Classified.	19.10	6.29	25.39
Semi-Skilled Laborers: Potmen, Power or Air Tool Operators, Pipelayers, Drillers Concrete Laborers, Signalmen, Small Machine Operators, Laser Beam Operators, Scaffold Builders, Caisson Laborer, Jack Hammer Operator(80 lbs and over).	19.41	6.29	25.70

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Clerk to the Board of Estimates

DEC 11 2019

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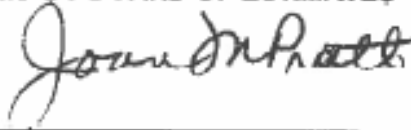
<u>JOURNEYMEN</u>	<u>HOURLY RATE</u>	<u>FRINGE BENEFITS</u>	<u>TOTAL</u>
Painters			
Brush and Trim	\$25.06	\$9.86	\$34.92
Spackling, Taping, Wall Covering.	25.06	9.86	34.92
Spray, Structural Steel, Steam	33.73	9.90	43.63
Cleaning, Sandblasting			
Plumbers/Steamfitters/Pipfitter	40.10	20.31	60.41
Roofers			
Slate and Tile	26.44	12.24	38.68
Wood Block	26.44	12.24	38.68
Composition – Water proofer	26.44	12.24	38.68
Sheet Metal Worker (Inc. Air Balance, Metal Roofing)	40.77	21.38	62.15
Sprinkler Fitter	34.40	19.14	53.54
Stonemason	38.81	18.29	57.10
Tile, Terrazzo, Marble Workers	29.10	12.27	41.37
Tile, Terrazzo, Marble Finisher	24.10	11.24	35.34

POWER EQUIPMENT OPERATORS

GROUP I: Certified Crane Operators (CCO). 35.70 15.90 51.60

GROUP II: Backfiller, backhoe, batching plants, boat captain, cableway, loader hoe, (with a front end bucket over 1 ¼ yds), concrete mixing plant, concrete paver, derrick boat, double concrete pump, dragline, Eimco type overhead loader, elevating grader, scraper or pan type excavator (25 yds and over), front end loader (1 ¾ yds and over), gradall, grader, hoist (2 active drums or more), multiple conveyor, pile driving machine, power shovel, repair mechanic, shield, standard gauge locomotive, trenching machine, tunnel mucking machine, twin engine scraper, welder, whirley rig. 30.23 13.17 43.40

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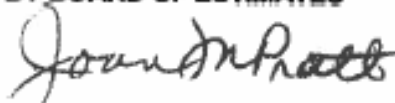
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JOURNEYMEN

	<u>HOURLY RATE</u>	<u>FRINGE BENEFITS</u>	<u>TOTAL</u>
<u>GROUP III:</u> Asphalt spreader bulldozer, bull float, loader, hoe, (with a front end bucket 1 ¼ yds. and under), concrete mixer (with skip), concrete pump, concrete spreader, scraper or pan type excavator (under 25 yds.) finishing machine, front end tractor loader (under 1 ¾ yds), hi-lift fork lift, longitudinal float, narrow gauge locomotive, one drum hoist, power roller, screeding machine, snooper/vac truck, stone crusher, stone spreader, sub-grader tractor with attach- ments (2 or more provided both attachments are being used).	\$28.28	\$13.17	\$41.45
<u>GROUP IV:</u> Crawler or rubber tire tractor (no attachments), compressors, elevator operator, fireman, fuel truck, grease truck, grout pump, light plant, mighty midget with compressor, single conveyor, space heaters, welding machines, welldriller, wellpoint system, deck hands, oilers (all types).	24.65	13.17	37.82
Truck Drivers			
Goose Neck Drop Frame	15.82	3.75	19.57
Trailer Driver	15.50	3.75	19.25
Flat Bed and Pickup	13.89	3.75	17.64
Dump Truck Driver (Site Only)	12.85	4.60	17.45

Welder Receives Rate For Craft Involved

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APPRENTICESHIP RATES
PERCENTAGE OF JOURNEYMAN'S HOURLY RATE
PLUS FULL JOURNEYMAN'S FRINGE BENEFITS (UNLESS PARTIAL FRINGE BENEFITS ARE
APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

ASBESTOS WORKERS

First year	45
Second year	55
Third year	65
Fourth year	75
Fifth year	85

BOILERMAKERS

First 6 month	50
Second 6 months	60
Third 6 month	65
Fourth 6 month	70
Fifth 6 months	75
Sixth 6 months	80
Seventh 6 months	85
Ninth 6 month	90

BRICKLAYERS & STONE MASONS

First 6 months	50
Second 6 months	55
Third 6 months	60
Fourth 6 months	70
Fifth 6 months	80
Sixth 6 months	90

CARPENTERS

First year	60
Second year	70
Third year	80
Fourth year	90

CEMENT FINISHERS

First 500 hours	50
Second 500 hours	55
Third 500 hours	60
Fourth 500 hours	65
Fifth 500 hours	70
Sixth 500 hours	75
Seventh 500 hours	80
Eighth 500 hours	90

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APPRENTICESHIP RATES**PERCENTAGE OF JOURNEYMAN'S HOURLY RATE****PLUS FULL JOURNEYMAN'S FRINGE BENEFITS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)****ELECTRICIANS**

First 6 months	40
Second 6 months	40
Second year	55
Third year	65
Fourth year	70
Fifth year	75

ELEVATORS

First year	55
Second year	65
Third year	70
Fourth year	80

IRONWORKERS

First period 0 hours	60
Second 1,000 hours	65
Third 1,000 hours	70
Fourth 1,000 hours	75
Fifth 1,000 hours	80
Sixth 1,000 hours	85
Seventh 1,000 hours	90
Eighth 1,000 hours	95

MILLWRIGHTS

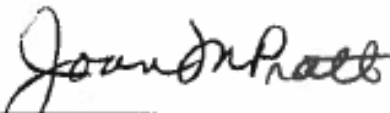
First year	60
Second year	70
Third year	80
Fourth year	90

PAINTERS

First 1,000 hours	55
Second 1,000 hours	70
Third 1,000 hours	85

PLASTERERS

First 1,000 hours	50
Second 1,000 hours	55
Third 1,000 hours	60
Fourth 1,000 hours	65
Fifth 1,000 hours	70
Sixth 1,000 hours	75
Seventh 1,000 hours	80
Eighth 1,000 hours	85

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APPRENTICESHIP RATES**PERCENTAGE OF JOURNEYMAN'S HOURLY RATE**

**PLUS FULL JOURNEYMAN'S FRINGE BENEFITS (UNLESS PARTIAL FRINGE BENEFITS ARE
APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)**

PLUMBERS/STEAMFITTERS/PIPEFITTERS

First year	40
Second year	50
Third year	60
Fourth year	70
Fifth year	80

POWER EQUIPMENT OPERATORS

First period	55
Second period	60
Third period	65
Fourth period	70
Fifth period	75
Sixth period	80

ROOFERS

First year	55
Second year	65
Third year	75

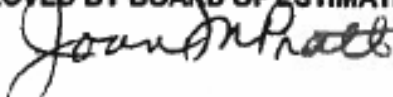
SHEET METAL WORKERS

First 6 months	40
Second 6 months	45
Third 6 months	50
Fourth 6 months	55
Fifth 6 months	60
Sixth 6 months	65
Seventh 6 months	70
Eighth 6 months	75
Ninth 6 months	80
Tenth 6 months	85

SPRINKLER FITTERS

First 6 months	45
Second 6 months	50
Third 6 months	55
Fourth 6 months	60
Fifth 6 months	65
Sixth 6 months	70
Seventh 6 months	75
Eighth 6 months	80
Ninth 6 months	85
Tenth 6 months	90

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APPRENTICESHIP RATES

PERCENTAGE OF JOURNEYMAN'S HOURLY RATE

PLUS FULL JOURNEYMAN'S FRINGE BENEFITS (UNLESS PARTIAL FRINGE BENEFITS ARE APPROVED BY THE MARYLAND APPRENTICESHIP AND TRAINING COUNCIL)

LABORERS

First year	70
Second year	90

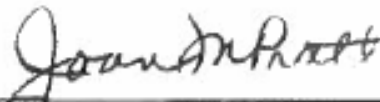
LABORER'S WORK

Laborers may not assist mechanics in the performance of mechanic's work, nor use tools peculiar to established trades. Their work should be confined to the following manual tasks:

1. Digging and filling holes and trenches.
2. Loading, unloading and stockpiling materials.
3. Cleaning and sweeping.
4. Driving stakes.
5. Placing concrete and asphalt (not finishing)
6. Stripping forms.
7. Ripping out material which is to be discarded, including asbestos.
8. Clearing and grubbing.

The above definition is to preclude inadvertent misclassification of laborers.

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ART. 5, § 25-9 BALTIMORE CITY CODE

§ 25-9. Required records - In general.

(a) Contractors to maintain.

The contractor and each of his subcontractors shall maintain payrolls and basic records relating thereto during the course of the work and shall preserve them for a period of 3 years thereafter for all laborers, mechanics, and apprentices working directly upon the site of the work.

(b) Contents.

These records shall contain:

- (1) the name and address of each such employee;
- (2) his classification in accordance with the classifications fixed in the contract;
- (3) a designation of laborer, mechanic, or apprentice;
- (4) the number of hours worked each day;
- (5) the hourly wage rate;
- (6) the gross wages, deductions made, and actual wages paid;
- (7) a copy of the Social Security returns and evidence of payment thereof;
- (8) a record of fringe benefit payments including contributions to approved plans, funds, or programs and/or additional cash payments; and
- (9) such other data as may be required by the Board of Estimates from time to time.

(City Code, 1950, art. 1, §14(e); 1966, art. 1, §16(f)(1st sen.); 1976/83, art. 1, §19(d)(1).)
(Ord. 45-225; Ord. 59-1960; Ord. 67-969; Ord. 73-348; Ord. 04-672.)

§ 25-10. Required records - Project payroll reports.

(a) Contractor to submit.

The contractor shall submit 2 complete copies of his weekly project payrolls and the weekly project payrolls of each of his subcontractors, consecutively numbered, not later than 14 days from the end of their respective payroll periods, 1 copy to be sent to the contracting agency, the other to the Wage Commission where the same will be available for public inspection during regular business hours. 02/12/16 -52- FINANCE AND PROCUREMENT ART. 5, § 25-10

(b) Contents.

The weekly project payrolls shall contain:

- (1) the name of the prime contractor and the subcontractor, if any;
- (2) a designation of the project and location;
- (3) the name, Social Security Number, and occupation of each employee;
- (4) his classification in accordance with the classifications fixed in the contract;
- (5) a designation of laborer, mechanic, or apprentice;
- (6) the number of hours worked daily by said employee at straight time and at overtime and his hourly wage rate for each;
- (7) the gross wages paid to said employee per week; and
- (8) such other data as may be required by the Board of Estimates from time to time.

(c) Prime contractor responsible for subcontractors.

The prime contractor shall be responsible for the submission of all subcontractors' payrolls covering work performed directly at the work site.

(d) Signed statement of compliance.

Each copy of the payroll shall be accompanied by a statement signed by the contractor or the subcontractor, as the case may be, indicating:

- (1) that the payroll is correct;
- (2) that the wage rates contained therein are not less than those established by the Board of Estimates as set forth in the contract;
- (3) that the classification set forth for each laborer, mechanic, or apprentice conforms with the work he performed; and
- (4) that the contractor and the subcontractor, as the case may be, has complied with the provisions of this subtitle.

(City Code, 1966, art. 1, §16(f)(2nd sen.) ; 1976/83, art. 1, §19(d)(2).) (Ord. 59-1960; Ord. 67-969; Ord. 73-348.)

U.S. Department of Labor
Wage and Hour Division

PAYROLL

(For Contractor's Optional Use; See Instructions at www.dol.gov/whd/forms/wh347instr.htm)

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.



Rev. Dec. 2008

OMB No.: 1235-0008
Expires: 02/28/2018

NAME OF CONTRACTOR <input type="checkbox"/> OR SUBCONTRACTOR <input type="checkbox"/>				ADDRESS				PROJECT OR CONTRACT NO.										
PAYROLL NO.				FOR WEEK ENDING				PROJECT AND LOCATION										
(1)	(2)	(3)	(4) DAY AND DATE				(5)	(6)	(7)	(8) DEDUCTIONS				(9)				
NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	NO. OF WITHHOLDING EXEMPTIONS	WORK CLASSIFICATION	O T O R B I	HOURS WORKED EACH DAY							TOTAL HOURS	RATE OF PAY	GROSS AMOUNT EARNED	FICA	WITH- HOLDING TAX	OTHER	TOTAL DEDUCTIONS	NET WAGES PAID FOR WEEK
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While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Public Burden Statement

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

(over)

SC-2 DEFINITIONS:

Supplement Standard Specification Section 00 23 00.01 as follows;

1. Design Project Manager - the representative of Department of General Services or the duly authorized representative.
2. Project Engineer – the representative of the Department of General Services, and whose authority is commensurate with that of the Engineer
3. Building Manager - the City's on-site manager of the building(s) involved in this contract.

SC-3 EQUAL OPPORTUNITY COMPLIANCE**Article 5 §29-15 Mandatory nondiscrimination contract clause:**

Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, gender identity or expression, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, suppliers, or commercial customers. Contractor shall provide equal opportunity for subcontractors to participate in all of its public sector and private sector subcontracting opportunities, provided that nothing contained in this clause shall prohibit or limit otherwise lawful efforts to remedy the effects of marketplace discrimination that has occurred or is occurring in the marketplace, such as those specified in Article 5, Subtitle 28 of the Baltimore City Code, as amended from time to time. Contractor understands and agrees that violation of this clause is a material breach of the contract and may result in contract termination, debarment, or other sanctions. This clause is not enforceable by or for the benefit of, and creates no obligation to, any third party.

Article 5 §29-16 Contractor bid requirements:

As part of its bid or proposal, Bidder shall provide to the City a list of all instances within the past 5 years where there has been a final adjudicated determination in a legal or administrative proceeding in the State of Maryland that the bidder has discriminated against its subcontractors, suppliers, vendors, or commercial customers on the basis of race, gender religion, national origin, ethnicity, sexual orientation, gender identity or expression, age or disability, and a description of any resulting sanction entered and remedial action taken.

Bidders may submit this document in a separate sealed envelope with the bid documents.

Article 5 §29-17 Contract disclosure requirement:

Upon the City's request, and only after filing a complaint against Contractor pursuant to Article 5, Subtitle 29, of the Baltimore City Code, as amended from time to time, Contractor agrees to provide the City within 60 calendar days, a truthful and complete list of the names of all subcontractors, vendors, and suppliers that Contractor has used in the past 4 years on any of its contracts that were undertaken within the Baltimore City Market Area as defined in Article 5, §28-1(d) of the Baltimore City Code, as amended from time to time, including the total dollar amount paid by Contractor for each subcontract or supply contract. Contractor agrees to fully cooperate in any investigation conducted by the City pursuant to the City's Commercial Non - Discrimination Policy, as contained in Article 5, Subtitle 29, of the Baltimore City Code as

amended from time to time. Contractor understands and agrees that violation of this clause is a material breach of the contract and may result in contract termination, debarment, and other sanctions. Contractor shall not discriminate on the basis of race, gender, religion, national origin, ethnicity, sexual orientation, gender identity or expression, age, or disability in the solicitation, selection, hiring, or treatment of subcontractors, vendors, suppliers, or commercial customers. Contractor shall provide equal opportunity for subcontractors to participate in all of its public sector and private sector subcontracting opportunities, provided that nothing contained in this clause shall prohibit or limit otherwise lawful efforts to remedy the effects of marketplace discrimination that has occurred or is occurring in the marketplace, such as those specified in Article 5, Subtitle 28 of the Baltimore City Code, as amended from time to time. Contractor understands and agrees that violation of this clause is a material breach of the contract and may result in contract termination, debarment, or other sanctions. This clause is not enforceable by or for the benefit of and creates no obligation to, any third party.

SC-4 PAYMENTS TO THE CITY

Any payments to the Mayor and City Council or any of its Departments, Agencies, Board or Commissions due under the terms of this Agreement or arising incident thereto, shall be made to the Director of Finance and be mailed or delivered to:

Director of Finance
Abel Wolman Municipal Building
200 Holliday St., Room One
Baltimore, Maryland 21202

SC-5 CONTRACTOR TO EXECUTE REQUIRED DOCUMENTS AND START WORK PROMPTLY

DELETE Standard Specification Section 00 51 00.07 CONTRACTOR TO EXECUTE REQUIRED DOCUMENTS AND START WORK PROMPTLY and

REPLACE it with the following:

The successful Bidder shall promptly execute and submit a formal Contract, all subcontract agreements in accordance with Article 5 Subtitle 28 of the Baltimore City Code, any and all contract documents specified in an Award Letter, the required Bonds, and all insurance policies or certified copies thereof issued in favor of the Mayor and City Council of Baltimore, as provided in the Special Provisions, all of which shall be subject to the approval of the City Solicitor as to form, terms and conditions. Failure to comply with these requirements within thirty (30) calendar days after the Award shall be just cause for the annulment of the Award. It is understood and agreed that in the event of annulment of the Award, the Board of Estimates may require the Bidder to forfeit, to the use of the City, the amount of the certified check deposited with its Proposal, not as penalty, but as liquidated damages. As an alternative remedy, the City may elect to start the running of contract time (without allowing the Contractor to start work) or to pursue any other remedy allowed to the City under the law or equity.

SC-6 NOISY WORK

SUPPLEMENT Standard Specification Section 01 14 23 as follows:

Work creating excessive noise (jack hammering, demolition, etc.) in or near occupied areas must be coordinated with the Building Manager and Project Engineer, and performed at times

which do not unduly disturb the building's occupants or surrounding occupied areas; and at no additional cost to the City.

SC-7 MAINTENANCE OF TRAFFIC

SUPPLEMENT Standard Specification Section 01 55 26 with the following:

If violations to Maintenance of Traffic restrictions are not remedied/corrected within twelve (12) hours from the documented notice being given to the Contractor, an appropriate deduction will be made from the Contractor's next Progress Estimate. The deduction will be equal to the daily pro rata share of the Schedule of Values price bid for Maintenance of Traffic, which is determined by the lump sum price bid for Maintenance of Traffic divided by the number of days in the contract, or \$200.00 per day, whichever is more, for each day or portion thereof that the deficiencies exist and will continue until the deficiencies are satisfactorily corrected and accepted by the Project Engineer. The amount of money deducted will be a permanent deduction from the Contract and will not be recoverable. Upon satisfactory correction of the deficiencies, payment of the Maintenance of Traffic Schedule of Values item will resume.

SC-8 OVERTIME REIMBURSEMENT

DELETE Paragraph "C." of the Standard Specification Section 00 73 18 CONTRACTOR'S EXPENSE and

REPLACE it with the following:



- C. The Contractor shall reimburse the City for inspection and all other services required when and if, the Contractor chooses to work in excess of the normal eight (8) hour workday, forty (40) hour work week, weekends, or on a City holiday. The amount due the City shall be deducted from the Contractor's monthly pay estimate at the hourly rate of one hundred fifty dollars (\$150.00). The rate specified is per inspector and/or Building Manager on the project while the overtime work is ongoing. The Contractor should assume that, if one (1) to two (2) crews are working, at least one (1) inspector will be on site. If three (3) to five (5) crews are working, at least two (2) inspectors will be on site. If more than five (5) crews are working, at least three (3) inspectors will be on site. This overtime reimbursement shall not apply to overtime work done at the City's request due to no fault of Contractor.

SC-9 PROJECT IDENTIFICATION:

SUPPLEMENT Standard Specification Section 01 58 00 PROJECT IDENTIFICATION as follows:


The Contractor shall furnish, install, and maintain project signs using the design shown below and at a location as directed by the Engineer.

The Contractor shall update the completion date on the project signs quarterly until substantial completion.

Work In Progress

Mayor Brandon M. Scott



Better Schools. Safer Streets. Stronger Neighborhoods.

DEPARTMENT OF GENERAL SERVICES
PROJECT NAME (ALL CAPS)
 informational phone #
 completion date

SC-10 CONTRACTOR PHOTO IDENTIFICATION

The Contractor shall provide a photograph identification badge for each member of his workforce. Each individual shall display the identification badge before entering the project site and as requested during their presence on the project site. The identification badge shall include the individual's photograph, name, organization, and the contract number. Contractor's workforce shall include, but is not limited to, subcontractors, suppliers, manufacturers' representatives, testing agencies, etc. The Contractor shall furnish a photocopy of an individual's identification badge to the Engineer prior to the individual's beginning work at the site. In those instances where the duration of an individual's on-site visit is to be very limited, the Contractor will issue a temporary, non-photo, identification card. The individual may not enter the site until the temporary, non-photo, identification card is issued.

SC-11 CONTRACTOR WORK HOURS

SUPPLEMENT Standard Specifications Section 01 14 18 GENERAL WORK HOURS as follows:

Except otherwise Specified in the Special Provisions or other Contract Documents, or directed by the Engineer, the regular eight (8) hour working day shall begin no earlier than 7:00 A.M. and end no later than 5:00 P.M. Any other working hours must be coordinated with the Engineer and the Building Manager.

Refer to **SECTION 01 14 00 - WORK RESTRICTIONS** for more information in regard to work hours.

SC-12 SUNDAY AND HOLIDAY WORK

DELETE from Paragraph “A.” of Section 01 14 21 SUNDAY AND HOLIDAY WORK of the Standard Specification the word “SUNDAY”, and

SUBSTITUTE the words “SATURDAY AND SUNDAY”.

ADD to Paragraph “B.” of Section 01 14 21 SUNDAY AND HOLIDAY WORK of the Standard Specifications the following holidays:

Martin Luther King, Jr. Birthday, Presidents Day, Good Friday, Columbus Day, Veterans Day, and any other holidays or City non-work days as indicated by the Baltimore City Labor Commissioner at

<http://labor-commissioner.baltimorecity.gov/official-city-holidays>.

SC-13 WARRANTIES

DELETE Paragraph A of Standard Specification Section 01 78 36 WARRANTIES

REPLACE it with:

“The Contractor warrants and guarantees to the City all the improvements made for a period of two (2) years after the date of acceptance or occupancy by the City”.

SC-14 PROGRESS MEETING DUTIES

The Contractor shall employ and provide a clerk, satisfactory to the Engineer, who shall be available at all times to record minutes of all meetings and send sufficient copies of minutes of the meetings to all interested parties or as directed by the Engineer.

SC-15 ENGINEER’S OFFICE

An ENGINEER’S OFFICE will NOT be required as per Section 13 22 00 of the City of Baltimore, Department of Public Works – Specifications – Materials, Highways, Bridges, Utilities, and Incidental Structures 2006.

SC-16 BUILDER’S RISK

Supplement Standard Specification Section 00 73 16.01 as follows:

Contractor shall have and maintain during the life of the Contract such Property Insurance upon the Contractor’s entire work at the site up to the complete value thereof. This insurance shall protect the City, as its interest may appear in the work, and shall insure against the perils of fire and extended coverage, theft vandalism and malicious mischief. All Risk Insurance may not contain exclusions relating to flood, earthquake, mysterious disappearance, hail and terrorism.

If the Property Insurance contains a co-insurance provision, the Contractor shall be responsible for the amount of the insurance satisfying the co-insurance amount so as to make the co-insurance clause inoperable. If not covered otherwise, the Contractor shall have and maintain during the life of the Contract similar Property Insurance on portions of the work stored off the site or in transit when such portions of the work are to be included in any payment.

SC-17 MATERIALS:

Supplement Standard Specification Section 01 45 14 as follows:

Materials and equipment shall be new, and shall be those of the manufacturers named in the specifications or of a quality, capacity, etc., approved as equal by the Project Engineer.

SC-18 REUSE AND RECYCLING OF SELECTED MATERIALS

The contractor shall include the processing of certain materials to be recycled and/or reused as noted in the Contract Documents.

It is the intention of the City to recycle as much of the materials resulting from New Construction, Restoration, Stabilization and Demolition projects as feasible. The Contractor, therefore, shall be required to source separate certain materials that have recycling potential. These items include but are not limited to: structural steel, concrete, bricks (excluding refractory type), lumber, plaster, plasterboard, insulation cement, roofing materials, floor and wall tiles, pipes, wires and other items physically attached to the structure, including appliances.

MATERIALS MANAGEMENT REPORTING: At each Project Progress Meeting the contractor shall provide spreadsheet (one electronic and one hardcopy) inventory of the following:

- The material type,
- The number of truckloads and/or containers,
- Their overall individual vehicle daily volumes hauled, and
- Individual vehicles "net" payload weights, of all materials intended to be reused, recycled and /or disposed.

DATE						
	Material Type	Unit of Measure	# of Units	Total Weight of Day's Material	Total Volume of Day's Material	End Use: Reused / Recycled / Disposed
1						
2						
3						
4						
5						
6						
7						

8						
9						

SC-19 TERMINATION FOR CONVENIENCE OF THE CITY

- A. Performance of work under this Contract may be terminated by the City in accordance with this clause, in whole or in part, whenever the City shall determine that such termination is in the best interest of the City. Any such termination shall be effected by delivery to the Contractor of a written Notice of Termination specifying the extent to which performance of work is terminated and the effective date of termination.
- B. After receipt of a Notice of Termination, and except as otherwise directed by the Engineer, the Contractor shall:
1. Stop work under the Contract on the date and to the extent specified in the Notice of Termination;
 2. Place no further orders or subcontracts for materials, services or facilities, except as may be necessary for completion of the portion of the work under the Contract as is not terminated;
 3. Terminate all orders and subcontracts to the extent that they relate to the work terminated by the Notice of Termination;
 4. Assign to the City, in the manner, at times, and to the extent directed by the Engineer, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the City shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
 5. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Engineer, to the extent he may require, which approval or ratification shall be final for all the purposes of this clause;
 6. Transfer title and deliver to the City, in the manner, at the times, and to the extent, if any, directed by the Engineer, fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of the work terminated by the Notice of Termination, and/or completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the City;
 7. Use its best efforts to sell, in the manner, at the times, to the extent, and at the price or prices directed or authorized by the Engineer, any property of the types referred to in (6) above. The Contractor will not

be required to extend credit to any purchaser, and may acquire any such property under the conditions prescribed by and at a price or prices approved by the Engineer; provided further that the proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the City to the Contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the Engineer may direct;

8. Complete performance of any part of the work that has not been terminated by the Notice of Termination; and
 9. Take any action that may be necessary, or as the Engineer may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the City has or may acquire an interest.
 10. Submit to the Engineer a list, certified as to quantity and quality, of any or all items of termination inventory not previously disposed of, exclusive of those items for which the disposition has been directed or authorized by the Engineer. The Contractor may request the City to remove such items or enter into a storage agreement covering them. Not later than fifteen (15) days thereafter, the City shall accept title to these items and remove them or enter into a storage agreement covering the same; provided, that the list submitted shall be subject to verification by the Engineer upon removal of the items, or if the items are stored, within forty-five (45) days from the date of submission of the list. Any correction to this list shall be made prior to final settlement.
- C. After receipt of a Notice of Termination, the Contractor shall submit to the Engineer its termination claim, in the form and with certification prescribed by the Engineer. This claim shall be submitted promptly but in no event later than six (6) months from the effective date of termination, unless one or more extensions in writing are granted by the Engineer upon request of the Contractor made in writing within the six-month period or authorized extension thereof. However, if the Engineer determines that the facts justify such action, he may receive and act upon any such termination claim at any time after the six-month period or any extension thereof. Upon failure of the Contractor to submit his termination claim within the time allowed, the Engineer may determine, on the basis of information available to him, the amount, if any, due to the Contractor by reason of the termination and shall thereupon pay to the Contractor the amount so determined.
- D. Subject to the provisions of paragraph (C), the Contractor and the Engineer may agree upon the whole or any part of the amount or amounts to be paid to the Contractor by reason of the total or partial termination of work pursuant to this clause, which amount or amounts may include a reasonable allowance for profit on work done; provided, that such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments

otherwise made and as further reduced by the contract price of work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (E) of this clause, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Engineer to agree upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts that may be agreed upon to be paid to the Contractor pursuant to this paragraph.

- E. In the event of the failure of the Contractor and the Engineer to agree as provided in paragraph (D) upon the whole amount to be paid to the Contractor by reason of the termination of work pursuant to this clause, the Engineer shall pay to the Contractor the amounts determined by the Engineer as follows, but without duplication of any amounts agreed upon in accordance with paragraph (D):

1. With respect to all contract work performed before the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - i. the cost of the work;
 - ii. the cost of settling and paying claims arising out of the termination of work under subcontracts or orders, as provided in paragraph (B)(5) above, exclusive of amounts paid or payable on account of supplies or materials delivered or services furnished by subcontractors or vendors before the effective date of the Notice of Termination, which amounts shall be included in the costs payable under (i) above; and
 - iii. a sum, as profit on (i) above, determined by the Engineer to be fair and reasonable; provided, however, that if it appears that the Contractor would have sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and
2. The reasonable cost of the preservation and protection of property, incurred pursuant to paragraph B(8) above, and any other reasonable cost incidental to termination of the work under this Contract, including expenses incidental to the determination of the amount due to the Contractor as the result of the termination of the work under the Contract.
3. The total sum to be paid to the Contractor under (1) of this paragraph shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the City shall have otherwise expressly assumed the risk of

loss, there shall be excluded from the amounts payable to the Contractor as provided in (E)(1) above, the fair value, as determined by the Engineer, of property that is destroyed, lost, stolen, or damaged so as to become undeliverable to the City or to a buyer pursuant to paragraph B(7).

- F. Costs claimed, agreed to, shall be in accordance with all applicable City, State and local laws, regulations and ordinances.
- G. The Contractor shall have the right of appeal, under the clause of the Specifications entitled "Disputes," from any determination made by the Engineer unless the Contractor has failed to submit his claim within the time provided herein and has failed to request and receive a written extension of time in which to submit his claim. In any case where the Engineer has made a determination of the amount due to the Contractor, the City shall pay to the Contractor the following:
 - 1. if there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the Engineer, or
 - 2. if an appeal has been taken, the amount finally determined on such appeal.
- H. In arriving at the amount due the Contractor under this clause there shall be deducted
 - 1. all unliquidated advances or other payments made to the Contractor, applicable to the terminated portion of this contract,
 - 2. any claim that the City may have against the Contractor in connection with this contract, and
 - 3. the agreed price for, or the proceeds of sale of, any materials, supplies, or other things acquired by the Contractor or sold, pursuant to the provisions of this clause, and not otherwise recovered by or credited to the City.
- I. If the termination hereunder is partial, the Contractor may file with the Engineer a claim for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the Notice of Termination), and such equitable adjustment as may be agreed upon shall be made in such price or prices. Any claim by the Contractor for an equitable adjustment under this clause shall be asserted within ninety (90) days from the effective date of the termination notice, unless an extension is granted in writing by the Engineer.
- J. The City may from time to time, under such terms and conditions as it may prescribe, make partial payments and payments on account against costs incurred by the Contractor in connection with the terminated portion of this contract whenever in the opinion of the Engineer the aggregate of

such payments shall be within the amount to which the Contractor shall be entitled hereunder.

- K. Unless otherwise provided for in this Contract, or by applicable statute, the Contractor shall, from the effective date of termination until the expiration of three years after final settlement under this contract, preserve and make available to the City at all reasonable times at the office of the Contractor but without direct charge to the City, all books, records, documents and other evidence bearing on the costs and expenses of the Contractor under this contract and relating to the work terminated hereunder, or, to the extent approved by the Engineer, reproductions thereof.

SC-20 PROJECT MANAGEMENT SOFTWARE

The Contractor shall provide a schedule of deliverables utilizing Professional Project Management software approved by the Engineer. This schedule shall reflect the anticipated activities, time frames, and in work days for the activities listed.

SC-21 EXISTING BUILDING FACILITIES

Contractor shall refer to the technical specification Section, **TEMPORARY FACILITIES AND CONTROLS - 01 5000**

SC-22 PROJECT SUPERVISION BY THE CONTRACTOR

The Contractor shall have a Superintendent on the premises during all phases and operations of work. The Superintendent shall be English Speaking.

SC-23 MODIFICATION OF SCOPE

Contractors should be aware that the project is not limited to the scope as defined in these bid documents and that DGS reserves the right to modify the scope of work as necessary with a change order.

SC-24 USE OF PREMISES AND OCCUPANCY REQUIREMENTS

Contractor shall refer to the Technical Specifications Section **WORK RESTRICTIONS 01 1400**.

SC-25 PHASING PLAN

Contractor shall refer to the Technical Specifications Section **WORK RESTRICTIONS 01 1400**.

SC-26 TECHNICAL EXPERIENCE

The General Contractor shall submit evidence of prior experience performing concrete restoration work at multi-level parking garages.

1. Provide a minimum of three references for multi-level concrete garage repair project of similar scopes performed in the last six years.
2. For each reference, indicate:
 - a. Project name
 - b. Project address
 - c. Date of substantial completion
 - d. Original bid amount
 - e. Final construction cost
 - f. Owner name, telephone and e-mail address.

Bidders must use the form on the following pages for each reference submitted as evidence of prior experience in performing concrete restoration work at multi-level parking garages. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY BE CAUSE TO DECLARE YOUR BID NON-RESPONSIVE.

Evidence of prior experience in performing concrete restoration work at multi-level parking garages:

Reference 1

Project Name: _____

Project Address: _____

Date of Substantial Completion: _____

Original Bid amount: _____

Final Construction cost: _____

Owner name, telephone and e-mail address:

Evidence of prior experience in performing concrete restoration work at multi-level parking garages:

Reference 2

Project Name: _____

Project Address: _____

Date of Substantial Completion: _____

Original Bid amount: _____

Final Construction cost: _____

Owner name, telephone and e-mail address:

Evidence of prior experience in performing concrete restoration work at multi-level parking garages:

Reference 3

Project Name: _____

Project Address: _____

Date of Substantial Completion: _____

Original Bid amount: _____

Final Construction cost: _____

Owner name, telephone and e-mail address:

SECTION 00300

NOTE: NO INFORMATION OTHER THAN THAT INCLUDED IN OR ATTACHED TO THIS ORIGINAL BID DOCUMENT (WHERE SUCH ATTACHMENT IS PERMITTED) WILL BE USED IN DETERMINING AWARD.

ORIGINAL (NOT TO BE DETACHED)
NOTICE TO BIDDERS

CITY OF BALTIMORE
DEPARTMENT OF GENERAL SERVICES
CONTRACT NUMBER GS 19817R

THE COMPLETE (ORIGINAL)
CONTRACT BOOK AND
DUPLICATE OF BID OR
PROPOSAL MUST BE
INCLUDED IN THE
BID ENVELOPE

BID OR PROPOSAL

A. BID PRICES

Proposal of _____

Address _____

Made this _____ day of _____ 20____

Bid Due **WEDNESDAY, FEBRUARY 03, 2021**

Certified Check or Bank Cashier's Check or Bank Treasurer's Check or Bid Bond: Equal to two percent (2%) of the Total Bid Submitted.

Completion Time: **180** consecutive calendar days

Liquidated Damages: **\$ 1,500.00** per consecutive calendar day

To the Board of Estimates of Baltimore City:

_____ propose to furnish all necessary labor and materials, tools, implements, tackle, equipment and machinery, and to construct and complete the **GS 19817R – BALTIMORE STREET GARAGE RESTORATION** at 15 Guilford Ave, Baltimore, Maryland, all in strict accordance with the attached contract documents, at and for the lump sum base bid price of:

A. Base Bid:

_____	(\$ _____)	
Written Words		Numerical

Add \$20,000 Allowance (Refer to section 01 2100 for schedule of Allowances).

Total of Base Bid + \$20,000 Allowance

_____	(\$ _____)	
Written Words		Numerical

Proposals will be evaluated based on the Total of Base bid price + Allowance amount of \$20,000. The lowest responsible and responsive bidder shall be awarded this job.

The foregoing price is to include and cover the furnishing of all materials and labor requisite and proper, and the providing of all necessary machinery, tools' apparatus, and means for performing the work and the doing as set forth and described in the Contract Documents.

UNIT PRICES

PLEASE REFER TO THE SPECIFICATIONS SECTION 01 22 00 - UNIT PRICES.

3.1 SCHEDULE OF UNIT PRICES**LIST OF UNIT PRICES:**

1. Unit Price No 1: Epoxy Crack Injection (For horizontal, Vertical & Overhead), Repair Procedure 5/S108; \$_____ per LF.
2. Unit Price No. 2: Shallow Concrete Spall repair with or without exposed Reinforcement (For Floor top surface), Repair Procedure 2/S108; \$_____ per SF
3. Unit Price No. 3: Shallow Concrete Spall repair with or without exposed Reinforcement (For all Vertical surfaces), Repair Procedure 3/S108; \$_____ per SF
4. Unit Price No. 4: Shallow Concrete Spall repair with or without exposed Reinforcement (For overhead/slab & Beam soffit), Repair Procedure 2/S108 & 4/S108; \$_____ per SF
5. Unit Price No. 5: Deep Concrete Spall repair with exposed rebar (For Floor top surface), Repair Procedure 1/S108, \$_____ per SF
6. Unit Price No. 6: Deep Concrete Spall repair with exposed rebar (For all Vertical surfaces), Repair Procedure 3/S108; \$_____ per SF
7. Unit Price No. 7: Deep Concrete Spall repair with exposed rebar (For Overhead/slab & beam soffit), Repair Procedure 1/S108 & 4/S108; \$_____ per SF
8. Unit Price No. 8: Heavy Vehicular Traffic Coating (For concrete floor Deck), Repair Procedure 1/S109; \$_____ per SF
9. Unit Price No. 9: Demolition of existing sealant interior/exterior, \$_____ per LF
10. Unit Price No. 10: Install Interior or Exterior silicon sealant with backer rod, \$_____ per LF

End of Schedule of Unit Prices

B. BIDDER'S REPRESENTATION

The undersigned bidder certifies that (he/she) has thoroughly examined the site on which the work is to be done, and is thoroughly conversant with all the work called for on the drawings and in all the specifications and with all the requirements necessary and existing to properly execute the work in its entirety; that all allowances have been made for contingencies, etc., for the through, prompt and intelligent execution and completion of the work, within the time required.

C. RECEIPT OF ADDENDA:

The Bidder acknowledges receipt of the following Addenda:

Addendum No. _____ dated _____
 Addendum No. _____ dated _____
 Addendum No. _____ dated _____
 Addendum No. _____ dated _____

 Signature and Title

The foregoing price is to include and cover the furnishing of all materials and labor requisite and proper, and the providing of all necessary machinery, tools, apparatus and means for performing the work and the doing of all the above mentioned work as set forth and described in the Contract Documents.

Note: Each and every person Bidding and Named above must sign here.

In case of Firms, give the first and last name of each member, in full, with Title.

In case a Bid shall be submitted by or in behalf of any Corporation, it must be signed in the name of such Corporation by some authorized Officer or Agent, thereof, who shall also subscribe his Name and Title. If practicable, the Seal of the Corporation shall be affixed.

In case a Bid shall be submitted by joint venture ("JV"), the document that established the JV must be submitted with the bid for verification purposes, and Officers or Agents of all of the firms that are part of the Joint Venture must sign below as acknowledgement of their participation in this bid.

WITNESS _____ (SIGNED) _____

(TITLE) _____

WITNESS _____ (SIGNED) _____

(TITLE) _____

WITNESS _____ (SIGNED) _____

(TITLE) _____

D. ALTERNATE PRICES:

Attention is directed to the Contract and General Conditions for the Construction, and Division, and Subdivisions which are hereby made a part of the Alternate Prices and which shall apply as fully as if repeated herein.

Consult the drawings and the applicable portions of the Specifications for location and extent. All work shall be subject to all stipulation as set forth in the individual sections of the specifications for the work involved as fully as if repeated herein.

In as much possible, the work that comprises the alternates is defined on the drawings and labeled accordingly. For special conditions that occur between the Base Bid and an Alternate, or between different Alternates, hereinafter described. Should a clarification of intent regarding what is included in a particular Alternate be required, it shall be requested of the DGS Project Engineer in a timely manner prior to receipt of Bids, but in no event later than the date for submission of bid RFIs, otherwise it shall be understood that the Contractor will complete all work covered by the Base Bid and whatever Alternates that are accepted plus whatever coordination or permanent or temporary work that is required to effectively and satisfactorily terminate incomplete construction or service either at the point of juncture with the new work or where directed.

NOT APPLICABLE TO THIS PROJECT

E. STANDARD UNIT PRICES:	
In all instances when the Engineer, with the approval of the Director, Department of General Services, orders extra work to be performed and/or orders alterations, changes, additions and/or omissions to be made in the work, in accordance with Paragraph 14 of the General Conditions of the Specifications, the unit prices set out in the following schedule shall prevail:	
A. Price per cubic yard for earth excavation in general; including disposal of the excavated material either on or off the site, and/or placing the excavated material in compacted fill, as directed by the Engineer	\$20.00
B. Price per cubic yard for pit and trench excavation, either hand or machine, in material other than rock; including all required pumping, sheeting, sheet piling, bracing and shoring; compacted backfill using the excavated material and disposal of all surplus excavated material either on or off site as directed by the Engineer.	\$47.50
C. Price per cubic yard of pit and trench excavations in rock; including all required blasting, drilling, hand tool wedging, pumping, bracing, shoring, compacted backfill using approved material available on the site, and disposal of all excavated rock either on or off the site, as directed by the Engineer.	\$140.00
E. Concrete Material and Installation	
1. Concrete material costs for the actual amount of additional concrete placed will be paid for at the per-yard amount shown on the supplier's invoice plus an additional 10% to cover all overhead and profit for the same.	
2. Installation costs per cubic yard of concrete in place will be paid as follows:	
a. Placement of footings, pedestals, grade beams, and pile caps, including curing but excluding forms and reinforcing	\$45.00
b. Placement of walls and columns placed at elevations not higher than 5 feet above grade, including curing and finishing of vertical services, but excluding forms and reinforcing	\$35.00
F. Price per pound of reinforcing steel place including all required accessories, bracing, shores and stripping	\$.76
F. Price per square foot of concrete contact area for forms in place, including all required accessories, bracing, shores and stripping	
1. Footings, grade beams and pile caps	\$4.15
2. Walls, columns and other vertical surfaces not higher than 5 feet above grade including steel column encasement.	\$6.10
G. Price per square foot of masonry foundation walls, including horizontal steel reinforcing for specified foundation walls in place.	
For 4" thick walls	\$4.80
For 8" thick walls	\$6.75
For 10" thick walls	\$8.50
For 12" thick walls	\$10.40
For 16" thick walls	\$13.00
All unit prices shall apply equally to both additions and/or deductions, and include all costs of and permitted percentages for, overhead, profit, taxes, Workmen's Compensation Insurance, Public Liability Insurance, Health and Welfare Payment, Social Security Taxes, Unemployment Compensation, etc. If a change involves an omission and no extra work, the Contractor shall receive a sum not in excess of 5% of the unit price for overhead.	

The definition of rock, as listed under Item C. shall be as follows:
Any material, which cannot be removed by methods other than drilling, wedging and/or blasting, shall be termed rock excavation. All other excavations shall be termed earth excavation. Should boulders be encountered, those in size up to ½ cubic yard shall be termed earth excavation.

F. BID/PROPOSAL AFFIDAVIT

INSTRUCTIONS: The following Bid/Proposal Affidavit is a material and integral part of this Bid. Each Bidder shall read it carefully and enter all information required therein prior to executing it before a Notary Public. Failure to properly complete and execute this Bid/Proposal Affidavit MAY cause your bid to be found non-responsive and it may be rejected by the Board of Estimates.

1. AUTHORIZED REPRESENTATIVE

I HEREBY AFFIRM THAT:

I am the (title) _____ and the duly authorized representative of (business name) _____ and that I possess the legal authority to make this Affidavit on behalf of myself and the business for which I am acting.

2. AFFIRMATION REGARDING BRIBERY CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business (as is defined in Section 16-101(b) of the State Finance and Procurement Article of the Annotated Code of Maryland), or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies has been convicted of, or has had probation before judgment imposed pursuant to Criminal Procedure Article, §6-220, Annotated Code of Maryland, or has pleaded nolo contendere to a charge of, bribery, attempted bribery, or conspiracy to bribe in violation of Maryland law, or of the law of any other state or federal law, **except** as follows (indicate the reasons why the affirmation cannot be given and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of person(s) involved, and their current positions and responsibilities with the business):

3. AFFIRMATION REGARDING OTHER CONVICTIONS

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities including obtaining or performing contracts with public bodies, has:

(1) Been convicted under state or federal statute of:

(a) A criminal offense incident to obtaining, attempting to obtain, or performing a public or private contract; or

(b) Fraud, embezzlement, theft, forgery, false pretenses, falsification or destruction of records or receiving stolen property;

(2) Been convicted of any criminal violation of a state or federal antitrust statute;

(3) Been convicted under the provisions of Title 18 of the United States Code for violation of the Racketeer Influenced and Corrupt Organization Act, 18 U.S.C. §1961 et seq., or the Mail Fraud Act, 18 U.S.C. §1341 et seq., for acts in connection with the submission of bids or proposals for a public or private contract;

(4) Been convicted of a violation of the State Minority Business Enterprise Law, §14-308 of the State Finance and Procurement Article of the Annotated Code of Maryland;

(5) Been convicted of a violation of the City of Baltimore's Minority and Women's and Business Enterprises Law, Baltimore City Code, Article 5, Subtitle 28;

(6) Been convicted of conspiracy to commit any act or omission that would constitute grounds for conviction or liability under any law or statute described in subsections (1)—(5) above;

(7) Been found civilly liable under a state or federal antitrust statute for acts or omissions in connection with the submission of bids or proposals for a public or private contract; or

(8) Admitted in writing or under oath, during the course of an official investigation or other proceedings, acts or omissions that would constitute grounds for conviction or liability under any law or statute described in §§B and C(1)—(7) above, except as follows (indicate reasons why the affirmations cannot be given, and list any conviction, plea, or imposition of probation before judgment with the date, court, official or administrative body, the sentence or disposition, the name(s) of the person(s) involved and their current positions and responsibilities with the business, and the status of any debarment):

4. AFFIRMATION REGARDING DEBARMENT

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business, or any of its officers, directors, partners, controlling stockholders, or any of its employees directly involved in the business's contracting activities, including obtaining or performing contracts with public bodies, has ever been suspended or debarred (including being issued a limited denial of participation) by any public entity, except as follows (list each debarment or suspension providing the dates of the suspension or debarment, the name of the public entity and the status

of the proceedings, the name(s) of the person(s) involved and their current positions and responsibilities with the business, the grounds of the debarment or suspension, and the details of each person's involvement in any activity that formed the grounds of the debarment or suspension).

5. AFFIRMATION REGARDING DEBARMENT OF RELATED ENTITIES

I FURTHER AFFIRM THAT:

(1) The business was not established and it does not operate in a manner designed to evade the application of or defeat the purpose of debarment pursuant to Sections 16-101, et seq., of the State Finance and Procurement Article of the Annotated Code of Maryland and/or Article 5, Subtitle 40, of the Baltimore City Code; and

(2) The business is not a successor, assignee, subsidiary, or affiliate of a suspended or debarred business, **except** as follows (you must indicate the reasons why the affirmations cannot be given without qualification):

6. AFFIRMATION REGARDING COLLUSION

I FURTHER AFFIRM THAT:

Neither I, nor to the best of my knowledge, information, and belief, the above business has:

(1) Agreed, conspired, connived, or colluded to produce a deceptive show of competition in the compilation of the accompanying bid or offer that is being submitted;

(2) In any manner, directly or indirectly, entered into any agreement of any kind to fix the bid price or price proposal of the bidder or offeror or of any competitor, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for which the accompanying bid or offer is submitted.

7. POLITICAL CONTRIBUTION DISCLOSURE AFFIRMATION

I FURTHER AFFIRM THAT:

I am aware of, and the above business will comply with, Election Law Article, Title 14, Disclosure By Persons Doing Public Business, Annotated Code of Maryland, which requires that every person that enters into contracts, leases, or other agreements with the State of Maryland, including its agencies or a municipal corporation or a political subdivision of the State, during a calendar year in which the person receives in the aggregate \$100,000 or more shall file with the State Board of Elections a statement disclosing contributions in excess of \$500 made during the reporting period to a candidate for elective office in any primary or general election.

I am aware of, and the above business will comply with all applicable provisions of the Maryland Annotated Code, Election Law Article, §14-101 *et seq.*, "Disclosure By Persons Doing Public Business", ("Election Law"). I hereby certify, in accordance with §14-107 of the Election Law, that the above business has filed the statement required under §14-104(b)(1) of the Election Law.

8. CERTIFICATION OF CORPORATION REGISTRATION AND TAX PAYMENT

I FURTHER AFFIRM THAT:

(1) The business named above is a (domestic ____) (foreign ____) corporation registered in accordance with the Corporations and Associations Article, Annotated Code of Maryland, and that it is in good standing and has filed all of its annual reports, together with filing fees, with the Maryland State Department of Assessments and Taxation.

(If not applicable, so state). _____

(2) Except as validly contested, the business has paid, or has arranged for payment of, all taxes due the City of Baltimore and the State of Maryland and has filed all required returns and reports with the Comptroller of the Treasury, the State Department of Assessments and Taxation, the Department of Labor, Licensing, and Regulation and the City of Baltimore, as applicable.

(3) If awarded the contract resulting from this Bid/Proposal, the business shall remain in full compliance with all requirements of this § 8 during the term, and any extensions thereof, of the said contract.

9. CONTINGENT FEES

I FURTHER AFFIRM THAT:

The business has not employed or retained any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency working for the business, to solicit or secure the Contract, and that the business has not paid or agreed to pay any person, partnership, corporation, or other entity, other than a bona fide employee, bona fide agent, bona fide salesperson, or commercial selling agency, any fee or any other consideration contingent on the making of the Contract.

10. CERTIFICATION OF WORK CAPACITY AND PREQUALIFICATION CLASSIFICATIONS

I FURTHER AFFIRM THAT:

We hold Certificate No. _____ which expires on _____.

We have the Work Capacity to perform this contract as provided in the Standard Specifications and in accordance with the rules, regulations and requirements of the Baltimore City Contractors' Qualification Committee.

Furthermore, our current Certificate of Prequalification includes work Classifications covering Contract Items to a total of at least Fifty Percent (50%) of the Aggregate Amount Bid.

11. ACKNOWLEDGEMENT

I ACKNOWLEDGE THAT this Affidavit shall be included in my Bid/Proposal and that my failure to furnish it MAY be cause for my Bid/Proposal to be rejected. I further acknowledge that this Affidavit is subject to applicable laws of the United States, the State of Maryland and the City of Baltimore, both criminal and civil, and that nothing in this Affidavit or any contract resulting from the submission of this Bid/Proposal shall be construed to supersede, amend, modify or waive, on behalf of the City of Baltimore, the exercise of any statutory right or remedy conferred by the Constitution and the laws of Maryland and Baltimore City with respect to any misrepresentation made or any violation of the obligations, terms and covenants undertaken by the above business with respect to (1) this Affidavit, (2) the contract, and (3) other Affidavits comprising part of the contract.

I FURTHER ACKNOWLEDGE THAT if the business is awarded the contract resulting from this Bid/Proposal, this Affidavit shall become a material part of the contract and the business agrees that it shall remain in full compliance with all Affirmations contained herein during the term of the contract an any and all extensions thereto.

I DO SOLEMNLY DECLARE AND AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THIS AFFIDAVIT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE, INFORMATION, AND BELIEF.

By: _____
Name/Title

Subscribed and sworn to me this _____ day of _____ 20____.

Notary Public

My commission expires on _____.

G. MINORITY AND WOMEN'S BUSINESS OPPORTUNITY REQUIREMENTS

**MAYOR AND CITY COUNCIL OF BALTIMORE CITY
BALTIMORE CITY CODE, ARTICLE 5, SUBTITLE 28
MINORITY AND WOMEN'S BUSINESS PROGRAM**

**MBE AND WBE PARTICIPATION
COMMITMENT FORMS**

Name of Bidder (Proposer) _____

Address _____

Contracting Agency: _____ Department of General Services

Contract (Project) Title: BALTIMORE STREET GARAGE RESTORATION

Contract Number: GS 19817R

Bid Due Date: February 03, 2021

The Overall MBE goal is 6% The WBE goal is 3%

If MBE Sub-Goals Apply:

African American	N/A%
Asian American	N/A%
Hispanic American	N/A%
Native American	N/A %

**THIS PACKAGE OF MBE AND WBE PARTICIPATION
COMMITMENT FORMS IS DUE WITH THE BID.**

FOR MORE INFORMATION OR ASSISTANCE WITH THESE FORMS CONTACT:

Minority and Women's Business Opportunity Office (MWBOO)
Baltimore City Department of Law
Room 101, City Hall
100 N. Holliday Street
Baltimore, MD 21202
(410) 396-4355

PART A: INSTRUCTIONS

The requirements of Article 5, Subtitle 28 of the Baltimore City Code (2014 Edition) – Minority and Women’s Business Program are a part of this contract and are incorporated by reference. THE FAILURE OF ANY BIDDER, CONTRACTOR OR SUBCONTRACTOR TO COMPLY WITH ARTICLE 5, SUBTITLE 28 SHALL BE A BREACH OF CONTRACT.

Highlights of the City’s MBE/WBE program are noted below. A complete copy of Article 5, Subtitle 28 of the Baltimore City Code (2014) is available on the website at: www.baltimorecity.gov/Government/Citychartercodes.aspx or at the Minority and Women’s Business Opportunity Office.

1. BID REQUIREMENTS

Bid must include a commitment to utilize MBEs and WBEs at a percentage that equals or exceeds the contract goals indicated in the contract specifications. Bidder must submit the following completed documents WITH THE BID:

Part B: Statement of Intent Form(s) – to be signed by Bidder and MBE or WBE

Part C: Statement of Self-Performance – if applicable, to be signed by Bidder

Part D: MBE/WBE Participation Affidavit – to be completed and signed by Bidder

Part E: MBE/WBE Participation Waiver Request– to be completed and submitted by Bidder if unable to meet the participation goals

Any bid that does not include signed Statement of Intent Form(s) and the MBE/WBE Participation Affidavit is non-responsive and will be rejected.

Bidder must keep a record of its efforts to obtain MBE and WBE participation.

2. VERIFYING CERTIFICATION

Bidder is responsible for verifying that each MBE and WBE to be used on a contract is certified by the Minority and Women’s Business Opportunity Office (MWBOO) at bid opening. The MBEs and WBEs named must be certified to provide the services that they are listed to perform, and the services must be required as part of the work on this contract. A directory of certified MBEs and WBEs is available online at <http://cityservices.baltimorecity.gov/law/mwboo> or at the offices of MWBOO. (Art. 5, §28-48(d))

3. COUNTING MBE AND WBE PARTICIPATION

a) Participation of M/WBE’s

A business enterprise that is certified as both an MBE and WBE (M/WBE) may not be counted toward both the MBE and WBE goals for the same project. The bidder must select the goal to which the business enterprise is to be counted. (Art. 5, §28-31(b) and §28-35))

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b) Credit for Self-Performance

A bidder that is an MBE or WBE may count up to 50% of the dollar value of the work it intends to perform with its own forces toward the applicable MBE or WBE goal. The amount of credit may not exceed the MBE's or WBE's available work capacity as calculated with the Contractor Prequalification rules. **Intentions to count self-performance toward the MBE or WBE goal must be indicated on Part C: Statement of Intent to Self-Perform.** (Art 5, §28-31(d)).

c) Commercially Useful Function

The bidder may count toward the contract goals only expenditures to MBEs and WBEs that perform a commercially useful function in the execution of the contract. Commercially useful function means the performance of real and distinct work for which the business enterprise has the skill, expertise and actual responsibility to perform, manage and supervise. (Art. 5, §28-32)

d) Joint Ventures

A bidder may count toward the contract goal the portion of its expenditure to a joint venture that is equal to the percentage of the MBE or WBE participation in the joint venture. The MBE or WBE member of the joint venture must have an interest in the control, management, risks and operation of the joint venture commensurate with the member's percentage of ownership. The MBE or WBE member of the joint venture must be responsible for a clearly defined portion of the work to be performed, equal to its share in the ownership, control and management of the joint venture. (Art. 5, §28-33)

e) Subcontracting by MBE or WBE

A bidder may not count toward its contract goal any agreement with a certified MBE or WBE subcontractor who intends to subcontract more than 10% of the dollar amount of the services to be performed under its agreement with the bidder. This restriction does not apply to an MBE's or WBE's contracts for the purchase of materials, equipment or supplies that are incidental to the performance of services under its agreement with the bidder. (Art. 5, §28-34)

f) Manufacturers and Suppliers

Manufacturers – A bidder may count toward the contract goal its entire expenditure to a certified MBE or WBE that manufactures the goods supplied. (Art. 5, §28-36)

Non-Manufacturers – **Only 25% of each contract goal may be attained by expenditures to MBEs and WBEs that are non-manufacturing suppliers.** (Art. 5, §28-37)

Example: If the bid amount is \$100,000 and the MBE or WBE goal is 15% or \$15,000; then the limit for the MBE or WBE suppliers that are non-manufacturers is \$3,750 or 25% of the 15% goal.

g) Insurance Companies and Travel Agents

A bidder may count toward the contract goals only the fees or commissions charged by an MBE or WBE insurance company or travel agent (Art. 5, §28-38)

h) Financial Institutions

A bidder may count toward the contract goals only the fees charged and earned by an MBE or WBE financial institution. (Art. 5, §28-39)

i) Non Affiliation

A bidder may not use an MBE or WBE to meet a contract goal if the bidder has a financial interest in, has an interest in the ownership or control of, or is significantly involved in the operation of the MBE or WBE. (Art. 5, §28-41).

4. WAIVER REQUESTS

If a bidder is unable to comply with a contract goal, the bidder may submit a waiver request with the bid. The waiver request must be made on the MBE/WBE Participation Waiver Request Form. A waiver will not be granted unless the waiver request includes documentation that demonstrates good faith efforts to meet the goals. (Art. 5, §28-62).

5. SUBSTITUTION OF MBE OR WBE

The Minority and Women's Business Opportunity Office must approve substitution of an MBE or WBE specified at bid opening. Any unjustified failure to comply with this requirement is a material breach of contract. (Art. 5, §28-63(a)).

6. CONTRACT REQUIREMENTS

During the term of the contract, any unjustified failure to comply with the levels of MBE and WBE participation identified in the bid is a material breach of contract. (Art. 5, §28-48 (e)).

Before final payment, the contractor must submit the Subcontractor Utilization Form with its final payment request. The Subcontractor Utilization Form will include a list of the names of all subcontractors utilized on the contract, both MBE/WBE and non-MBE/WBE, the total amount paid to each subcontractor, and the owner's race/ethnicity and gender.

PART B: MBE/WBE AND PRIME CONTRACTOR'S STATEMENT OF INTENT

**COMPLETE A SEPARATE FORM FOR EACH MBE AND WBE NAMED IN THIS BID.
(Make additional copies of this form as needed)**

PART A: INSTRUCTIONS MUST BE REVIEWED BEFORE COMPLETING THIS FORM, WITH PARTICULAR ATTENTION PAID TO SECTIONS 2, 3a and 3f

Name of Prime Contractor: _____

Name of MBE or WBE (*circle one*): _____

Brief Narrative Description of the Work/Service to be performed by MBE or WBE:

Materials/Supplies to be furnished by MBE or WBE:

Subcontract Dollar Amount: \$ _____ *(If this is a requirements contract, the subcontract dollar amount may be omitted; however, the subcontract percentage must be included.)*

Subcontract percentage of total contract: _____ % *(This is not considered material information for lump sum contracts.)*

(If MBE sub-goals apply, please indicate the sub-goal covered by this Statement of Intent.)

African American: _____ % Asian American: _____ %
Hispanic American: _____ % Native American: _____ %

The undersigned Prime Contractor and Subcontractor agree to enter into a contract for the work/service indicated above for the dollar amount or percentage indicated to meet the MBE/WBE participation goals, subject to the Prime Contractor's execution of a contract with the City of Baltimore. The Subcontractor is currently certified as an MBE or WBE with the City of Baltimore Minority and Women's Business Opportunity Office to perform the work described above.

Signature of Prime Contractor (**REQUIRED**) Date

Signature of MBE or WBE (**REQUIRED**) Date

CHANGES TO INFORMATION ON THIS FORM THAT ARE MATERIAL TO THE AGREEMENT BETWEEN THE PRIME CONTRACTOR AND MBE OR WBE MUST BE INITIALED BY BOTH PARTIES.

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PART C: STATEMENT OF INTENT TO SELF-PERFORM

PART A: INSTRUCTIONS MUST BE REVIEWED BEFORE COMPLETING THIS FORM, WITH PARTICULAR ATTENTION PAID TO SECTION 2, 3a, 3b and 3f.

Name of Prime Contractor: _____

Self-Performance to be counted toward the MBE _____ or WBE _____ goal. *(Check One)*

Brief Narrative Description of the Work/Service to be Self-Performed by the Prime Contractor:

Materials/Supplies to be furnished by the Prime Contractor:

Total Dollar Amount of Work/Services to be Self-Performed by the Prime Contractor on this Contract: \$ _____

Total Dollar Amount of Self-Performed Work to be counted toward the MBE or WBE Goal:
(May count up to 50% of the total dollar amount of self-performed work):
\$ _____

If this is a Requirements Contract, you may omit the Dollar Amount; however, the Percentage must be included.

Total Percentage of Total Contract to be Self-Performed by Prime Contractor on this Contract: _____%

Percentage of Self-Performed Work to be counted toward the MBE or WBE Goal:
(May count up to 50% of the total percentage of self-performed work): _____%

(If MBE sub-goals apply, please indicate the sub-goal covered by this Statement of Intent.)

African American: _____% Asian American: _____%

Hispanic American: _____% Native American: _____%

The undersigned Prime Contractor agrees to Self-Perform the Work/Service indicated above for the Dollar Amount and/or Percentage indicated to meet the MBE/WBE participation goals, subject to the Prime Contractor's execution of a contract with the City of Baltimore. The Prime Contractor is currently certified as an MBE or WBE with the City of Baltimore Minority and Women's Business Opportunity Office to perform the work described above.

Signature of Prime Contractor **(REQUIRED)**

Date

<u>PART D: MBE/WBE PARTICIPATION AFFIDAVIT</u>

The Undersigned authorized representative of Contractor does hereby make the following Affidavit: Contractor has read the Bidder Information and Instructions regarding the MBE/WBE Program. Contractor acknowledges the MBE goal of **6%** and the WBE goal of **3%** for this contract. Contractor has achieved the following participation:

MBE-\$_____ or _____% and WBE-\$_____ or _____%
of the total contract amount which is \$_____.

My firm has made good faith efforts to achieve the MBE and WBE participation goals for this contract. I understand that, if awarded the contract, my firm must submit to the Minority and Women's Business Opportunity Office (MWBOO) copies of all executed agreements with the MBE and WBE firms being utilized to achieve the participation goals and other requirements of Article 5, Subtitle 28 of the Baltimore City Code (2014 Edition). I understand that these documents must be submitted prior to the issuance of a notice to proceed.

I understand that, if awarded the contract, my firm must submit to the MWBOO canceled checks and any other documentation and reports required by MWBOO verifying payments to the MBE and WBE firms utilized on the contract.

I understand that, if awarded this contract and I find that I am unable to utilize the MBEs or WBEs identified in my Statements of Intent, I must substitute other certified MBE and WBE firms to meet the participation goals. I understand that I may not make a substitution until I have obtained the written approval of MWBOO.

I understand that, if awarded this contract, authorized representatives of the City of Baltimore may examine, from time to time, the books, records and files of my firm to the extent that such material is relevant to a determination of whether my firm is complying with the MBE and WBE participation requirements of this contract.

I do solemnly declare and affirm under the penalty of perjury that the contents of the foregoing Affidavit are true and correct to the best of my knowledge, information and belief.

Contractor Company Name

Signature

Address

Print Name and Title

Sworn and subscribed before me this ____ day of _____, in the year _____.

Notary Public

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Rev 7/20/15

PART E: MBE/WBE PARTICIPATION WAIVER REQUEST FORM
--

Name of Bidder (Proposer) _____

Address _____

Contracting Agency: Department of General ServicesContract (Project) Number and Title: GS 19817R – BALTIMORE STREET GARAGE RESTORATION

Bid Due Date: _____

Goals on this contract.....MBE: 6 % and WBE: 3 %

If MBE Sub-Goals Apply:

African American: _____% Asian American: _____%

Hispanic American: _____% Native American: _____%

I have achieved.....MBE: _____% and WBE: _____%

If MBE Sub-Goals Apply:

African American: _____% Asian American: _____%

Hispanic American: _____% Native American: _____%

I am requesting a waiver of.....MBE: _____% and WBE: _____%

If MBE Sub-Goals Apply:

African American: _____% Asian American: _____%

Hispanic American: _____% Native American: _____%

I have contacted MWBOO for assistance: _____Yes _____No (Check One)

Number of MBE firms contacted: _____ (Attach a list of names.)

Number of WBE firms contacted: _____ (Attach a list of names.)

Explain why waiver is being requested:

Attach documentation of your good faith efforts to secure, contact and negotiate with MBEs and WBEs, including:

- (1) The reasons your company is unable to secure sufficient MBE/WBE participation to meet the stated goals
- (2) The efforts made by your company to select portions of the contract to be performed by MBEs and WBEs
- (3) For each MBE or WBE that placed a bid that you consider to be unacceptable, a statement that explains the basis for that conclusion

Signature of Authorized Company Representative_____
Date

PART F: SUBCONTRACTOR UTILIZATION FORM

THIS FORM MUST BE INCLUDED WITH REQUEST FOR FINAL PAYMENT.

Prime Contractor's Name: _____

Contract Number and Title: _____

Total Contract Dollar Amount: _____

Provide the following information for EACH and EVERY subcontractor, both MBE/WBE and NON-MBE/WBE used on this contract. (Make additional copies of this form as needed).

Name of Subcontractor	Goods or services provided on subcontract
Race/ethnicity AND gender of subcontractor's owner	Dollar amount of subcontract
Dollar amount paid to date	If amount paid to date is less than subcontract dollar amount, explain why.
Name of Subcontractor	Goods or services provided on subcontract
Race/ethnicity AND gender of subcontractor's owner	Dollar amount of subcontract
Dollar amount paid to date	If amount paid to date is less than subcontract dollar amount, explain why.
Name of Subcontractor	Goods or services provided on subcontract
Race/ethnicity AND gender of subcontractor's owner	Dollar amount of subcontract
Dollar amount paid to date	If amount paid to date is less than subcontract dollar amount, explain why.

 Prime Contractor's Signature
 Rev 7/20/15

 Date

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H. **MAYOR AND CITY COUNCIL OF BALTIMORE, MARYLAND**

THE BALTIMORE APPRENTICE TRAINEE PROGRAM (BATP)

BID FORM

Contracting Agency DEPARTMENT OF GENERAL SERVICES

Contract (Project Title) **GS 19817R – BALTIMORE STREET GARAGE RESTORATION**

Scheduled Bid Due Date: **Wednesday, February 03, 2021**

THIS APPRENTICE TRAINEE FORM IS DUE WITH THE BID.

FOR MORE INFORMATION ABOUT THIS FORM OR ASSISTANCE, CONTACT:

Minority and Women's Business Opportunity Office (MWBOO)
100 N. Holliday Street, Rm. 101
Baltimore, MD 21202
(410) 396-4355
Tamara Brown, Chief

MWBOO (12/00)

MAYOR AND CITY COUNCIL OF BALTIMORE, MARYLAND
THE BALTIMORE APPRENTICE TRAINEE PROGRAM (BATP)

PART I.

The City of Baltimore has established an Apprenticeship Trainee Program which requires all bidders on City Construction Projects costing \$1,000,000.00 dollars or more to participate in an Apprenticeship/OJT Training Program certified by the State of Maryland.

Training and upgrading of minorities and women toward journeyperson status is a primary objective of this Training Provision. The purpose for this objective is to insure a pool of qualified minorities and women to replace those journeypersons who, in the natural course of events will leave the workforce.

The bidder, shall commit to use its best efforts to meet the BATP requirements set forth in these contract documents. If awarded this contract, the bidder shall notify each firm with which the bidder proposes to contract, of the BATP requirements and make these requirements a material part of the subcontract where appropriate.

The bidder hereby designates:

NAME _____

TITLE _____

PHONE # _____

as the person who has been charged by the bidder with the responsibility for carrying out and reporting the bidders compliance with this program.

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1. The Bidder shall use its best efforts to comply with the BAT Program requirements set forth in these contract documents. Failure to implement and carry out the BAT Program requirements set forth in these contract documents shall be a material breach of this contract and grounds for termination of the contract.

2. The contractor shall prepare and submit to the contracting agency a plan for apprentice participation together with the construction schedule. The agency engineer shall designate the number of trainees and hours to be utilized and the area in which the trainees are to be required.

A. The draft construction schedule submitted to the contracting agency shall include a copy of the state certified apprentice/ojt program in which the bidder is participating, required labor resources by trade in order to determine the availability of apprentice opportunities, and a trade breakdown of anticipated participation by apprentices. The construction schedule and any updates shall include the apprentice participation by trade.

B. Apprentice participation shall be distributed throughout each technical discipline or trade designated by the engineer.

C. The contracting agency will review and approve the apprenticeship participation plan and forward a copy of the approved plan to MWBOO.

D. Goals for trainees will be based on the contractor's current utilization (Exhibit I in the contract document) and the availability of minorities and females in specified trade areas as indicated in the publication of the Maryland Department of Labor, Licensing and Regulation, Office of Labor Market Analysis and Information.

E. The specific efforts proposed to be undertaken by the contractor or its subcontractors if additional efforts are required to implement the BAT Program.

F. With each progress payment request, the contractor shall submit a BAT Program Report (AA2A) and a written projection for the following month of Apprentice hourly participation by trade.

G. The BAT Program participation plans shall apply to all change orders and extra work orders.

H. Requests for modifications or amendments of the contractors must be submitted to the contracting agency with copies to MWBOO.

The contractor will receive a written response to the request.

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PART II. AFFIDAVIT

The undersigned, being first duly sworn, on oath states to the City of Baltimore on behalf of the bidder as follows:

1. The bidder gives assurance that it will provide opportunity for training and employment for minorities and women in apprenticeship positions, and other positions whether with the bidder or subcontractors, employed on the project.
2. The bidder gives assurance that it will use its best efforts to comply with the BAT Program.
3. The bidder will maintain records in an easily retrievable and understandable form that will document any and all openings and opportunities for apprentice/trainee and, where appropriate, will make these requirements a part of all subcontract agreements on this project.
4. Bidder acknowledges that any and all bids which fail to include this form duly executed and notarized with the M/WBE portion of the bid documents may be declared as non-responsive by the Baltimore City Board of Estimates.
5. The bidder agrees to submit all forms as required in Part I & III of this document.

Name of Bidder

Name of Project Contract

By _____

Title _____

Date _____

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I hereby certify that on this _____ day of _____, 20____, before me the subscriber, a Notary Public of the State of _____, in and for _____
_____ City or County, personally appeared _____ who
acknowledged himself-herself to be the (title) _____ of
(company) _____ and being
duly authorized, executed the foregoing affidavit for the purposes and uses therein contained.

Signature of Notary Public

My Appointment Expires (SEAL)

THE BALTIMORE APPRENTICE TRAINEE PROGRAM (BATP)

INSTRUCTIONS

Part III

I. Advertisement for Construction Bids (Contracting Agency)

All bid advertisements for construction projects where the cost is estimated to be \$ 1,000,000.00 or more shall include the following language:

"The City of Baltimore has established an apprentice participation program requirement for this contract."

II. Bid Documents

All bid documents where the cost of the bid is estimated to be \$1,000,000.00 or more shall include the BATP BID FORM unless otherwise determined by the agency engineer.

The BATP Bid Form Must Be Submitted With the Bid.

III. Pre-Bid Conference

If there is a pre-bid conference, an MWBOO Compliance Representative shall be present to discuss the BAT Program.

IV. The following forms must be submitted as indicated.

A. The Plan for the Apprenticeship Participation must be completed and submitted for each area of training as designated by the agency engineer before the notice to proceed is issued.

B. The Maryland Apprenticeship Agreement forms must be submitted with each Progress Payment request to the contracting agency or as new trainees are hired.

C. With each progress payment request, the prime contractor must submit the MWBOO AA2 and AA2A to the contracting agency.

D. If an apprentice is terminated, the contracting agency shall be informed within 10 working days. A new Apprentice Agreement form on the replacement trainee should be attached.

E. MWBOO forms AA1 and 1A shall be submitted semi-annually on June 30th and December 31st of each year to the contracting agency.

ATTACHMENT

V. Penalties and Sanctions

A. A determination by the Board of Estimates after recommendation by the Minority and Women's Business Opportunity Office (MWBOO) that the contractor has failed to comply with any portion of the BATP rules as herein provided and described, or its approved apprenticeship plan, shall subject the offending party to any or all of the following:

1. suspension of contract;
2. withholding of funds;
3. rescission of contract based upon a material breach of contract;
4. disqualification of a bidder, contractor for a period of not to exceed two years;
5. payment of liquidated damages.

B. Violation; disqualification. It is a violation of this program to:

1. Willfully falsify, conceal or cover up by a trick, scheme or device a material fact, or make any false, fictitious or fraudulent statements or representations or make use of any false, fictitious or fraudulent statement or entry.
2. Willfully obstruct, impede, or attempt to obstruct or impede any authorized official or employee who is investigating the validity of any activity under the BATP

**BALTIMORE APPRENTICE TRAINEE PROGRAM
TRAINEE REVIEW**

PROJECT NUMBER: GS 19817R DATE: _____
 PROJECT NAME: BALTIMORE STREET GARAGE RESTORATION
 CONTRACTOR: _____

TRAINEE'S SUPERVISOR: _____
 CONTRACTOR'S EEO OFFICER: _____

Name	Race	Classification	Rqd. Prog. Hrs.	Actual Training for the Month	Actual Training Hours to Date	Min. Rate	Pres. Rate	Jrnymn. Rate
1. _____	_____	_____	_____	_____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____	_____	_____	_____	_____

MWBOO (AA2)

12/00

To Be Submitted With Each
Payout Request by the Subcontractor
to the Prime Contractor

Signed: _____
 Date: _____

CITY OF BALTIMORE																					
SEMI ANNUAL TRAINEE REPORT																					
ADMINISTRATION CENTER		PERIOD ENDING						LEGEND BA – BLACK AMERICAN AMERICAN						AI – AMERICAN INDIAN HA – HISPANIC AMERICAN				AA – ASIAN			
LINE NO	TRAINING CLASSIFICATION A	NUMBER RECEIVING TRAINING DURING REPORT PERIOD B						NUMBER STARTING TRAINING DURING REPORT PERIOD C						NUMBER COMPLETING TRAINING DURING REPORT PERIOD D						TOTAL HRS OF TRAINING DURING PERIOD	
		TOTAL	BA	AA	AI	HA	O	TOTAL	BA	AA	AI	HA	O	TOTAL	BA	AA	AI	HA	O	TOTAL	
03	EQUIPMENT OPERATOR																				
04	MECHANICS																				
05	TRUCK DRIVERS																				
06	IRON WORKERS																				
07	CARPENTERS																				
08	CEMENT MASONS																				
09	ELECTRICIANS																				
10	PIPEFITTERS																				
11	PAINTERS																				
12	OTHER SKILLS																				
13	TOTAL																				
14	NUMBER OF FEMALES RECEIVING TRAINING				NUMBER OF FEMALES STARTING TRAINING				NUMBER OF FEMALES COMPLETING TRAINING												
NUMBER OF NEW HIRES RECEIVING TRAINING				NUMBER IN APPRENTICESHIP TRAINING				NUMBER OF TERMINATIONS PRIOR TO COMPLETION OF TRAINING													
NUMBER OF UPGRADES RECEIVING TRAINING				NUMBER IN OTHER JOB TRAINING				NUMBER OF PROJECTS UNDER WAY DURING REPORTING PERIOD AND CONTAINING TRAINING SPECIAL PROVISIONS													
COMMENTS:																					
REPORT PREPARED BY (SIGNATURE) AND TITLE OF CITY OFFICIAL										DATE		AA1									

CONTRACT NO: GS 19817R

TRAINEE'S NAME: _____

PROJECT NAME: BALTIMORE STREET GARAGE RESTORATION

START DATE: _____

SUBCONTRACTOR: _____ WAGE RATE: _____

MONTH	YEAR	PHASES															
DATE	DAILY TOTAL																
1																	
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
MONTHLY TOTAL																	
PREV. TOTAL																	
GRAND TOTAL																	
REQ'D HOURS																	

CERTIFIED CORRECT BY _____ DATE: _____

INSTRUCTOR'S COMMENTS:

_____.

_____.

_____.

DISTRIBUTION: Original Project Engineer:
MWBOO (AA2A)

REVIEWED BY:
CITY OF BALTIMORE

SIGNATURE

DATE

BALTIMORE APPRENTICE TRAINEE PROGRAM CONTRACTOR'S SEMIANNUAL TRAINEE REPORT	PROJECT NO GS 19817R
	PROJECT NAME BALTIMORE STREET GARAGE RESTORATION

INSTRUCTIONS - This report is to be completed by the contractor semiannually for each individual employed on this contract (including any subcontractor under it) who has received training during the reporting period under the training special provisions (a part of the contract proposal). The report is to be submitted by the 10th of the month following the reporting period (July 10, and January 10). The original of this report is to be furnished to the trainer and two copies submitted to the City of Baltimore

1. NAME OF CONTRACTOR NAME OF SUBCONTRACTOR (IF APPLICABLE)		1.A. ADDRESS
2. NAME OF TRAINEE	2A. SEX (check one) _____ M _____ F	2.B. ADDRESS
3. AGE OF TRAINEE	4. SOCIAL SECURITY NO.	5. EMPLOYEE STATUS (check one) _____ NEW HIRE _____ UP-GRADE
6. ETHNIC GROUP DESIGNATION (check one) Black _____ Hispanic _____ American _____ Asian _____ _____ American _____ Indian _____ American _____ White _____		

7. SUMMARY OF PREVIOUS TRAINING (ENTER AMOUNT AND TYPE OF TRAINING RECEIVED BY TRAINEE ON OTHER CONTRACTS UNDER APPROVED TRAINING PROGRAMS)

8. JOB CLASSIFICATION OF TRAINEE	9. DATE TRAINING STARTED ON THIS CONTRACT	10. TYPE OF ON THE JOB TRAINING (Check one) _____ Apprenticeship _____ Other
----------------------------------	---	---

REPORTING PERIODS

INSTRUCTIONS: One vertical column is to be completed for each succeeding reporting period and the form submitted. Enter June 30, Dec. 30, as applicable in

HOURS OF TRAINING DATA								
11. PROVIDED DURING REPORT PERIOD								
12. PROVIDED TO DATE								
13. REMAINING TO COMPLETE THE APPROVED PROGRAM								
14. TERMINATION (IF TRAINING WAS TERMINATED PRIOR TO COMPLETION OF APPROVED PROGRAM EXPLAIN REASON FOR TERMINATION)								
15. REPORT PREPARED BY (SIGNATURE AND TITLE OF CONTRACTOR'S REPRESENTATIVE)							16. DATE	
17. REPORT REVIEWED BY (SIGNATURE AND TITLE OF CITY OF BALTIMORE OFFICIAL)							18. DATE	

MWBOO (1A)

I. BALTIMORE CITY'S YOUTHWORKS PROGRAM

TO: Mayor's Office of Employment Development ("MOED")

FROM: _____

(Legal name of Bidder)

Pursuant to Executive Order, the aforesaid Bidder hereby presents MOED with the following information to assist its outreach efforts for the Baltimore City YouthWorks Program:

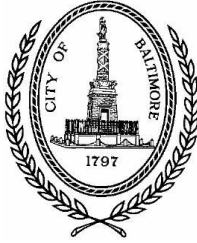
Contact Person: _____

Address: _____

Telephone Number: _____

Facsimile Number: _____

E-mail address: _____



J. EMPLOY BALTIMORE

Employ Baltimore is designed to create opportunities for businesses that receive municipal contracts to access qualified City residents to meet their workforce needs. The initiative will also ensure that City dollars contribute to the local economy and improve the lives of employable Baltimoreans.

Employ Baltimore meets the business development need by helping employers save time And money in the recruitment process. This service also offers businesses customized training resources that build worker pipelines for hard-to-fill job vacancies, and provides easy access to tax credit programs that support investments in the City's growth. Every year, hundreds of area employers utilize the Mayor's Office of Employment Development's resources to assist their expansion efforts. We look forward to serving you also.

Employ Baltimore

Requirements

1. Complete the *Employ Baltimore* "Certification Statement" contained in the bid document and submit it with your bid package.
2. Contact the Mayor's Office of Employment Development (MOED) within two (2) weeks of receiving the contract award to schedule a meeting. At this meeting MOED will review your workforce/employment plan; explain the employment report requirements and discuss other workforce services available. You will not receive your first payment from the contract until MOED verifies with the contracting city agency that the meeting has been scheduled.
3. Should the workforce plan indicate a need to fill new jobs, the company will agree to post these positions through MOED and its One Stop Career Center network for a period of seven (7) days prior to publicly advertising the openings. This will enable MOED to identify and refer qualified city residents as candidates for these job opportunities.
4. Complete the "Employment Reports" as required on June 30th and December 31st during each year of the contract and at contract completion. Submit "Employment Reports" to:

**Employ Baltimore
Mayor's Office of Employment
Development
3001 East Madison Street
Baltimore, Maryland 21205**

- or -

employbaltimore@oedworks.com

The City will not release a final payment or any retainage held by the City until MOED verifies that the Employment Reports have been submitted.

5. Businesses awarded construction contracts that fully participate in the Employ Baltimore program and comply with the conditions listed in the certification statement may receive an early release or reduction in the retainage fee assigned to the contract.

To Schedule Your Meeting with MOED Please Contact:

**Rosalind Howard
Employ Baltimore
Mayor's Office of Employment Development
3001 East Madison Street
Baltimore, Maryland 21205
Phone 443-984-3014 • Fax 410-361-9648**

rhoward@oedworks.com

- or -

employbaltimore@oedworks.com

Employ Baltimore**CERTIFICATION STATEMENT**

Contracting City Agency	Bid Number	Bid Due Date
Dept. Of General Services		

To promote the commitment to utilize ***Employ Baltimore*** to meet employment needs, all businesses awarded contracts, franchises and development opportunities with the City of Baltimore, shall comply with the terms of the Executive Order as described in the bid specification. Under this agreement, contract awardees will complete and submit the certification statement with the bid package.

This Executive Order shall apply to contracts awarded by the City that are in the amounts of \$50,000.01 to \$300,000.00, except for professional service contracts and emergency contracts.

Additionally, companies awarded construction contracts that fully participate in the ***Employ Baltimore*** program and submit and comply with the certification statement, may receive an early release of or reduction in the retainage fee assigned to the contract.

CERTIFICATION STATEMENT

As a representative of _____, I _____
 (NAME OF COMPANY) (PRINT NAME AND TITLE)

Certify that a company representative will schedule a meeting with the Mayor's Office of Employment Development within two weeks of contract award to review the workforce plan required for this contract.

If there is a need for additional employees, I agree to post the new job openings with MOED's One Stop Career Center Network for seven (7) days prior to publicly advertising these openings. I agree to interview qualified Baltimore City residents referred from MOED. I agree to submit an Employment Report on June 30th and December 31st identifying the total number of workers on this project and the total number of Baltimore City residents on payroll during each year of the contract and at the contract completion as a condition of release of the final payment of any retainage due.

Name: _____ Telephone: _____

Company Address: _____ Email: _____

Send to: Rosalind Howard
Employ Baltimore/ Mayor's Office of Employment Development
3001 East Madison Street
Baltimore, Maryland 21205
Phone 443-984-3024 . Fax 410-361-9648
employbaltiore@oedworks.com

Employ Baltimore**EMPLOYMENT REPORT**

Contracting City Agency	Bid/Contract Number & Name
Dept. of General Services	Contract No. GS 19817R – BALTIMORE STREET GARAGE RESTORATION
Contract Start Date	Contract End Date

To promote the commitment to utilize the *Employ Baltimore Executive Order* and to meet workforce needs, all businesses awarded contracts, franchises and development opportunities with the City of Baltimore, shall comply with the terms of the Executive Order as described in the bid package. Under this Executive Order, contract awardees will complete and submit this Employment Report on June 30th and December 31st during each year of the contract and at contract completion. You must identify the number of total workers and the number of Baltimore City residents on payroll for this contract. Also, please indicate any new positions created as a result of the award and filled by Baltimore City residents. Employment Reports should be sent to:

Employ Baltimore
Mayor's Office of Employment Development
3001 East Madison Street
Baltimore, Maryland 21205

- Or email -

employbaltimore@oedworks.com

The Employment Report below is hereby submitted by the undersigned for this period:

___ December 31, 20___ ___ June 30, 20___ ___ End of Contract Date___

No. of total workers on payroll for this contract	
No. of Baltimore City residents on payroll for this contract	
No. of new positions filled by Baltimore City residents	

Name: _____ Signature: _____

Title: _____ Date: _____



The Mayor's Office of Employment Development provides businesses with a pipeline of qualified, skilled job candidates and supports businesses in retaining and developing their employees. We offer customized workforce solutions including outreach and recruitment, applicant prescreening, assessment and testing services, tax credit information, human resources support and training funds for new or existing employees. Training funds are available through several strategies.

Hiring new employees?

Customized Training is a business-driven strategy that helps companies train and hire people to fit their job-specific needs. MOED Business Services staff recruit and pre-screen applicants based on the company requirements. Your business saves on recruitment costs and could receive up to 50% reimbursement on costs associated with the required training. The positions must be full-time and meet minimum salary requirements. The training can be employer-based, on-the-job, or offered by qualified vendors. Companies awarded Customized Training grants must agree to hire successful trainees. Many companies have used this strategy to increase their workforce and reduce their hiring budget.

Want to improve and increase the skills of your current staff?

Incumbent Worker training

MOED works closely with other local, state and federal agencies to promote the link between the city's workforce and economic development initiatives.

For Further Information Contact:

Rosalind Howard or Susan Tagliaferro
 Employ Baltimore
 Mayor's Office of Employment Development
 3001 East Madison Street
 Baltimore, Maryland 21205
 Phone 443-984-3014 • Fax 410-361-9648
rhoward@oedworks.com stagliaferro@oedworks.com
employbaltimore@oedworks.com

K. LOCAL HIRING LAW

Rules and Regulations

1. The Local Hiring Law (Council Bill 12-0159) (the "Law") is applicable to all City contracts that are greater than \$ 300,000.00, or agreements authorizing assistance that are within the terms of §27-2 of the Law executed by the City on or after the Law's effective date, December 23, 2013. The Law requires compliance by vendors/contractors and their subcontractors regardless of the subcontractor award amount and by all persons benefitting from an agreement involving more than \$ 5,000,000.00 in assistance for a City subsidized project.
2. The Law only applies to the original term of contract awards greater than \$ 300,000.00. Extra Work Orders and contract modifications do not affect the applicability of the Law. Whether a City subsidized project is subject to the Law shall be finally determined when an agreement authorizing assistance valued at more than \$5,000,000.00 is executed by the City.
3. Any contract that was originally subject to the Employ Baltimore Executive Order and the dollar amount of the contract increases to over 300K, will become subject to the Local Hiring Law.
4. All City bids, RFP's and requests for bid packages and final contracts must include reference to the requirements of the Law. All bid documents and contracts subject to the Law will include a section referencing the requirements of the Law. The bidder's signature will verify a commitment to abide by the Law.
5. Upon contract award or approval of an agreement for subsidy covered by the Law, the contracting city agencies or agencies entering into an agreement for the City subsidized project must immediately complete the Mayor's Office of Employment Development (MOED) Vendor Contact form, providing contact information for each vendor/contract awarded and each beneficiary of a qualifying City subsidized project. MOED will contact the vendor or beneficiary upon receipt of the completed form from the city agency.
6. Within two weeks of the contract award or agreement for a City subsidized project covered by the Law, the awardee must work with a representative of the Mayor's Office of Employment Development (MOED) to complete an Employment Analysis that will project the total workforce and the "new hires" in the Baltimore area needed to fulfill the contract/agreement. That Analysis shall include all information reasonably required by MOED showing at a minimum general locations (Baltimore area or not) of all workforce positions required to complete the contract/agreement.
7. Vendors who report that they do not have any "employees" needed for the contract" at the initial workforce meeting or on the required monthly Employment Report form must meet with the City Agency to discuss how the work is getting done and how the funding is being utilized.

8. A Local Hiring Review Committee ("LHRC") will be established. The LHRC will be comprised of representatives/designees from the following:

- Office of the City Council President
- Office of the Deputy Chief of Economic Development and Neighborhoods
- Mayor's Office of Employment Development
- Office of the Director of Finance
- Baltimore City's Procurement Office – Bureau of purchases
- Baltimore City Department of Transportation
- Baltimore City Department of Public Works
- Baltimore City Department of General Services
- Baltimore Development Corporation
- Baltimore City Law Department
- Community Resident to be appointed by the President of the City Council

The LHRC will appoint a chair and meet no less than quarterly and as frequently as needed. Its primary role will be to review the monthly Employment Reports and to make recommendations to MOED regarding the approval or denial of any waiver requests made. The LHRC will also recommend to the Board of Estimates potential penalties and debarment for persons and others subject to the Law that has not complied with the Law. MOED will coordinate the materials to be presented to the LHRC and provide it with administrative staff support.

9. Vendors and others subject to the Law must submit Monthly Employment Reports by the fifth business day of the month for the preceding month beginning no later than 90 days after the Board of Estimates has awarded the contract or approved the agreement. City agency directors will be notified of persons or others subject to the Law that do not submit reports by the due date; continued delinquent persons or others subject to the Law will be reported to the LHRC.

10. Vendors and others subject to the Law that have binding collective bargaining agreements with unions will be granted a waiver from only utilizing MOED recruitment services, since they are bound by union regulations to utilize union halls. However, the persons or others subject to the Law must still meet the 51% residency requirement on new hires and must submit the monthly Employment Reports as required by the Law.

11. If MOED cannot fill a job posting provided by a vendor or others subject to the Law within the seven day period, the person or others subject to the Law must still meet the 51% residency requirement on new hires. This requirement will only be waived if : 1) the person or others subject to the Law requests a waiver in writing and can provide documentation that they made good faith efforts in the form of job posting and other recruitment methods and that there were insufficient qualified applicants to fill the available new positions or ; 2) the bidder is able to confirm in the bid process that the contract will be only for services that will be performed or for

products that will be manufactured outside the Baltimore Metropolitan Area and as such, no new positions will be called for in Baltimore area.

12. The Law is not applicable to a contract or an agreement that is made by the City, or on its behalf with any person in the event of an emergency pursuant to Article VI, § 11 (e)(ii) of the Baltimore City Charter.

13. Definitions:

a. *Good Faith Effort* is defined as a set of activities conducted by the contractor/vendor or other person which demonstrate multiple types of outreach efforts have been made to City residents including, but not limited to: ads in local papers, paid local job boards, information to local educational and workforce organizations, as well as an objective review and rating of resumes of city residents. (§ 27-6 (B) (1))

b. *Substantially below appraised value* is the sale or transfer of land applicable to property that has been approved and sold for an amount below 30% of the appraised value. (§ 27-1 (C) (1))

c. *“Satisfactory Special Workforce Development Training or Placement Arrangement”* is defined as a written agreement with MOED or a recognized workforce partner for a customized training or On-The-Job-Training opportunity leading to unsubsidized employment. (§27-6(B) (3))

LOCAL HIRING

Article 5, Subtitle 27 of the Baltimore City Code, as amended (the “Local Hiring Law”) and its rules and regulations apply to contracts and agreements executed by the City on or after the Local Hiring Law’s effective date of December 23, 2013. The requirements for the Local Hiring Law are summarized below:

A. The Local Hiring Law applies to every contract for more than \$300,000 made by the City, or on its behalf, with any person. It also applies to every agreement authorizing assistance valued at more than \$5,000,000 to a City-subsidized project. Unless the Mayor’s Office of Employment Development (“MOED”) grants an exception under the Local Hiring Law, at least 51% of the new jobs required to complete the contract or project must be filled by Baltimore City residents.

B. Within two (2) weeks of the Board of Estimate’s award of the contract or approval of the agreement, the contractor shall have a meeting, either in person or via telephone, with MOED to complete an employment analysis and review the workforce plan required for such contract or agreement. The contractor will not receive any payments under the contract or agreement, unless and until the employment analysis is performed. Contact information for MOED can be found on its website: www.oedworks.com.

C. Should the contractor’s workforce plan indicate a need to fill new jobs, the contractor shall post the new job openings with MOED’s One Stop Career Center Network for a period of seven (7) days prior to its publicly advertising these openings. Further, the contractor shall interview qualified Baltimore City residents referred from MOED; and unless granted an exception, fill at least fifty-one percent (51%) of the new jobs required to complete the contract or project with Baltimore City residents.

D. For all contracts subject to the Local Hiring Law, the contractor shall submit an Employment Report to MOED by the fifth (5th) day of each month throughout the duration of the contract or agreement, regardless of whether MOED has granted a waiver of any of the Local Hiring Law’s requirements.



City of Baltimore Local Hiring Certification and Compliance Statement

CERTIFICATION STATEMENT (Complete and submit this certification statement with your bid package. Your bid may be considered non-responsive if you fail to include this signed document)

For the purpose of requiring employers (contractors and their subcontractors) benefitted by City contracts and subsidies to take measures to hire Baltimore City residents, all businesses awarded a contract with the City for more than \$300,000 or will benefit from more than \$5,000,000 in assistance for a subsidized project, shall agree to comply with the terms of the Local Hiring Law 12-0159 as described in the bid specification.

By signing below as a representative of _____ (Company Name), I certify that if awarded this contract, a company representative will meet with the Mayor's Office of Employment Development (MOED) within two weeks of the contract award to complete an employment analysis review the workforce plan required for this contract. If there is a need for new hires, I agree to post the new job openings with MOED's One Stop Career Center Network for a period of seven (7) days prior to publicly advertising these openings. I agree to interview qualified Baltimore City residents referred from MOED and to fill at least 51% of the new jobs required with Baltimore City residents. I also agree to submit an Employment Report by the 5th day of each month throughout the duration of contract.

Signature: _____ Title: _____ Phone: _____

Company Address: _____ Email: _____

CONTRACT AWARD INFORMATION (To be completed by the responsible Baltimore City agency representative and submitted to MOED within two (2) business days of the contract award.)

Baltimore City Agency: _____

Contract No./Description: _____

Award Amount: _____ Award Date: _____

Contractor's Rep for Local Hiring compliance: _____

Telephone #: _____ Email: _____

City Agency Staff Name/Title

Date

COMPLIANCE VERIFICATION (To be completed by MOED and returned to the City agency.)

As required by the Law, "before the disbursement of any funds", the beneficiary must meet with and complete an employment analysis with MOED. This is to certify that the information below is accurate as verified by MOED:

- ☐ Complied with the requirements of the Local Hiring Law 12-0159 and met with MOED on _____ to assess their employment needs, complete the workforce plan and identify new jobs. We have been informed that an estimate of _____ jobs will be created as a result of the contract award.
- ☐ **NOT** complied with the Local Hiring Law. In accordance with the Law, the City Agency is required to withhold payments associated with this award until the meeting has occurred.

MOED Staff Name/Title

Date

If there are any questions, please call Rosalind Howard at 410-396-9045

L. BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned _____

as Principal, and _____

as Surety, are hereby held and firmly bound unto the Mayor and City Council of Baltimore as Owner, in the amount of at least Two Percent (2%) of the Total Bid submitted for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, personal representatives, successors and assigns. Signed this

_____ day of _____, 20_____.

The condition of the above obligation is such that WHEREAS the Principal has submitted to the Board of Estimates of the Mayor and City Council of Baltimore a certain Bid, attached hereto, and hereby made a part hereof to enter into a Contract, in writing, for **CONTRACT NO. GS19817R – BALTIMORE STREET GARAGE RESTORATION**

NOW, THEREFORE,

- (a) If said Bid shall be rejected or in the alternate.
- (b) If said Bid shall be accepted and the Principal shall execute and deliver a Contract in the form of Contract attached here to (properly completed in accordance with said Bid), and shall furnish a bond for his faithful performance of said Contract, and for the payment of all persons performing labor or furnishing materials in connection therewith and shall in all other respects perform the Agreement created by the acceptance of said bid.

Then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall in no event, exceed the penal amount of this obligation, as herein stated.

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by an extension of the time within which the Owner may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their Hand and Seals, and such of them as are Corporation have caused their Corporate Seals to be hereto affixed and these presents to be signed by their proper Officers, the day and year first set forth above.

ATTEST:

PRINCIPAL

(SEAL)

ATTEST:

SURETY

(SEAL)

END OF SECTION

SECTION 00500
AGREEMENT

THIS AGREEMENT, made this _____ Day of _____
in the year 20____, by and between _____

hereinafter called the "Contractor", and the Mayor and City Council of Baltimore, a
Municipal Corporation, hereinafter called the "City", for Contract No. **GS 19817R –**
BALTIMORE STREET GARAGE RESTORATION

WHEREAS, the Contract designated as to be performed in strict accordance with the Contract Documents, which Standard Specifications, Plans and other Contract Documents are in all respects made a part hereof, has recently been awarded to the Contractor by the City, through the Agency of its Board of Estimates, at and for a sum equal to the aggregate cost of the work, labor, materials and supplies done or furnished at the prices and rates respectively named therefore in the Proposal attached hereto; and

WHEREAS, it was one of the conditions of said award that a formal Contract should be executed by and between the Contractor and the City evidencing the terms of said award.

NOW, THEREFORE, THIS AGREEMENT WITNESSETH, That the Contractor doth hereby covenant and agree with the City that it will well and faithfully construct, and complete the said Work in accordance with each and every one of the conditions, covenants, stipulations, terms and provisions contained in the Contract Documents, at and for a sum equal to the aggregate cost of the work, labor, materials and supplies done or furnished at the prices and rates respectively named therefore in the Proposal attached hereto, and will well and faithfully comply with and conform to each and every obligation imposed upon it by the Contract Documents, or by the terms of said award. Time is of the essence of this Agreement.

And the City doth hereby covenant and agree with the Contractor that it will pay the Contractor, when due and payable under the terms of the Contract Documents and of said award, the above mentioned sum; and that it will well and faithfully comply with and perform each and every obligation imposed upon it by the Contract Documents or by the terms of said award.

In WITNESS WHEREOF, Said _____
has caused this Agreement to be signed in its name by its President/Vice President and its
Corporate Seal to be hereunto and duly attached and the City has caused these presents to be
signed by the Mayor of Baltimore City and the Corporate Seal of the City to be hereunto affixed,
duly attested by the Custodian of the City Seal.

ATTEST:

SIGNATURE

SIGNATURE

PRINT NAME AND TITLE (SEAL)

ATTEST:

Mayor and City Council of Baltimore

Custodian of the City Seal

By: _____
BRANDON M. SCOTT, MAYOR

APPROVAL OF AGREEMENT
FOR
DEPARTMENT OF GENERAL SERVICES
CONTRACT NO. **GS 19817R**

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

Chief Solicitor

APPROVED:

APPROVED:

Chief, Capital Projects & Energy Division

Director of General Services

SECTION 00610**PERFORMANCE BOND**

Principal	Business Address of Principal
Surety a Corporation of the State of and authorized to do business in the State of Maryland	Obligee Mayor and City Council of Baltimore
Sum of Bond (Equal to Contract Price) SUM OF _____ Dollars (\$ _____)	
Contract Number and Identification City of Baltimore Department of General Services Contract No. GS 19817R – BALTIMORE STREET GARAGE RESTORATION	Date of Contract _____, <u>20</u> Date Bond Executed _____, <u>20</u>

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL above named and SURETY above named, are held and firmly bound unto the OBLIGEE above named in the full and just sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the PRINCIPAL is entering into a certain Contract with the OBLIGEE described and dated, as shown above and attached hereto, and is required under the Provisions of the Public General Laws of Maryland to give a bond conditioned as hereinafter set forth.

NOW THEREFORE, if the PRINCIPAL shall well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of said Contract during the original term of said Contract and any extensions thereof that may be granted by the OBLIGEE, with or without notice to the SURETY, and during the term or terms of any maintenance, repair, guaranty and warranty required under the Contract, and

PERFORMANCE BOND

shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized modifications of said Contract that may hereafter be made, notice of which modifications to the SURETY being hereby waived, and shall indemnify and save harmless the Mayor and City Council of Baltimore, its agents and employees against and from all costs, expenses, damages, injury or loss to which the said Mayor and City Council of Baltimore, its agents and employees, may be subjected by reason of any wrongdoing, misconduct, want of care or skill, negligence or default on the part of said PRINCIPAL, its agents or employees, or in any manner arising directly or indirectly from any and all causes whatsoever, in or about the execution or performance of the Contract, during the Original term of said Contract and/or any authorized extension or modification thereof and/or during the term or terms of any maintenance, repair, guaranty and warranty required under the Contract, then this obligation shall be null and void; otherwise to remain in full force and effect.

No right of action shall accrue on this bond to or for the use of any person or corporation other than the OBLIGEE, or the successors or assigns of OBLIGEE.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several Seals on the date indicated above, the Name and corporation seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

ATTEST: as to principal

SIGNATURE

SIGNATURE

PRINT NAME

ATTEST: as to surety

PRINT NAME AND TITLE

(SEAL)

SIGNATURE

SIGNATURE

PRINT NAME

PRINT NAME AND TITLE

(SEAL)

AGENT (COMPANY): _____

AUTHORIZED BY: _____

NAME AND TITLE

PERFORMANCE BOND

APPROVED:

APPROVED:

Mayor of Baltimore City

Director of General Services

Comptroller

Chief, Capital Projects & Energy Division
Department of General Services

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

APPROVED BY BOARD OF ESTIMATES:

Chief Solicitor

Clerk Date

END OF SECTION

SECTION 00620**PAYMENT BOND**

Principal	Business Address of Principal
Surety a Corporation of the State of and authorized to do business in the State of Maryland	Obligee Mayor and City Council of Baltimore
Sum of Bond (Equal to Contract Price) SUM OF _____ Dollars (\$ _____)	
Contract Number and Identification City of Baltimore Department of General Services Contract No. GS 19817R – BALTIMORE STREET GARAGE RESTORATION	Date of Contract _____, ____ Date Bond Executed _____, ____

KNOW ALL MEN BY THESE PRESENTS, That we, the PRINCIPAL above named and SURETY above named, are held and firmly bound unto the OBLIGEE above named in the full and just sum of the amount stated above, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, personal representatives, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the PRINCIPAL is entering into a certain Contract with the OBLIGEE described and dated, as shown above and attached hereto, and is required under the Provisions of the Public General Laws of Maryland to give a bond conditioned as hereinafter set forth.

NOW THEREFORE, the condition of this obligation is such that if the PRINCIPAL shall promptly make payments to all persons supplying labor and/or material in the prosecution of the work provided for in said Contract and any and all duly authorized extensions and/or modifications of said contract that may hereafter be made, notice of such extensions and/or modifications to the SURETY being hereby waived, and any maintenance, repair, guaranty and warranty required under the Contract, then this obligation to be null and void; otherwise they remain in full force and effect.

PAYMENT BOND

A suit or action commenced hereunder shall comply with applicable Provisions of the Public General Laws of Maryland. No suit or action shall be commenced hereunder against the OBLIGEE, its successors or assigns, nor shall OBLIGEE be liable for any costs or expenses of such suit.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument under their several Seals on the date indicated above, the Name and corporation seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

ATTEST: as to principal

SIGNATURE

SIGNATURE

PRINT NAME

PRINT NAME AND TITLE (SEAL)

ATTEST: as to surety

SIGNATURE

SIGNATURE

PRINT NAME

PRINT NAME AND TITLE (SEAL)

AGENT (COMPANY): _____

AUTHORIZED BY: _____
NAME AND TITLE

PAYMENT BOND

APPROVED:

APPROVED:

Mayor of Baltimore City

Director of General Services

Comptroller

Chief, Capital Projects & Energy Division
Department of General Services

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

APPROVED BY BOARD OF ESTIMATES:

Chief Solicitor

Clerk

Date

SECTION 01 1100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. **This section supersedes Section 011100 of the City of Baltimore Standard Specifications, 2006 (Green Book).**

1.2 SUMMARY

- A. Section Includes:
 - 1. Project information.
 - 2. Work covered by Contract Documents.
 - 3. Phased construction.
 - 4. Work by Owner.
 - 5. Work under separate contracts.
 - 6. Owner-furnished products.
 - 7. Access to site.
 - 8. Specification and Drawing conventions.
 - 9. Miscellaneous provisions.

1.3 PROJECT INFORMATION

- A. Project Identification: **CONTRACT NO. GS 19817R**
 - 1. Project Location: **15 Guilford Avenue Baltimore, MD 21202**
 - 2. Contact: **Craig Keenan**; see "Owner" below for contact information.
- B. Owner: Baltimore City Department of General Services, 200 Holliday St., Suite 204, Baltimore MD 21202.
 - 1. Owner Contact Information:
 - a. Address: Baltimore City Department of General Services Capital Projects Division, 200 Holliday Street, Suite 204 Baltimore Maryland 21202
 - b. Phone: 410-545-6072
 - 2. The Parking Authority of Baltimore City (PABC) is authorized pursuant to City Code (Article 31, Subsection 13) to manage the Baltimore Street Garage for the owner.

C. Architect/Engineer: **EBA Engineering, Inc.**

1. Address: **4813 Seton Drive Suite 100 Baltimore, MD 21215**
2. Phone: **410 844 3368**
3. Contact: **Heather Macon**

D. Architect's/Engineer's Consultants: Architect/Engineer has retained the following design professionals who have prepared designated portions of the Contract Documents:

1. **AS Architects Inc.**

- a. Address: **780 Elkridge Ldg Rd, Suite 200, Linthicum, MD 21090**
- b. Phone: **410 8504565**

2. **Min Engineering, Inc.**

- a. Address: **10 Sudbrook Ln, Pikesville, MD 21208**
- b. Phone: **410 4864692**

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. **Contract Drawings**
2. **Contract Specifications**

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.5 PHASED CONSTRUCTION

A. All Work shall be completed in a single phase.

1.6 ACCESS TO SITE

A. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.7 WORK RESTRICTIONS

A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other

requirements of authorities having jurisdiction.

2. Comply with Section 011400 of the City of Baltimore Standard Specifications, 2006 (Green Book).

- B. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet of entrances, operable windows, or outdoor-air intakes.

1.8 MISCELLANEOUS PROVISIONS

- A. References within the Drawings or Specifications to other Drawings or specifications indicate the potential existence of additional information. If no additional information exists within the referenced drawing or specification, the Contractor shall remain responsible for the installation of the Work indicated or graphically depicted. Where the Work typically would be structural or load bearing in nature, the Contractor shall provide reinforcement, bracketing, bracing or otherwise attach such work as indicated within similar details existing within the Drawings and/or Specifications. It is also the Contractor's responsibility to seek clarification for such items prior to submission of a bid; it shall be deemed that the Contractor understands the extent of Work both indicated and graphically depicted.

1.9 PROJECT CONSTRUCTION DURATION

- A. Project Construction Duration: 180 calendar days

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1100

SECTION 01 1400 - WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 USE OF PREMISES

- A. Use of Site: The Parking Authority of Baltimore (PABC) and its on-site Operator manage the garage for the City of Baltimore. The garage consists of 510 parking spaces south of City Hall, taken primary during week-day business hours (7AM – 6PM) by monthly commuters, other daytime transient patrons; and during evening and week-end hours by residents living in the area.

Please note that Garage contains East and West Bays on seven levels, with two-way drive lanes. PABC and its on-site Operator, will work cooperatively with the winning contractor bidder to assist in developing the schedule by garage floor with the Contractor and communicating the work schedule to garage patrons.

Limit use of premises to work in areas indicated. Do not disturb, store materials in, or occupy portions of site beyond areas in which the Work is indicated.

The Baltimore Street Garage will remain open to the public **at all times, during the work.** Public elevators and stairwells inside the Garage may not be blocked entirely, only one elevator and its adjacent stair well will be allowed to be blocked at a time. Contractor must give 7 days notice to PABC before blocking.

1. Owner Occupancy: Allow for Owner occupancy of site and use by the public.
2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, public who legally park in the Garage and emergency vehicles at all times. Retail tenants must be allowed access to their spaces and equipment all the time. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

Repair damage caused by construction operations. Protect building and its occupants during construction period.

- B. Work Hours: Work shall be limited to 7AM to 5PM, Monday through Friday. Work will be permitted on Saturdays from 9AM to 5PM only with written permission granted by Owner. All Garage striping work must be done after 7PM (EST) on a Sunday/Monday/Tuesday/Wednesday/Thursday evening, or on Saturday between 7AM and 7PM.

Power-Jet Cleaning work must be done after 7PM (EST) on a Sunday/Monday/Tuesday/Wednesday/Thursday evening. Plumbing work which effects the retail Tenants should be done when the retail tenants establishment is closed.

- C. PABC and its on-site Operator will provide an area within the garage as a central location to store Contractor's materials and other equipment, but security for the same will be strictly the responsibility of the Contractor.
- D. Work per the EBA Engineering Plumbing drawings may **not** be undertaken by Contractor at the same time as the work under the EBA Engineering Structural drawings.
- E. The Contractor shall submit a phasing plan prior to starting work. Only one level or two bays of the garage may be closed at any one time, and a maximum of 76 parking spaces may be taken at any one time to perform the work.
- F. For work under the Mechanical drawings, PABC and its on-site Operator will block off all spaces necessary **to complete the work on all levels of the Garage.**
- G. The Contractor will maintain a two-way (incoming and outgoing) traffic or drive lane around the work area at all times. If the work requires reducing the garage traffic lanes to one lane at any time, Contractor will provide traffic management personnel to guide patrons entering or exiting the area.
- H. The Garage has two (2) incoming vehicular entrances along Fayette Street and Guilford Street and only (1) outgoing exit along Guilford Avenue. Contractor must maintain an incoming entrance and outgoing exit lane for public use at all times.
- I. Contractor shall adhere to section 01 14 23 of the City of Baltimore standard Specifications, 2006 (Green book) regarding Noisy Work Restrictions.
- J. Contractor will supply all power and water necessary to complete the repair work and will not rely on the Garage's electrical and water sources.
- K. Contractor must be ready with a sufficient supply of traffic barrels, traffic cones, signage and other such devices that will delineate and rope off work areas in order to keep garage patrons away from the work areas.
- L. Contractor will clean and maintain all work areas, and remove all debris, dust etc., related to the repair work in any part of the garage. Contractor will be responsible for protecting all customer vehicles and for providing car washings during the workday where necessary.
- M. Contractor will cause its employees and subcontractors to act in a professional and respectful manner on Garage Property during the workday, restricting loud music, profanity, or other inappropriate public displays.
- N. PABC on-site Operator will be responsible for all de-icing and snow removal from the garage. EBA Engineering, the Engineer of Record, will provide guidance regarding ice and snow removal in impacted work areas.

- O. PABC will provide ten (10) parking passes to Contractor, its employees and/or subcontractors to Park Company or individually-owned vehicles in the garage, at no cost, provided the height of the vehicles fall under the Garage's 6' 10" clearance.

1.3 OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy site and existing building during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 1400

SECTION 01 2100 – ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Quantity allowances.
- C. Related Requirements:
 - 1. Section 01 2200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.

1.3 DEFINITIONS

- A. Allowance is a quantity of work or dollar amount established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.4 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Architect/Engineer of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed by the Owner to avoid delaying the Work.
- B. At Architect's/Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Architect/Engineer from the designated supplier.

1.5 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work

1.7 QUANTITY ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials ordered by Owner or selected by Architect/Engineer under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials ordered by Owner or selected by Architect/Engineer under allowance shall be included as part of the Contract Sum and not part of the allowance.
- C. Unused Materials: Return unused materials purchased under an allowance to manufacturer or supplier for credit to Owner, after installation has been completed and accepted.
 - 1. If requested by Architect/Engineer, retain and prepare unused material for storage by Owner. Deliver unused material to Owner's storage space as directed.

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in- place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
 - 3. Submit substantiation of a change in scope of Work, if any, claimed in Change Orders related to unit-cost allowances.
 - 4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No 1: **Shoring of Structure.**
 - 1. This item of work shall include temporary shoring of the structure (if required) for doing the repair works as specified in the contract documents. Price shall include temporary shoring the structural member during the repair procedures, including labor, material and equipment as required.
 - 2. Payment for this item will be made on time and material basis and it shall not exceed contract lump Sum amount.

END OF SECTION 01 2100

SECTION 01 2200 – UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for unit prices.

1.2 DEFINITIONS

- A. Unit price is an amount incorporated into the Agreement, applicable during the duration of the Work as a price per unit of measurement for materials, equipment, or services, or a portion of the Work, added to or deducted from the Contract Sum by appropriate modification, if the scope of Work or estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURE

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit and incidentals necessary to complete the work, including the services of the manufacturer's representative as directed by the Engineer. Unit Price should include restripe work where necessary to do the pavement marking (if required) at the Garage if affected or disturbed by the repair work.
- B. Measurement and Payment: See individual Specification Sections for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections.
- C. Owner reserves the right to reject Contractor's measurement of work-in- place that involves use of established unit prices and to have this work measured, at Owner's expense, by an independent surveyor acceptable to Contractor.
- D. List of Unit Prices: A schedule of unit prices is included in Part 3. Specification Sections referenced in the schedule contain requirements for materials described under each unit price.
- E. Variation in Estimated Quantities: Delete paragraph D of the City Standard Specifications Section 0021 13.16 and paragraph D of the Section 01 26 34, replace with the following: The Contractor shall be aware that the quantities provided are estimated, for bidding purpose only, and may be increased, decreased, or eliminated entirely. The Contractor will be paid on the basis of per unit cost of the work item based upon work actually performed and accepted by the Engineer.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF UNIT PRICES

A. List of Unit Prices: A list of unit prices follows.

1. Unit Price No 1:
 - a. Description: Epoxy Crack Injection (For horizontal, Vertical & Overhead), Repair Procedure 5/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: LF
2. Unit Price No. 2:
 - a. Description: Shallow Concrete Spall repair with or without exposed Reinforcement (For Floor top surface), Repair Procedure 2/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
3. Unit Price No. 3:
 - a. Description: Shallow Concrete Spall repair with or without exposed Reinforcement (For all Vertical surfaces), Repair Procedure 3/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
4. Unit Price No. 4:
 - a. Description: Shallow Concrete Spall repair with or without exposed Reinforcement (For overhead/slab & Beam soffit), Repair Procedure 2/S108 & 4/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
5. Unit Price No. 5:
 - a. Description: Deep Concrete Spall repair with exposed rebar (For Floor top surface), Repair Procedure 1/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
6. Unit Price No. 6:
 - a. Description: Deep Concrete Spall repair with exposed rebar (For all Vertical surfaces), Repair Procedure 3/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
7. Unit Price No. 7:
 - a. Description: Deep Concrete Spall repair with exposed rebar (For Overhead/slab & beam soffit), Repair Procedure 1/S108 & 4/S108, as described in Division 3 Section 03 0130.71 and as shown on Drawings.
 - b. Unit of Measurement: SF
8. Unit Price No. 8:
 - a. Description: Heavy Vehicular Traffic Coating (For concrete floor Deck), Repair Procedure 1/S109, as described in Division 7 Section 07 1816 and as shown on Drawings.
 - b. Unit of Measurement: SF
9. Unit Price No. 9:
 - a. Description: Demolition of existing sealant interior/exterior, as described in Division 7 Section 07 9200 and as shown on Drawings A102, A103, A301, A302 & A501.
 - b. Unit of Measurement: LF

10. Unit Price No. 10:
- a. Description: Install Interior or Exterior silicon sealant with backer rod, as described in Division 7 Section 07 9200 and as shown on Drawings A102, A103, A301, A302 & A501.
 - b. Unit of Measurement: LF

END OF SECTION 01 2200

SECTION 01 2500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 01 6000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.
 - 3. Compatibility: Compatibility shall be determined by the Architect/Engineer and Owner at the time of the substitution request. Products shall not be considered compatible if the products require the Owner to purchase or maintain attic stock, maintenance stock or replacement parts of two different products that perform the same function.

1.4 ACTION SUBMITTALS

- A. **See Section 012513 of the City of Baltimore Standard Specifications, 2006 (Green Book).**

1.5 **QUALITY ASSURANCE**

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.6 **PROCEDURES**

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 - PRODUCTS

2.1 **SUBSTITUTIONS**

- A. **See Section 012513 of the City of Baltimore Standard Specifications, 2006 (Green Book).**

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 2500

REQUEST FOR SUBSTITUTION FORM

Attachment to Section 012500 Substitution Procedures

1. Date: _____ Request Number: _____
2. Project Name: _____
3. Specification Reference: _____
4. Description of Specified Product or System:

5. Trade Name, Model Number and Name of Proposed Substitution:

6. What effect does the substitution have on applicable code requirements?

7. Differences between proposed substitution and specified item? (if required use attachment for additional space.)

8. Manufacturer's Warranty on proposed and specified items are: ☐ Same ☐ Different
Explain:

9. Reason for Requesting Substitution:

10. Monetary Considerations:
 - a. Specified Product: _____ \$ _____
 - b. Proposed Substitution: _____ \$ _____
11. Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution?

12. Enclosed data consists of:
☐ Catalog ☐ Drawings ☐ Samples ☐ Tests ☐ Reports _____

13. List availability of maintenance service and replacement material: _____

14. State effects of substitution on construction schedule and changes required in other work or products: _____

15. Any license fees or royalties: ☐ Yes ☐ No

UNDERSIGNED certifies:

- Proposed substitution have been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for product specified.
- Same maintenance service and source of replacement parts as applicable is available.
- Proposed substitution will not riot affect or delay Progress Schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived by the Contractor.
- Proposed substitution does not affect dimensions or functional clearances.
- Payment will be made for changes to building design including architectural or engineering design, detailing, and construction costs caused by proposed substitution.
- Coordination, installation, and changes to the Work as necessary for an accepted substitution will be complete in all respects.

Submitted by:
Owner

Signature _____

Firm _____

Address _____

Date _____

Telephone _____

Fax _____

Approved by Construction Manager (if applicable) _____

By: _____

For use by Architect/Engineer and

Accepted ☐ Accepted as Noted ☐

Not Accepted ☐ Received Too Late ☐

By: _____

Date: _____

REQUEST FOR SUBSTITUTION

END FORM

SECTION 01 3300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Engineer's approval. Submittals may be rejected for not complying with requirements.

1.4 SUBMITTAL PROCEDURES

- A. General: Electronic copies of CAD Drawings of the Contract Drawings will be provided by Engineer for Contractor's use in preparing submittals upon request.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Contractor shall submit a schedule of submittals, presented in chronological order, with proposed submittal data, descriptions, etc.
 - 2. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 - 3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal.
 - 1. Initial Review: Allow 7 days for initial review of each submittal. If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 2. Allow 7 days for processing each resubmittal.

3. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
- D. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
 2. Provide a space approximately 4 by 5 inches on label or beside title block to record Contractor's review and approval markings and action taken by Engineer.
 3. Include the following information on label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of Engineer.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Unique identifier, including revision number.
 - i. Number and title of appropriate Specification Section.
 - j. Drawing number and detail references, as appropriate.
 - k. Other necessary identification.
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.
- F. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions of the Contract Documents, initial submittal may serve as final submittal.
- G. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Engineer will discard submittals received from sources other than Contractor.
1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
- H. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities.
- I. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.
- J. Shop Drawings: Sepias of other photographic reproductions of the structural drawings are not allowed as a base for the shop drawings and shall be cause for resubmittal. Submit the following to A/E for fabrication and placement.

1. Dimensioned tendon layout locating tendons in horizontal plane.
 2. Tendon profile locating centerline of prestress force at maximum 4 foot intervals with respect to bottom of post-tensioned element. Show chairs, chair heights, location of support steel, and other information regarding tendon support methods.
 3. End anchorage details.
 4. Jacking forces, initial and anchorage.
 5. Required elongations.
 6. Clearance requirements for stressing equipment.
- K. Anchorages: Submit dynamic test data, for anchorages to verify fatigue properties are adequate to sustain maximum number and stress variations of loads anticipated during entire service life.
- L. Losses: Submit calculations showing assumed losses for prestressing materials according to PCI "Losses".
- M. Deviations: Should proposed materials and methods deviate from those shown on drawings or specifications, submit calculations analyzing the materials and methods proposed.
- N. Changes: Do not incorporate proposed changes into the fabrication and placement details unless approved in writing. Do not make changes in details after approval.
- O. Mill Tests: Submit certified mill test results and typical stress strain curves.
- P. Calibration: Submit certified calibration test curves and results for stressing system.
- Q. Qualification Data: Submit data verifying qualification of specialty firm and foremen including references.
- R. Standards: Submit letter stating that specialty firm has in their possession and will have on the jobsite copies of referenced standards and that management and foreman are knowledgeable about provisions that relate to this project.
- S. Measurement of Elongations: Submit narrative and details showing means of measuring elongations, tolerances for measurement, and name of independent firm to measure or verify elongations.

PART 2 - PRODUCTS

2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
1. Number of Copies: Submit four copies of each submittal, unless otherwise indicated. Engineer will return two copies. Mark up and retain one returned copy as a Project Record Document.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product.
1. Mark each copy of each submittal to show which products and options are applicable.
 2. Include the following information, as applicable:

- a. Manufacturer's written recommendations.
 - b. Manufacturer's product specifications.
 - c. Manufacturer's installation instructions.
 - d. Standard color charts.
 - e. Manufacturer's catalog cuts.
 - f. Compliance with recognized testing agency standards.
 - g. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
 - 1. Preparation: Include the following information, as applicable:
 - a. Dimensions.
 - b. Identification of products.
 - c. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
 - d. Shopwork manufacturing instructions.
 - e. Templates and patterns.
 - f. Schedules.
 - g. Design calculations.
 - h. Compliance with specified standards.
 - i. Notation of coordination requirements.
 - j. Notation of dimensions established by field measurement.
 - 2. Number of Copies: Submit three blue- or black-line prints of each submittal.

2.2 INFORMATIONAL SUBMITTALS

- A. General: Prepare and submit Informational Submittals required by other Specification Sections.
 - 1. Number of Copies: Submit two copies of each submittal, unless otherwise indicated. Engineer will not return copies.
- B. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- C. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements. Submit record of Welding Procedure Specification (WPS) and Procedure Qualification Record (PQR) on AWS forms. Include names of firms and personnel certified.
- D. Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific Project.
- E. Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- F. Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.

- G. **Material Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- H. **Compatibility Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- I. **Field Test Reports:** Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- J. **Product Test Reports:** Prepare written reports indicating current product produced by manufacturer complies with requirements. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- K. **Manufacturer's Instructions:** Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:
 - 1. Preparation of substrates.
 - 2. Required substrate tolerances.
 - 3. Sequence of installation or erection.
 - 4. Required installation tolerances.
 - 5. Required adjustments.
 - 6. Recommendations for cleaning and protection.
- L. **Manufacturer's Field Reports:** Prepare written information documenting factory-authorized service representative's tests and inspections. Include the following, as applicable:
 - 1. Name, address, and telephone number of factory-authorized service representative making report.
 - 2. Statement on condition of substrates and their acceptability for installation of product.
 - 3. Statement that products at Project site comply with requirements.
 - 4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
 - 5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
 - 6. Statement whether conditions, products, and installation will affect warranty.
 - 7. Other required items indicated in individual Specification Sections.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ENGINEER'S ACTION

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Engineer] will forward each submittal to appropriate party.
- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 3300

SECTION 01 5000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities include, but are not limited to, the following:
 - 1. Sanitary facilities, including toilets and wash facilities.
 - 2. Ventilation.
- C. Security and protection facilities include, but are not limited to, the following:
 - 1. Security enclosure and lockup.
 - 2. Barricades, warning signs, and lights.
 - 3. Temporary enclosure of work areas to prevent the spread of dust.
 - 4. Temporary protection of areas adjoining the area of work from debris. Contractor shall pay particular attention to prevention of debris falling through openings in the central shear walls of the garage.

1.3 POWER AND WATER

- A. Water Service: Contractor shall provide water and not rely on water to be provided by the owner.
- B. Electric Power Service: Contractor shall provide power and not rely on electric power to be provided by the owner.

1.4 QUALITY ASSURANCE

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
 - 1. Trade Jurisdictions: Assigned responsibilities for installation and operation of temporary utilities are not intended to interfere with trade regulations and union jurisdictions.
 - 2. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

1.5 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
 - 1. Keep temporary services and facilities clean and neat.
 - 2. Relocate temporary services and facilities as required by progress of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Engineer. Provide materials suitable for use intended.
- B. Tarpaulins: Fire-resistive labeled with flame-spread rating of 15 or less.
- C. Water: Potable.

2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
- C. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized steel bases for supporting posts.
- D. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.

- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. Sanitary Facilities: Provide temporary toilets and wash facilities, to be located at the site. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
 - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.
 - 3. Wash Facilities: Install wash facilities supplied with potable water at convenient locations for personnel who handle materials that require wash up. Dispose of drainage properly. Supply cleaning compounds appropriate for each type of material handled.
- D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment from that specified that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
- E. Electric Distribution: Provide receptacle outlets adequate for connection of power tools and equipment.
 - 1. Provide waterproof connectors to connect separate lengths of electrical power cords if single lengths will not reach areas where construction activities are in progress. Do not exceed safe length-voltage ratio.
 - 2. Provide 4-gang outlets, spaced so 100-foot (30-m) extension cord can reach each area for power hand tools and task lighting. Provide a separate 125-V ac, 20-A circuit for each outlet.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.2 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Locate temporary construction and support facilities for easy access within the area under construction allocated by the owner.
- B. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste.

3.3 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
 - 1. The Contractor shall provide or furnish maintenance of traffic equipment and personnel to provide for the safety and free flow of pedestrian and vehicular traffic throughout the course of the work.
- B. Parking: The Parking Authority will provide the Contractor with 10 (ten) parking spaces within the garage, free of charge. The Contractor shall not park vehicle at on-street metered spaces. If additional parking or staging areas are required on the street, the Contractor shall obtain a Right of Way Permit for the use of that area.

3.4 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. At Substantial Completion, clean and renovate permanent facilities used during construction period.

END OF SECTION 01 5000

SECTION 01 7310 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes procedural requirements for cutting and patching at repair locations.
- B. Related Sections include the following:
 - 1. Divisions 2 through 32 (as specified in the table of contents of contract documents) Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.3 DEFINITIONS

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.4 QUALITY ASSURANCE

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 1. Primary operational systems and equipment.
 - 2. Air or smoke barriers.
 - 3. Fire-protection systems.
 - 4. Control systems.
 - 5. Communication systems.
 - 6. Conveying systems.
 - 7. Electrical wiring systems.
 - 8. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity

to perform as intended, or that results in increased maintenance or decreased operational life or safety.

1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Exterior curtain-wall construction.
 4. Equipment supports.
 5. Piping, ductwork, vessels, and equipment.
 6. Noise- and vibration-control elements and systems.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - 3. Floors, Ceilings, beam soffit and Walls: Where walls, Ceiling, or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove existing floor, ceiling and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface

containing the patch. Provide additional coats until patch blends with adjacent surfaces.

Ceilings and beam soffits: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance. Painting for the ceiling and underside of the beams at repair areas is applicable similar to the floors and wall as described above.

- 4.
5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 01 7310

SECTION 01 7419 -CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
- B. International Green Construction Code, as amended by Baltimore City.

1.2 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Generation of a Construction Material and Waste Management Plan.
 - 2. Salvaging nonhazardous demolition and construction waste.
 - 3. Recycling nonhazardous demolition and construction waste.
 - 4. Disposing of nonhazardous demolition and construction waste.

1.3 DEFINITIONS

- A. Construction Waste: Building and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building and site improvement materials resulting from demolition or selective demolition operations.
- C. Disposal: Removal off-site of demolition and construction waste and subsequent sale, recycling, reuse, or deposit in landfill or incinerator acceptable to authorities having jurisdiction.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

1.4 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling exceeding 75 percent by weight of total non-hazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials.
- B. Maximum Construction Waste per Square Foot: Achieve an end-of-Project landfill disposal less than four pounds of waste per square-foot of project building area, not including exterior and hardscape waste.

1.5 ACTION SUBMITTALS

- A. Construction Material and Waste Management Plan: Submit plan within 7 days of date established for the Notice to Proceed. Include the following in the Plan:
 - 1. Site diagram indicating the locations for collection, separation, and storage of recyclable construction waste.
 - 2. List of materials that the General Contractor will divert from disposal by the following methods:
 - a. Efficient usage.
 - b. Recycling.
 - c. Reuse.
 - d. Manufacturer's reclamation.
 - e. Salvage for reuse.
 - f. Donation or sale.
 - 3. Total poundage of construction waste allowed to be disposed of in landfill, based on a unit rate of four pounds of waste per square-foot of project area.

1.6 INFORMATIONAL SUBMITTALS

- A. Section includes administrative and procedural requirements governing allowances.
 - 1. Material category.
 - 2. Generation point of waste.
 - 3. Total quantity of waste in tons.
 - 4. Quantity of waste salvaged, both estimated and actual in tons.
 - 5. Quantity of waste recycled, both estimated and actual in tons.
 - 6. Total quantity of waste recovered (salvaged plus recycled) in tons.
 - 7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.
 - 8. Running cumulative total poundage of waste disposed of in landfills for the project to date, tallied against the indicated total allowable poundage.
- B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.
- C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.
- D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.
- E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

- F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- G. Qualification Data: For waste management coordinator and refrigerant recovery technician.
- H. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

1.7 QUANTITY ALLOWANCES

- A. Refrigerant Recovery Technician Qualifications: Certified by EPA-approved certification program.
- B. Regulatory Requirements: Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Waste Management Conference: Conduct conference at Project site. Review methods and procedures related to waste management including, but not limited to, the following:
 - 1. Review and discuss waste management plan including responsibilities of waste management coordinator.
 - 2. Review requirements for documenting quantities of each type of waste and its disposition.
 - 3. Review and discuss the total allowable poundage of landfill waste for the project indicated, calculated on a project square-footage basis.
 - 4. Review and finalize procedures for materials separation and verify availability of containers and bins needed to avoid delays.
 - 5. Review procedures for periodic waste collection and transportation to recycling and disposal facilities.
 - 6. Review waste management requirements for each trade.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to ASTM E 1609 and requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Distinguish between demolition and construction waste. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.
- C. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: Materials will not be reused in this Project.
 2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
 3. Salvaged Materials for Donation: For materials that will be donated to individuals and organizations, include list of their names, addresses, and telephone numbers.
 4. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
 5. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
 6. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.
- D. Cost/Revenue Analysis: Indicate total cost of waste disposal as if there was no waste management plan and net additional cost or net savings resulting from implementing waste management plan. Include the following:
1. Total quantity of waste.
 2. Estimated cost of disposal (cost per unit). Include hauling and tipping fees and cost of collection containers for each type of waste.
 3. Total cost of disposal (with no waste management).
 4. Revenue from salvaged materials.
 5. Revenue from recycled materials.
 6. Savings in hauling and tipping fees by donating materials.
 7. Savings in hauling and tipping fees that are avoided.
 8. Handling and transportation costs. Include cost of collection containers for each type of waste.
 9. Net additional cost or net savings from waste management plan.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
- B. Waste Management Coordinator: Engage a waste management coordinator to be responsible for implementing, monitoring, and reporting status of waste management work plan.
- C. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.
 1. Distribute waste management plan to everyone concerned within three days of submittal return.

- D. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

- 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged, recycled, reused, donated, and sold.

3.2 SALVAGE DEMOLITION WASTE

- A. Salvaged Items for Sale and Donation: Not permitted on Project site.
- B. Salvaged Items for Owner's Use: Salvage items for Owner's use and handle as follows:
 - 1. Clean salvaged items.
 - 2. Pack or crate items after cleaning. Identify contents of containers with label indicating elements, date of removal, quantity, and location where removed.
 - 3. Store items in a secure area until delivery to Owner.
 - 4. Transport items to Owner's storage area designated by Owner.
 - 5. Protect items from damage during transport and storage.

3.3 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL

- A. General: Recycle paper and beverage containers used by on-site workers.
- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.

3.4 RECYCLING DEMOLITION WASTE

- A. Concrete: Remove metal reinforcement and other metals from concrete and sort with other metals.
 - 1. Pulverize concrete to maximum 1-1/2-inch size
- B. Masonry: Remove metal reinforcement, anchors, and ties from masonry and sort with other metals.
- C. Wood Material: Sort and stack members according to size, type, and length. Separate lumber, engineered wood products, panel products, and treated wood materials.

3.5 RECYCLING CONSTRUCTION WASTE

- A. Packaging:
 - 1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location
 - 2. Polystyrene Packaging: Separate and bag materials.

3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

1. Clean Gypsum Board: Grind scraps of clean gypsum board using small mobile chipper or hammer mill. Screen out paper after grinding.

3.6 DISPOSAL OF WASTE

A. Limitations: Baltimore City Building Code establishes a limit for construction waste disposal in landfills to four pounds per-square-foot of project area, excluding exterior and hardscape waste materials.

1. General Contractor shall be responsible for satisfying this landfill waste poundage limit
2. General Contractor must cumulatively track and log total waste poundage disposed of in landfills across the project.
3. General Contractor must adjust the Construction Material and Waste Management Plan as necessary, as the project progresses to ensure the final total poundage of landfilled waste will meet the indicated allowable per-square-foot limit.

B. General: Except for items or materials to be salvaged, recycled, or otherwise reused, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Burning: do not burn waste materials.

D. Disposal: Remove waste materials from Owner's property and legally dispose of them.

END OF SECTION 01 7419

SECTION 01 7839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.
 - 1. **See Section 017839 of the City of Baltimore Standard Specifications, 2006 (Green Book).**
- B. **Applicable Sections of the 2006 edition of the City of Baltimore Department of Public Works Specifications ("Green Book"),**

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for project record documents, including the following:
 - 1. As-Built Drawings
 - 2. Record Specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.

1.3 CLOSEOUT MATERIALS

- A. As-Built Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of As-Built Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up prints.
 - 2) Submit electronic files in AutoCAD 2016 and/or Revit 2016 format, incorporating the marked-up changes reflected in the prints.
 - 3) Architect/Engineer will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit record digital As-Built Drawings in AutoCAD 2016 and/or Revit 2016 format, and one set of record digital data file plots.
 - 2) Plot each drawing file, full-size and bind into one set, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories of each submittal.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 1. Preparation: Mark record prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations below first floor.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's/Engineer's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.

4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
 5. Note related Change Orders and record Drawings where applicable
- B. Format: Submit record Specifications as scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders and record Drawings where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- B. Format: Submit miscellaneous record submittals as scanned PDF electronic file(s) of marked-up miscellaneous record submittals.
 1. Include miscellaneous record submittals directory organized by Specification Section-number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for project record document purposes. Post changes and revisions to project record documents as they occur; do not wait until end of Project.
- B. Maintenance of Record Documents and Samples: Store record documents and Samples in the field office apart from the Contract Documents used for construction. Do not use project record documents for construction purposes. Maintain record documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to project record documents for Architect's/Engineer's reference during normal working hours.

END OF SECTION 01 7839

SECTION 03 1517 - CONCRETE FORMWORK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. This Section specifies labor, materials, equipment, and services necessary for and reasonably incidental to the design, construction, and removal of formwork for cast-in-place concrete.

1.2 QUALITY ASSURANCE

- A. Formwork shall conform to the requirements and provisions of the following publications. In the ACI publications referred to herein, the advisory provisions shall be considered mandatory, as though the word “shall” has been substituted for “should” wherever it appears”.
 - 1. American Concrete Institute (ACI) 301-10 “Specifications for Structural Concrete”.
 - 2. American Concrete Institute (ACI) 318-11 “Building Code Requirements for Structural Concrete”.
 - 3. American Concrete Institute (ACI) 347-04 “Guide to Formwork for Concrete”.

1.3 RESPONSIBILITY FOR FORMWORK

- A. Form design, engineering, erection, construction, bracing, shoring, stripping, removal, reshoring, etc., are the Contractor’s complete responsibility.

1.4 SUBMITTALS

- A. Samples or Manufacturers Literature: Furnish for the following materials for approval prior to construction:
 - 1. Form Ties
 - 2. Form oils, release agents, parting compounds
 - 3. Plywood and fiberglass forms for exposed concrete
- B. Formwork Shop Drawing Submittal: Shop Drawings of typical areas of forms and concrete work shall be submitted prior to fabrication and assembly. Show and coordinate

layout and arrangement of construction joints, form panel joints and spacing of wall form ties for the full height of each wall. Shop drawings submittal shall be signed and sealed by Professional Engineer registered in the state in which the Project is located. Review of shop drawings is for general conformance to member dimensional requirements and architectural applications and features only. The design of the formwork for structural stability and sufficiency shall be the Contractor's responsibility. Shop drawing submittal shall include and clearly indicate but not limited to the following:

1. Size, type, and quality of form materials including conditions at tops and ends of walls. (If wood is used, indicate species.)
2. Detailed form construction indicating structural stability and joining including special form joints or reveals required by Contract Documents.
3. Location and pattern of form tie placement, and other items that affect the appearance of concrete that will remain exposed to view.
4. Form finish clearly indicating proper locations and full coordination with concrete finishes required by Contract Documents.
5. The design loads and rate of placing concrete shall be noted on shop drawings.
6. Product Data: Copies of manufacturers' product data and installation instructions or proprietary materials used in exposed concrete work, including form liners, release agents, manufactured form systems, ties, and accessories.
7. Compatibility Certification: Contractor shall certify that form release agent used is compatible with subsequent architectural finish materials applied to concrete surfaces. Submit along with manufacturer's data.
8. Installation Certificate: Contractor shall certify that formwork meets requirements of Contract Documents including allowable tolerances.

PART 2 - PRODUCTS

2.1 FORMS FOR UNEXPOSED CONCRETE

- A. Unexposed concrete surfaces shall be defined as the exterior surfaces of the concrete that will be below the finished grade around the structure and shall be permanently in contact with soil or the surface to be covered by face brick.
- B. Plywood – American Plywood Association (APA) graded, age sealed, sanded, grade marked High Density Overlay B-B Plyform Class I form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.

- C. Substantial Steel sheet metal for subgrade and other unexposed work. Clean the forms and remove nails when reusing.

2.2 FORMS FOR EXPOSED CONCRETE

- A. All concrete surfaces other than those defined as “unexposed concrete surface” in paragraph 2.01 shall be considered exposed concrete surfaces.
- B. Plywood – American Plywood Association (APA) graded, age sealed, sanded, grade marked High Density Overlay B-B Plyform Class I form-facing panels that will provide continuous, true, and smooth concrete surfaces. Furnish in largest practicable sizes to minimize number of joints.
- C. Steel sheet metal. Steel form surfaces shall not contain irregularities, dents or sags. Overlay shall not stain the surface of the concrete. Apply form sealer to all form surfaces in contact with finish faces of exposed concrete. Form sealer shall be compatible with paint and other finishes that will be applied to the concrete.

2.3 BRACING, WALERS, STUDS, SHORES, RESHORES

- A. Metal or suitable graded lumber, of substantial size and configuration for loads to be supported.

2.4 FORM TIES

- A. Form ties shall be of plastic cone type, with threaded steel rod or wire, and with waterstop, as approved. Submit sample prior to commencing formwork. Rod type or wire type shall have no metal closer than 1-1/2” to finish surface.

2.5 FORM OILS, RELEASE AGENTS, PARTING COMPOUNDS

- A. Approved release, parting or oil materials must be compatible with the selected forms, concrete and with future finish. Form release compounds shall effectively prevent the bond of the concrete to the forms and shall not cause discoloration of the concrete or adversely affect the quality or rate of hardening at the interface of the forms. Coat all forms properly before placing reinforcement and embedded items. Form oils, release agents or parting compounds shall not be dropped into the filters or left in wash water tanks.

PART 3 - EXECUTION

3.1 FORMWORK FUNCTIONAL DESIGN

- A. Formwork shall be capable of containing concrete in its plastic state without loss of water or cement paste, and be removable without damage to concrete surface and edges. Arrange formwork for convenient inspection, cleaning, depositing and placement of concrete and draining of water. Design all components (form panels, connections, shoring, bracing, supports, reshores) to resist all live and dead loads, (wind, reshores,

construction loads, traffic vibration) that will occur while in use. Design shall include the slow gain of concrete strength with age of previously cast members. Formwork shall be designed such that there is no deflection or weakness affecting established alignment of concrete surfaces. Provide all necessary shores, stringers, soffit forms and the like. Standard of formwork construction shall be ACI-347R.

3.2 FORMWORK CONFORMATION

- A. Construct formwork with minimum practicable tolerances to produce concrete work true to lines, dimensions, shapes, locations, grades, and elevations established on Contract Drawings. Provide all recesses, pockets, utility outlets, joints, keys and projections, notches and openings.

3.3 WORKMANSHIP AND INSTALLATION

- A. All workmanship shall be in the best formwork and carpentry practice. Formwork shall be installed with proper bracing, connections, rough hardware and proper fastenings for the anchoring materials, for a rigid, secure and complete job.
- B. Special Care Required: At exposed concrete.
- C. Framing and Blocking Lumber: Properly framed, closely fit, accurately set to required lines and levels, plumb, straight and true, and rigidly secure in place, with proper fastenings to adjacent materials.
- D. Construction Tolerances: Construction tolerances shall be in accordance with ACI 301.
- E. Joints, Openings, Recesses: Construct all indicated and required conditions, keys jointing details and openings in strict accordance with indicated details; consult Drawings of all trades. Joints not indicated on Drawings, but desired by Contractor for construction jointing in Project sequences, shall be so located and built as not to impair strength of structure. Contractor shall seek written approval in advance from the Engineer for additional or relocated joints.
- F. Protection for Re-Use: Provide protection and care in handling and stripping and re-use to assure continuing acceptability of condition of forms. Form units which are distorted, have an excessive number of patches, have delaminated areas of the plywood surface, etc. shall not be reused. Acceptability of forms to be re-used shall be as determined by the City.
- G. Avoidance of "Pillow-Effect" or "Form-Bulge": Provide adequate forming, bracing and tying as required. In addition, vertical rate-of-placement shall be controlled by the Contractor to avoid excessive liquid heads on formed faces prior to setting of concrete.
- H. Insets, Attachments, Accessories to be Embedded in Concrete: Proper location, setting, spacing, anchorage and coordination with reinforcing and all related trades are the Contractor's responsibility.

3.4 REMOVAL OF FORMS

A. Unless otherwise authorized, forms shall not be removed before the expiration of the minimum number of days implicit in the following table:

Walls*	1 day
Columns*	1 day
Sides of Beams and Girders	1 day
Pile Caps	1 day
Elevated Slabs	
Under 10 ft. clear span between Structural supports*	3 days
10 ft. to 20 ft. clear span between Structural supports*	4 days
Over 20 ft. clear span between Structural supports	7 days
Joists, Beams or Girder Soffits*	
Under 10 ft. clear span between Structural supports*	4 days
10 ft. to 20 ft. clear span between Structural supports*	7 days
Over 20 ft. clear span between Structural supports*	10 days

* Where such forms also support formwork for slab or beams, the removal times of the latter shall govern.

The times shown represent cumulative number of days, not necessarily consecutive, during which the temperature of the air surrounding the concrete is above 50°F.

B. Form removal shall be carried out in such a manner as to assure the complete safety and integrity of the formed surface of the structure. In no case shall any form or shoring be removed or disturbed until the concrete has thoroughly hardened and acquired sufficient strength to safely support its own weight and the live load upon it.

C. Sufficient shoring and reshoring shall be kept in place to properly support the concrete structure after the forms have been removed and until such time as it is no longer necessary. All forms shall be so designed as to permit this to be done. Reshoring of concrete beams and slabs shall take into account necessary spacing, dead and live loads, and the age and rate of gain of strength of concrete. Reshores shall remain in position at least 28 days. Reshoring shall be planned in advance and shall be subject to review by the City.

3.5 REJECTED MATERIAL

- A. Materials, deliveries, completed work or job conditions condemned or rejected by the City as failing to meet Contract Specification quality shall be removed and replaced without delay, at Contractor's expense, as directed by the City. The City's decisions shall be final and will be based solely on these Contract Specifications and engineering standards.

END OF SECTION 03 1517

SECTION 03 2100 - REINFORCING STEEL

DELETE Section 03 21 00 Reinforcing Steel of the City of Baltimore Department of Public Works Specifications for Materials, Highways, Bridges, and Incidental Structures, 2006 in its entirety and REPLACE with the following:

03 2100 REINFORCING STEEL

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
- B. This section specifies labor, materials, equipment, and services necessary for and reasonably incidental to complete furnishing and installation of all reinforcement for concrete structures.

1.2 QUALITY ASSURANCE

- A. Details and placement of concrete reinforcement and accessories shall conform to the following publications. In the ACI publications referred to herein, the advisory provisions shall be considered mandatory, as though the work “shall” has been substituted for “should” wherever it appears.
- B. American Concrete Institute (ACI)
 - 1. ACI 301-10 – “Specifications for Structural Concrete”.
 - 2. ACI SP-66(04) – “ACI Detailing Manual”.
 - 3. ACI 315 – “Details and Detailing of Concrete Reinforcement”.
 - 4. ACI 318 – “Building Code Requirements for Reinforced Concrete”.
- C. ASTM
 - 1. ASTM A185 – “Standard Specification for Steel Welded Wire Reinforcement, Plain for Concrete”.
 - 2. ASTM A615 – “Standard Specification for Deformed and Plain Carbon Steel Bars Concrete Reinforcement”.

3. ASTM A 82 – “Standard Specification for Steel Wire, Plain, for Concrete Reinforcement”.

D. Concrete Reinforcing Steel Institute (CRSI)

1. Manual of Standard Practice.
2. Placing Reinforcing Bars.

1.3 QUALITY CONTROL

- A. Furnish certified copy of mill tests on each heat, showing chemical and physical analysis to the City and the Inspector.

1.4 SUBMITTALS

- A. Submit shop drawings for approval prior to fabrication showing all fabrication dimensions, placement plans and bar lists with bar bending diagrams for all reinforcement. Shop drawings shall not be reprints of Contract Drawings. Shop drawings shall conform to the standards listed above.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Deformed Reinforcing Steel: ASTM A615, Grade 60.
- B. Accessories shall conform to the ACI Detailing Manual SP-66.
- C. Welded wire fabric: ASTM A185.

2.2 SUPPORTS

- A. Material for all supports shall be approved coated metal, plastic, plastic tipped, or galvanized, acceptable to the City. Aluminum is prohibited.

2.3 FABRICATION

- A. Fabricate each unit of reinforcement in accordance with approved shop drawings.
- B. Reinforcement shall be bent as required in ACI 318. The use of heat to bend or straighten reinforcing steel will not be permitted.

2.4 HANDLING AND STORAGE

- A. Reinforcement shall be shipped to the worksite with bars of the same size and shape fastened in bundles with metal identification tags indicating size and mark securely wired

on. The identification tag shall be labeled with the same designation as shown on the approved submittals.

- B. Reinforcement shall be stored off the ground, protected from moisture and kept from dirt, oil or injurious contaminants.

PART 3 - EXECUTION

3.1 WORKING DRAWINGS

- A. The Contractor shall submit Working Drawings to be approved by the City prior to the start of any fabrication unless otherwise specified.

3.2 PLACING AND FASTENING

- A. The lap length shall be as shown on the drawings. All hooks shall be detailed as ACI standard hooks unless otherwise indicated.
- B. Secure the reinforcement in such a manner that its displacement does not exceed the limits noted in ACI 301. The ends of all tie wires shall be bent away from forms.
- C. Reinforcement supported from an earth surface shall utilize precast concrete blocks in accordance with ACI 301. Masonry supports are not acceptable.
- D. Prior to placement of concrete, reinforcement shall be free of mud, oil, ice or other materials that may adversely affect or reduce the bond. Rust, seams, surface irregularities or mill scale shall not be cause for rejection provided the weight, dimensions, cross sectional area and tensile properties of a cleaned test specimen are not less than the requirements of the applicable ASTM specifications.

3.3 CLEAR COVER

- A. All reinforcement shall have a clear cover from the outside of the bar to the concrete surface as noted on Contract Drawings.

3.4 SPLICING

- A. Splices shall be used only where indicated on Contract Drawings. When splicing bars of different diameters, the minimum lap length is governed by the smaller diameter bar. Overlap welded wire fabric a minimum of 1'-0".

END OF SECTION 03 2100

SECTION 03 0130.71 - CONCRETE CRACK AND SPALL REPAIR

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 GENERAL DESCRIPTION

- A. Furnish labor, materials, equipment, and incidentals to provide concrete crack and spall repairs as specified herein and as shown on the Drawings.

1.3 QUALITY ASSURANCE

- A. Reference Standards: Comply with all Federal, State and Local laws or ordinances, as well as all applicable codes, standards, regulations and/or regulatory agency requirements, including the partial listing below:

1. American Society for Testing and Materials (ASTM).
2. Army Corps of Engineers (CRD).
3. NSF International (NSF).
4. International Concrete Repair Institute (ICRI)
5. American Concrete Institute (ACI)
6. American National Standards Institute (ANSI).

- B. Manufacturer's Instructions: In addition to specified requirements, strictly comply with Manufacturer's printed instructions and recommendations, including:

1. Preparation of substrate.
2. Storing.
3. Mixing and applying materials.
4. Water repellent treatment by others.

- C. Manufacturer Qualifications: Provide products of manufacturer with no less than ten years of experience in manufacturing the polyurethane crack injection materials and spall infill materials for the required concrete crack and spall repair work.

- D. Applicator Qualifications: Applicator shall be experienced in the installation of polyurethane crack injection materials as demonstrated by previous successful installations and shall be approved by the Manufacturer in writing.

- E. Pre-Installation Conference: Prior to concrete crack and spall repair work, conduct meeting with applicator, installers of work adjacent to or which covers concrete crack and spall repair, the Engineer and manufacturer's representative to verify and review the following:

1. Project requirements for concrete crack and spall repair as set out in Contract Documents, including the notes and details on the Drawings.
2. Manufacturer's product data including application instructions.
3. Substrate conditions, procedures for substrate preparation, and concrete crack repair.
4. Manufacturer's Representative: The manufacturer's representative shall provide technical consultation on crack injection application.

1.4 SUBMITTALS

- A. Comply with Standard Specification Section 01 33 00.
- B. Product Data:
 1. Comply with 01 3300.
 2. Submit manufacturer's technical data and complete installation instructions for required concrete crack repair.
 3. Submit test data from an independent testing laboratory for all physical properties listed herein.
- C. Applicator and Manufacturer Qualifications: Submit proof of qualifications required. Comply with Subsections 1.02.C. and D. above.
- D. Test Reports: Submit for acceptance, complete test reports from approved independent testing laboratories.
- E. Manufacturer's Certification:
 1. Provide certificates signed by manufacturer or manufacturer's representative certifying that the materials to be installed comply in all respects with the requirements of this specification, and that the applicator is qualified and approved to install the materials in accordance with manufacturer's product data.
 2. Provide manufacturer's statement of suitability for the conditions of installation.
 3. Provide certificates signed by manufacturer or manufacturer's representative certifying that the materials to be installed comply in all respects with American National Standards Institute (ANSI) and NSF International (NSF) standards for direct or indirect drinking water additives.
- G. Manufacturer's Field Report: Provide copy of report from manufacturer's representative confirming that the surfaces to which concrete crack and spall repair work is to be applied are in a condition suitable to receive same.
- H. Guaranty: Submit guaranty.
- I. The Contractor shall perform a complete field survey and detail all areas of proposed concrete crack and spall repair work for the task and submit shop drawings including repair quantities to the City for approval.

1. Locate areas of deteriorated or delaminated concrete using hammer or chain-drag sounding and mark boundaries. Mark areas for removal by simplifying and squaring off boundaries.

1.5 GUARANTY

- A. **Manufacturer's Guaranty:** Manufacturer shall provide standard product guaranty as indicated in each product's literature executed by authorized company official. Term of guaranty shall be one year minimum from Date of Beneficial Occupancy.
- B. **Contractor's Guaranty:** Contractor shall guaranty the concrete crack and spall repair work against defects caused by faulty workmanship or materials for a period of not less than one year from Date of Beneficial Occupancy. The guaranty shall cover the surfaces treated and will bind the applicator to repair, at his expense, any and all leaks through the treated surfaces which are not due to structural weaknesses or other causes beyond applicator's control such as fire, earthquake, tornado and hurricane. The guaranty shall read as follows:
 1. **Guaranty:** The Contractor warrants that, upon completion of the work, surfaces treated with concrete crack and spall repair materials are free and will remain free from water leakage resulting from defective workmanship or materials for a period of not less than one year from Date of Beneficial Occupancy. In the event that water leakage occurs within the guaranty period from such causes, the applicator shall, at its sole expense, repair, replace, or otherwise correct such defective workmanship or materials. Contractor shall not be liable for consequential damages and Contractor's liability shall be limited to repair, replacement or correcting of defective workmanship or materials. Contractor shall have no responsibility with respect to water leakage or other defects caused by structural failure or movement of the structure, or any other causes beyond Contractor's control.
 2. The Contractor also guaranties that the concrete crack repair materials will not separate from the substrate, and that should this occur within a period of not less than one year from Beneficial Occupancy, the Contractor shall make all repairs and correct all defects at his own expense.

PART 2 - PRODUCTS

2.1 CONCRETE CRACK REPAIR MATERIALS

- A. **Expanding Polyurethane Chemical Grout for Pressure Injection of Cracks:**
 1. Low viscosity, non-corrosive, expanding, hydrophilic, polyurethane chemical grout.
 2. Material and curing conditions at 73°F and 50% relative humidity:
 - a. Viscosity: 650 cps, ASTM D-1638.
 - b. Tensile Strength: 170 psi, ASTM D-638.
 - c. Elongation: 400%, ASTM D-638.
 - d. Shrinkage: <1%.

3. Manufacturer:

a. Sika Corporation.

1) SikaFix HH Hydrophilic product.

b. Or approved equal.

2.2 CONCRETE CRACK REPAIR MATERIALS MIXING

A. Comply with manufacturers written instructions and conform to pot life and workability limits.

2.3 CONCRETE CRACK SURFACE SEALING MATERIALS

A. High-modulus, high-strength epoxy paste adhesive to seal surface of crack prior to Pressure Injection with Chemical Grout:

1. Manufacturer:

a. Sika Corporation.

1) Sikadur 31 Hi-Mod Gel product.

b. Or approved equal.

2.4 CONCRETE CRACK SURFACE SEALING MATERIALS MIXING

A. Comply with manufacturers written instructions and conform to pot life and workability limits.

2.5 SPALL REPAIR BONDING AGENTS

A. Epoxy-Modified, Cementitious bonding and Anticorrosion Agent: Product that consists of water-insensitive epoxy adhesive, portland cement, and water-based solution of corrosion-inhibiting chemicals that forms a protective film on steel reinforcement.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

2. Manufacturer:

a. Sika Corporation.

1) Armatex 110 EpoCem.

b. Or approved equal.

2.6 PATCHING MORTAR FOR SPALL REPAIR

A. Patching Mortar, General:

1. Unless otherwise indicated, use any of the products specified in this Article.
2. Overhead Patching Mortar: For overhead repairs, use patching mortar recommended by manufacturer for overhead use and as specified in this Article.
3. Coarse Aggregate for Adding to Patching Mortar: Washed aggregate complying with ASTM C 33, Size No. 8, Class 5S. Add only as permitted by patching mortar manufacturer.

B. Cementitious Patching Mortar: Packaged, dry mix complying with ASTM C 928.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
2. Manufacturer:
 - a. Sika Corporation.
 - 1) Sika Repair 224.
 - b. Or approved equal.

2.7 PATCHING MORTAR MATERIALS MIXING

- A. Comply with manufacturers written instructions and conform to pot life and workability limits.**

PART 3 - EXECUTION

3.1 EXAMINATION AND VERIFICATION

- A. Comply with Subsection 1.03.E.**
- B. Comply with Subsection 1.05.I.**

3.2 PREPARATION

- A. Preparation for Concrete Removal: Examine construction to be repaired to determine best methods to safely and effectively perform concrete maintenance work. Examine adjacent work to determine what protective measures will be necessary. Make explorations, probes, and inquiries as necessary to determine condition of construction to be removed in the course of repair.**

1. Verify that affected utilities have been disconnected and capped.
 2. Inventory and record the condition of items to be removed for reinstallation or salvage.
 3. Provide and maintain shoring, bracing, and temporary structural supports as required to preserve stability and prevent unexpected or uncontrolled movement, settlement, or collapse of construction being demolished and construction and finishes to remain. Strengthen or add new supports when required during progress of removal work. The design of the all shoring, bracing and temporary supports for structural stability and sufficiency shall be the Contractor's responsibility.
- B. Clean concrete surfaces of dirt, laitance, corrosion, or other contamination as indicated on the Drawings. Flush out cracks and spalls and void to remove laitance and dirt.
- C. Provide temporary entry ports spaced to accomplish movement of fluids between ports, no deeper than the depth of the crack to be filled or port size diameter no greater than the thickness of the crack. Provide temporary seal at concrete surface to prevent leakage of adhesive.
- D. Concrete Removal:
1. Do not overload structural elements with debris.
 2. Saw-cut perimeter of areas indicated for removal to a minimum depth of 3/4 inch. Make saw cuts perpendicular to concrete repair surfaces and no deeper than cover on reinforcement such that existing reinforcing steel is not damaged. Featheredge repairs to concrete will not be permitted.
 - a. Extend all concrete repairs 3" minimum into sound existing concrete.
 3. Remove all unsound, damaged, deteriorated and delaminated concrete by breaking up and dislodging from reinforcement.
 - a. Concrete removal process shall first be performed by chipping hammer (30 pounds hammer maximum with smaller hammer around any exposed rebar) or other method approved by Engineer.
 - b. Upon completion of initial removal process existing concrete surface shall be prepared by contained shotblasting, wet sandblasting or water blasting to remove any microfractured surfaces.
 4. Remove additional concrete, if necessary, to provide a minimum depth of removal of at least 3/4 inch over entire removal area.
 5. Where half or more of the perimeter of reinforcing bar is exposed, bond between reinforcing bar and surrounding concrete is broken, or reinforcing bar is corroded, remove concrete from entire perimeter of bar and to provide at least a 3/4-inch clearance around bar.
 6. Test areas where concrete has been removed by tapping with hammer, and remove additional concrete until unsound and disbonded concrete is completely removed.

7. Provide fractured aggregate surfaces with a profile of at least 1/4 inch that are approximately perpendicular or parallel to original concrete surfaces. At columns and walls, make top and bottom surfaces level, unless otherwise directed.
8. When insufficient exposed rebar exists to assure a good bond for repair mortar, install 1/4" diameter x 2 1/4" long stainless steel concrete screw anchors at 12" on center each way (1 1/2" minimum embedment). Stainless steel concrete screw anchors shall be KWIK-CON II+ fasteners by Hilti Fastening System or approved equal.
9. Thoroughly clean removal areas of loose concrete, dust, and debris.
 - a. Clean repair surface after removal of concrete with pressure washer (3000 psi minimum at nozzle) to remove all loose particles and dirt. Surface cleaning may be waived at the discretion of the Engineer, if water blasting is utilized to remove micro fracturing.
10. Maintenance of Prepared Surfaces.
 - a. After the concrete has been prepared and cleaned, it shall be kept in a clean, dry condition until the repair has been completed. Any contamination, including oil, solvent, dirt accumulation, or foreign material shall be removed by additional wet sandblasting and airwater jet cleanup followed by drying.
- E. Reinforcing Bar Preparation: Remove all loose scale, rust, corrosion by products, or concrete from exposed reinforcing steel by high-pressure water cleaning, abrasive blast cleaning or wire brushing until only tightly bonded light rust remains.
 1. Where section loss of reinforcing bar is more than 20 percent, or 15 percent in two or more adjacent bars, cut bars and remove and replace. Remove additional concrete as necessary to provide at least 3/4-inch clearance at existing and replacement bars. Splice replacement bars to existing bars according to ACI 318 (ACI 318M) by lapping, welding, or using mechanical couplings.

3.3 DELIVERY, STORAGE AND HANDLING

A. Delivery: Label with the following information:

1. Name of material and supplier.
2. Formula or specification number, lot number, and date of manufacture.
3. Deliver product in 5 gallon pails and accelerator in 1 pint containers.

B. Storage:

1. Store dry at 40 to 95°F in accordance with manufacturer's instructions.
2. Condition material to 65 to 85°F before using.
3. Use no materials that are outdated as indicated by shelf or pot life.

3.4 INSTALLATION

- A. Inject adhesive into prepared ports under pressure using equipment appropriate for particular application. Use injection pressures as recommended by the concrete crack repair material manufacturer.
- B. Begin injection at lower entry port and continue until adhesive appears in adjacent entry port. Continue from port to port until entire crack is filled.
- C. Remove temporary seal and excess adhesive.
- D. Clean surfaces adjacent to repair and blend finish to match adjacent surfaces.
- E. Comply with the notes and details on the Drawings.
- F. Epoxy-Modified, Cementitious Bonding Agent for Spalls: Apply to new and existing exposed reinforcing bars and concrete surfaces by stiff brush or hopper spray according to manufacturer's written instructions. Apply to reinforcing bars in two coats, allowing first coat to dry two to three hours before applying second coat. Allow to dry before placing patching mortar or concrete.
- H. Patching Mortar for Spalls: Unless otherwise recommended by manufacturer, apply as follows:
 - 1. Wet substrate thoroughly to a saturated surface dry condition and then remove all standing water. Scrub a slurry of neat patching mortar into substrate as required filling all pores and voids.
 - 2. Place patching mortar by troweling toward edges of patch to force intimate contact with edge surfaces. For large patches, fill edges first and then work toward center, always troweling toward edges of patch. At fully exposed reinforcing bars, force patching mortar to fill space behind bars by compacting with trowel from sides of bars. The repair mortar shall be applied into the wet scrub coat before it dries.
 - 3. For vertical patching, place material in lifts, not less than 3/8 inch or more than 1 1/2 inch. Do not feather edge.
 - 4. For overhead patching, place material in lifts, not less than 3/8 inch or more than 1 1/2 inch. Do not feather edge.
 - 5. After each lift is placed, consolidate material and screed surface.
 - 6. Where multiple lifts are used, score surface of lifts to provide a rough surface for application of subsequent lifts. Allow each lift to reach final set before placing subsequent lifts.
 - 7. Allow surfaces of lifts that are to remain exposed to become firm and then finish to a smooth surface with a wood or sponge float.
 - 8. Wet-cure cementitious patching materials, including polymer-modified, cementitious patching materials, for not less than seven days by water-fog spray or water-saturated absorptive cover.

3.5 FIELD QUALITY CONTROL

- A. Provide manufacturer's field report stating that all surfaces have been repaired in accordance with manufacturer's recommendations and surfaces are ready for service.

3.6 CLEANING AND PROTECTION

- A. Immediately clean spillage and soiling from adjacent surfaces using appropriate cleaning agents and procedures.
- B. Clean construction debris from the surrounding areas to the acceptance of the City.
- C. Take measures to protect completed concrete crack repair work from damage after application.

PART 4 - MEASUREMENT AND PAYMENT

- A. Epoxy crack injection, shallow and deep concrete spall repair shall be performed as specified in the specifications and as per the contract drawings. These items of work shall include material, labor, equipment, tools, repaint the pavement markings for the areas only which are effected by the repair work and incidentals necessary to complete the repair work, including the services of the manufacturer's representative as directed by the Engineer.
- B. These items will be paid on a lump sum basis.

END OF SECTION 03 0130.71

SECTION 07 1816 – VEHICULAR TRAFFIC COATING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide a polyurethane traffic coating system as specified and as indicated on the Drawings.
- B. Related Work: The following items are not included in this Section and are specified under the designated Sections:
 - 1. Section 03013071 – Concrete Crack and Spall Repair.

1.3 PERFORMANCE REQUIREMENTS

- A. Cold fluid applied polyurethane traffic waterproofing system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the incidental water. Membrane system shall accommodate movements of building materials as required with accessory sealant materials at such locations, changes in substrate, perimeter conditions and penetrations.
- B. Installed waterproofing membrane/surfacing system shall not permit the passage of water, and will withstand the anticipated traffic wear exposures in accordance with the most current revision of ASTM C957, High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.
- C. Intent is to bridge and seal the following air and water leakage pathways and gaps:
 - 1. Connections of the walls to the deck.
 - 2. Piping, conduit, duct and similar penetrations.
 - 3. All other air leakage and water intrusion pathways to building envelope connections.

1.4 SUBMITTALS

- A. Submittals: Comply with project requirements for submittals as specified in Division 01.
- B. Product Data:
 - 1. Materials list of items proposed to be provided under this Section.
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
 - 3. Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades.
 - 4. Manufacturer's current recommended installation procedures.

- C. Mock-Ups: Provide a mock-up on site to demonstrate workmanship and final appearance. Locate in an area acceptable to the Architect. Accepted mock-up may remain in place.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Installer shall have at least three years of experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
 - 2. Installer shall designate a single individual as project foreman who shall be on site at all times during installation.
- B. Field Adhesion Test Method: Use manufacturer's standard field adhesion test methods and methods to verify proper priming and surface preparation techniques required to obtain optimum adhesion. Evaluate and report results of field adhesion testing.
- C. Waterproofing Terminology: Refer to ASTM D1079 and the Sikalastic Traffic Systems Applicator Manual for definitions of waterproofing terms related to this section.

1.6 PRE-INSTALLATION CONFERENCE

- A. Prior to scheduled commencement of installation and associated work, conduct a meeting at the project site with the installer, architect/consultant, owner, manufacturer's representative and any other persons directly involved with the performance of the Work. The Installer shall record conference discussions and to include decisions and agreements reached (or disagreements), and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

1.7 REGULATORY REQUIREMENTS

- A. Applicable Regulations: Comply with local code and requirements of authorities having jurisdiction. Do not exceed VOC regulations as established by the State in which they are being installed; including total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, and similar items.)

1.8 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in the manufacturer's unopened containers with all labels intact and legible at time of use. Handle and store materials in accordance with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.

1.9 WARRANTY

- A. Warranty: Provide manufacturer's standard warranty for 5 years for each type of product. Include written testing documentation and test reports if requested by Architect.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Manufacturer: Subject to compliance with requirements, provide heavy vehicular traffic coating system of “Sikalastic 395” by Sika Corporation OR “Pecora-Deck 8123HD” by Pecora Corporation or approved equal.

2.2 TRAFFIC COATINGS (SYSTEM)

- A. General: Traffic-bearing, seamless, high-solids-content, one-part, cold-liquid-applied, polyurethane waterproofing system with integral slip-resistant wearing surface complying with ASTM C 957 and the following:
1. Fire Hazard Classification: Class A roof covering when tested in accordance with UL 790 on inclines of 15 percent or less.
- B. Heavy-Duty Vehicular Traffic Coating System: Sikalastic 395 OR Pecora-Deck 8123HD OR Approved equal:
1. System Components: Primer, base coat, two intermediate coats and topcoat.
 2. Dry Film Thickness: Minimum 35 mils , not including aggregate.
 3. Surface Color: As selected from manufacturer’s full range.
 4. Surface Finish: Textured.
- C. Vehicular Traffic Coating: Sikalastic 390/391/395 Traffic System comprised of the following:
1. Primers :
Sikalastic Primer 1C fast curing PU primer.
Sikalastic FTP water-based epoxy primer.
Sikalastic FTP LoVOC 100% solids epoxy primer (as a standard primer and for recoat applications and elevated moisture content up to 6% by Tramex).
Sikalastic PF Lo-VOC 100% solids epoxy primer (for rough and/or porous substrates).
Sikalastic MT 100% solids epoxy primer (for substrates with elevated moisture content up to 6 % by Tramex).
 2. Sikalastic 395 two-component aliphatic polyurethane top coat.
- D. Applied Total Dry Film Thickness Exclusive of Aggregate:
1. Heavy Vehicular Traffic: min 35 mils (Intermediate and Top coats only)
- E. Aggregate:
1. Standard Aggregate: Clean, rounded, oven dried quartz sand with a minimum gradation of 16-30 mesh or 20-40 mesh for pedestrian traffic, and a minimum hardness of 6.5 per the Moh’s scale. Aggregate shall be supplied in pre-packaged bags and free of metallic or other impurities.
 2. Decorative Aggregate: UV-stable, ceramic-coated quartz aggregate in a standard or custom color blend. Intended for a full broadcast application where a clear sealcoat will be applied. Aggregate shall be supplied in pre-blended and packaged bags.

F. Fabric Reinforcement: Sikalastic Flexitape Heavy woven nylon reinforcement.

G. Aliphatic Top Coats: Typical Physical properties complying with the following.

1.	Sikalastic	395	748 PA
2.	Viscosity	N/A	200 +/- 50 cps
3.	Total Volume Solids (ASTM D2697)	100%	78%
4.	VOC Content (ASTM D2369)	<10 g/l	100 g/l
5.	Tensile Strength (ASTM D412)	2500 psi	2500 +/- 200 psi
6.	Elongation at Break (ASTM D412)	400%	100 +/- 25%.
7.	Tear Resistance (Die C, ASTM D624)	79 pli	300 +/- 50 pli
8.	Hardness (ASTM D2240)	85 +/- 5 Shore A	50 +/- 5 Shore D
9.	Tests were performed with material and curing conditions at 75F and 50% relative humidity.		

2.3 ACCESSORIES

H. Joint Sealant: Nonsag, polyurethane joint sealant; ASTM C 920, Grade NS; color as selected from manufacturer's available colors.

1. Acceptable products include:

- a. Single-Component, Class 25 Sealant: Sikaflex 1a or Pecora DynaTrol I-XL.
- b. Multiple-Component, Class 25 Sealant: Sikaflex 2c NS EZ Mix or Pecora DynaTred.

2. Color: Manufacturers standard matching adjacent surfaces.

3. Color: As selected by Architect from manufacturer's full range.

I. Joint Sealant Primer: Sikaflex Primer 429 or Pecora P-75 Primer or approved equal.

J. Backer Rod: Open cell, closed cell or combination type as recommended by joint sealant manufacturer for substrate conditions.

K. Accelerator: Traffic coating additive for reducing cure time.

1. Acceptable Product: Pecora-Deck 850 Accelerator.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify Architect in writing of any discrepancies. Commencement of the Work in an area shall mean Installer's acceptance of the substrate.

3.2 PREPARATION

A. Substrates shall be clean, dry, sound and free of surface contaminants, with an open texture. Remove all traces of dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, such as milling, scarifying, or shotblasting, as acceptable to the Architect. Blow surface free of dust using compressed air line-equipped with

an oil trap. All projections, depressions and rough spots should be dressed off to achieve a level surface prior to the application.

- B. Concrete shall be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means (CSP 3-4 per ICRI guidelines).
- C. Plywood shall be clean and smooth, APA and exterior grade, not less than 1/2 inch thick, and spaced and supported according to APA guidelines. Seams should be sealed with Sikaflex 2c or 1a and detailed and may need imbedded fabric reinforcement.
- D. Metal shall be thoroughly cleaned by grinding or blast cleaning.

3.3 PRIMING

- A. Concrete (<4% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter) and Plywood:
 - 1. For systems requiring primer, apply Sikalastic Primer at 280 sf/gal or Sikalastic FTP primer at 300 sf/gal with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Puddles are to be avoided.
 - 2. Refer to data sheet for more detailed information, or consult Sika for other primer options.
 - 3. Sikalastic Primer - No mixing required. Use phenolic resin core roller to apply the primer.
 - 4. Allow primer to cure a minimum of 45 minutes at 70°F and 50% RH or until tack free before applying base coat.
 - 5. Sikalastic FTP - Premix both components, Part "B" is dark olive green in color and may appear black in the container. Sikalastic FTP, Part "A" is light amber in color.
 - 6. Add the 1 gallon of Sikalastic FTP, Part "A" to the 1.25 gallons of Part "B" in the short filled Part "B" pail. Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes.
 - 7. This mixture will appear as a light olive green color.
 - 8. Slowly add 1.25 gallons of potable water to the mixture under agitation.
 - 9. Mix for an additional 2 minutes until the mixture is fully dispersed.
 - 10. Fully dispersed material will appear as light green in color.
 - 11. Allow primer to cure a minimum of 3-4 hours at 70°F and 50% RH or until tack free before applying base coat.
- B. Concrete (<5% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter):
 - 1. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic PF Lo-VOC primer at 200 sf/gal. with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Puddles are to be avoided.
 - 2. Refer to data sheet for more detailed information, or consult Sika for other primer options.
 - 3. Premix both components. Sikalastic PF Lo-VOC Primer, Part "A" is white in color. Sikalastic PF Primer, Part "B" is black in color.
 - 4. In a separate mixing vessel, add the Sikalastic PF Lo-VOC Primer, Part "B" to the Sikalastic PF Lo-VOC Part "A". Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes.

5. This mixture will appear as a grey color.
 6. Allow primer to cure a minimum of 6 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
- C. Concrete (4% to 6% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter):
1. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic MT primer at 175 sf/gal. with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Puddles are to be avoided.
 2. For concrete substrates with >5% up to 6% maximum moisture content by weight, apply a second coat of Sikalastic MT primer at 175 sf/gal.
 3. Refer to data sheet for more detailed information, or consult Sika for other primer options.
 4. Premix both components. Sikalastic MT Primer, Part "A" is red in color. Sikalastic MT Primer, Part "B" is light amber in color.
 5. Add the 1.5 gallon of Sikalastic MT Primer, Part "B" to the 3 gallons of Part "A" in the short filled Part "A" pail. Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes.
 6. This mixture will appear as a red transparent color.
 7. Allow primer to cure a minimum of 12 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
 8. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic FTP LoVOC primer at 200 sf/gal. with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Puddles are to be avoided.
 9. For concrete substrates with >5% up to 6% maximum moisture content by weight, apply a second coat of Sikalastic FTP LoVOC primer at 200 sf/gal.
 10. Premix both components.
 11. Add the 5 gallon of Sikalastic FTP LoVOC Primer, Part "B" to the 10 gallons of Part "A" . Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes.
 12. This mixture will appear as a green transparent color.
 13. Allow primer to cure a minimum of 12 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
- D. Metal: Consult manufacturer for selection of primer.

3.4 DETAILING

- A. Non-Structural Cracks up to 1/16 inch: Apply a detail coat of Sikalastic 390 at 30 mils wet, 4 inches wide, centered over the crack. Allow to become tack free before overcoating.
- B. Cracks and Joints over 1/16 inch up to 1 inch: Rout and seal with Sikaflex 2c or 1a sealant and allow to skin over and cure. Apply a detail coat of Sikalastic 390 at 30 mils wet, 4 inches wide, centered over crack. Allow to become tack free before overcoating.
- C. Fabric Reinforcement: An optional 3" or 6" wide Sikalastic Flexitape Heavy fabric strip may be embedded within the base coat. Flexitape width shall be chosen such that a minimum of 1" tape is embedded on either side of the crack/joint. Apply additional coating as required to fully embed the Flexitape in the coating.

- D. Joints over 1 inch: Treat as expansion joints and brought up through the Sikalastic Traffic System and sealed with Sikaflex 2c or 1a sealant.

3.5 BASE COAT

- A. Existing Base coat is intact, there is no need to apply the base coat on this project, however, if required to apply the base coat at certain locations then item 3.5 B is applicable to apply the base coat.
- B. If locations are found to require Base Coat, then install Sikalastic 390:
 - 1. Premix Sikalastic 390 Base Part A and Part B using a mechanical mixer (Jiffy) at slow speeds to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pails. Do not break down kits into smaller quantities; portions are premeasured.
 - 2. Pour Part B into Part A slowly and while mixing, and scrape the sides of the container. Mix the combined materials thoroughly until a homogenous mixture and uniform color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture.
 - 3. Apply at the recommended coverage rate of 20 mils wet, using a 3/16" notched squeegee or trowel and backroll using a phenolic resin core roller. Extend base coat over entire area including previously detailed cracks and control joints.
 - 4. Allow coating to cure a minimum of 5-6 hours at 70°F and 50% RH; base coat must be tack free before overcoating.

3.6 INTERMEDIATE COAT

- A. Sikalastic 395:
 - 1. Premix Sikalastic 395 Part A and Part B using a mechanical mixer (Jiffy) at slow speeds to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pails. Do not break down kits into smaller quantities; portions are premeasured.
 - 2. Pour Part B into Part A slowly and while mixing, and scrape the sides of the container. Mix the combined materials thoroughly until a homogenous mixture and uniform color is obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture.
 - 3. For heavy vehicular traffic applications only, apply at 15 mils wet, using a 3/16" notched squeegee and backroll using a phenolic resin core roller. Apply aggregate evenly seeded and distributed at 10-15 lbs. per 100 sf into the wet coating. Allow coating to cure a minimum of 4 hours at 70 degrees F and 50% RH or until tack free between coats.

3.7 TOP COAT

- A. Sikalastic 395:
 - 1. Premix Sikalastic 395 Part A and Part B using a mechanical mixer (Jiffy) at slow speeds to obtain uniform color, making sure to scrape the solids from the bottom and sides of the pails. Do not break down kits into smaller quantities; portions are premeasured.
 - 2. Pour Part B into Part A slowly and while mixing, and scrape the sides of the container. Mix the combined materials thoroughly until a homogenous mixture and uniform color is

obtained (typically 3 minutes). Use care not to allow the entrapment of air into the mixture.

3. Apply at the required application rate using a 3/16" notched squeegee and backroll using a phenolic resin core roller. Application rate is 20 mils wet for light and heavy vehicular traffic applications. Allow a minimum of 36 hours (395) before opening to vehicular traffic.

3.8 CLEANING

- A. Remove uncured materials from tools or other surfaces with an approved solvent. Remove cured materials by mechanical means.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

PART 4 - MEASUREMENT AND PAYMENT

- A. Application of the traffic coating work shall be performed as specified in the specifications and as per the contract drawings. These items of work shall include material, labor, equipment, tools, repaint the pavement markings for the floor areas where traffic coating is applied and incidentals necessary to complete the work, including the services of the manufacturer's representative as directed by the Engineer.
- B. These items will be paid on a lump sum basis.

END OF SECTION 07 1816

SECTION 07 1916 – WATER REPELLENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This specification describes the sealing of concrete substrates with hydrophobic impregnation to reduce water and chloride ion intrusion in relation to the relevant Principles (Principle 1, 2 or 8) of Environmental1504-9.

1.3 Quality Assurance

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Store and apply materials in accordance with all safety requirements, taking into consideration weather conditions, as specified by manufacturer or as modified by applicable rules and regulations of authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.

1.4 Delivery, Storage, and Handling

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material or unsealed pails must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Store and handle the specified product as recommended by the manufacturer.

1.5 Job Conditions

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 40°F (5°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to packaging.

1.6 Submittals

- A. Submit two copies of manufacturer's actual literature including: Product Data Sheets and appropriate Material Safety Data Sheets (MSDS).

1.7 Warranty

- A. Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project

PART 2 - PRODUCTS

2.1 Manufacturer

- A. Sikagard® 705 L, as proposed by Sika Corporation, is considered to conform to the requirements of this specification.

2.2 Materials

- A. Silane Water Repellent shall be Sikagard 705L, a low VOC, UV stable, vapor permeable, silane penetrating sealer and water repellent manufactured by Sika Corp
- B. The material shall be a concentrated, solvent free Silane
- C. The material shall be a concentrated compound based on triethoxy (2,4,4-trimethylpentyl) Silane, ready to be used.
- D. The material shall not be diluted on site either by water or solvent
- E. The material shall not contain any silicates, fluor silicates, or stearates.

2.3 Performance Criteria

- A. Typical Properties of the hydrophobic impregnation:
 - 1. Aspect: Liquid
 - 2. Colour: Colourless
 - 3. Solids: ~99% active content (ext. tested)
 - 4. VOC: ~100 g/l
 - 5. Comply with EN 1504-2 (Hydrophobic Impregnation)
 - a. Penetration Depth: Class II (≥ 10 mm)
 - b. Water Absorption: $< 7.5\%$
 - c. Alkali Resistance: $< 10\%$
 - d. Drying Rate: Class I ($> 30\%$)
 - e. Freeze & Thaw cycles with de-icing salts: Pass
 - 6. On Site Penetration Depth: ≥ 5 mm

PART 3 - EXECUTION

3.1 Surface Preparation

- A. Substrate must be clean, sound, and free of surface contaminants. Remove dust, laitance, grease, oils, curing compounds, form release agents and all foreign particles by mechanical means. Substrate shall be in accordance with EN 1504-10 (site application and QC of works) for hydrophobic impregnation or with ICRI Guideline No. 03732 for sealers.
- B. Protect any areas not to be impregnated from spillage or splashing

3.2 Application

- A. Silane Water Repellent is delivered ready to be used and shall hence not be diluted on site
- B. Coverage is entirely dependent on the porosity of the substrate. Extremely non-porous substrates may only require 1 coat. To ensure proper penetration depth, a field mock up is recommended. The coverage rate is approximately 240 sq.ft./gal (~6 m²/l).
- C. Placement Procedure: The penetrating sealer shall be applied liberally and allowed to soak into the substrate. This shall be accomplished by the use of brushes, rollers, low pressure gun or airless spray equipment.
- D. Prepare the quantity of hydrophobic impregnation required for a given area based on the targeted consumption rate.
- E. On vertical surface, apply the product from top down in successive passes until the targeted consumption for the first coat is achieved.
- F. Successive passes are done when the concrete surface still has a matt appearance from the product, but no longer wet (e.g. when placing the bare hand on the surface and removing it, no wetness on the hand is observed). The concrete surface is assumed to be saturated with the Silane application when it remains “wet” in appearance for at least 5 seconds.
- G. The following coat can then be applied when the concrete is completely dry.
- H. On horizontal surface, saturate the substrate by continuous spray (airless or low pressure gun) or flooding technique and allow to have “wet” look for at least 5 seconds
- I. On soffit areas, apply the material with a continuous spray and saturate the substrate until surface keeps its “wet” look for at least 5 seconds.
- J. Adhere to all limitations and cautions for the Silane product as stated in the manufacturers printed literature.
- K. Do not apply the Silane in case of imminent rain (within the next few hours), strong wind exceeding 30 mph or in strong direct sun light.

3.3 Cleaning

- A. The Silane penetrating sealer can be cleaned from tools with appropriate solvent.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillages onto adjacent areas.

3.4 Preliminary Tests (Pre-Trials)

- A. To define appropriate material consumption, a few weeks before starting works, the Supervising Officer shall assign a typical concrete surface with a representative area of at least 100 ft². The surface preparation shall be undertaken by the applicator in the same way as prescribed for the project. An experience supervisor of the manufacturer shall assist at the trial operation.
- B. Before application of the planned hydrophobic impregnation, 3 cores shall be taken from the test area to define the water absorption coefficient of the untreated concrete surface in accordance with National Cooperative Highway Research Program (NCHRP) 244 series II or EN 1062-3.
- C. The application of Silane Water Repellent shall be carried out as recommended in the Method Statement provided – the consumption and site conditions (wind, temperature, humidity, etc...) shall be properly recorded.
- D. Two weeks after the trial application, 6 cores of diameters of 50 mm (depth in accordance with concrete cover but at least 50 mm) shall be taken from the area and the surface shall be restored thereafter with appropriate repair material from the same supplier.
- E. No later than 24 hours after removing the cores, 3 of them shall be cut into 2 parts and the

penetration depth shall then be defined by spraying water on the cut portion. From the difference of water absorption, the penetration of the Silane can be visually recorded to the nearest mm. For each core, at least 6 points of measure shall be taken and the overall average calculated with the standard deviation.

- F. The other 3 cores shall be sent to an external laboratory to carry out the water absorption test as per NCHRP 244 series II or EN 1062-3. This test can also be done on depth profiles (extra cores are then needed - 3 for each depth profiles).
- G. If required, additional tests can be carried out (e.g. determination of active ingredients using FT-IR method in the depth profiles).

PART 4 - MEASUREMENT AND PAYMENT

- A. Application of water repellent work shall be performed as specified in the specifications and as per the contract drawings. These items of work shall include material, labor, equipment, tools, repaint the pavement markings for the floor areas where water repellent is applied and incidentals necessary to complete the work, including the services of the manufacturer's representative as directed by the Engineer.
- B. These items will be paid on a lump sum basis.

END OF SECTION 07 1916

SECTION 07 9200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes joint sealants for the following applications, including those specified by reference to this Section:
 - 1. Exterior joints in vertical surfaces and horizontal nontraffic surfaces.
 - 2. Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1.2 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.
- B. Provide joint sealants for interior applications that establish and maintain airtight and water-resistant continuous joint seals without staining or deteriorating joint substrates.

1.3 SUBMITTALS

- A. Product Data: For each joint-sealant product indicated.

1.4 QUALITY ASSURANCE

- A. Preconstruction Compatibility and Adhesion Testing: Submit samples of materials that will contact or affect joint sealants to joint-sealant manufacturers for testing according to ASTM C 1087 to determine whether priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
- B. Preconstruction Field-Adhesion Testing: Before installing elastomeric sealants, field test their adhesion to Project joint substrates according to the method in ASTM C 1193 that is appropriate for the types of Project joints.
- C. Mockups: Build mockups incorporating sealant joints, as follows, to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1.5 WARRANTY

- A. Special Installer's Warranty: Installer's standard form in which Installer agrees to repair or replace elastomeric joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Conditional Acceptance.
- B. Special Manufacturer's Warranty: Manufacturer's standard form in which elastomeric sealant manufacturer agrees to furnish elastomeric joint sealants to repair or replace those that do not comply with performance and other requirements specified in this Section within specified warranty period.
1. Warranty Period: Five years from date of Conditional Acceptance.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range to match with existing.

2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Where elastomeric sealants are specified to be nonstaining to porous substrates, provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Single-Component Neutral-Curing Silicone Sealant:
 1. Type and Grade: S (single component) and NS (nonsag).
 2. Class: 25.
 3. Use Related to Exposure: NT (nontraffic).
 4. Uses Related to Joint Substrates: M, G, A, and, as applicable to joint substrates indicated, O.

2.3 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin) O (open-cell material) B (bicellular material with a surface skin) or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size

and density to control sealant depth and otherwise contribute to producing optimum sealant performance:

- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D 1056, nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 26 deg F. Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and to otherwise contribute to optimum sealant performance.
- D. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant.
 - a. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air.
 - 2. Remove laitance and form-release agents from concrete.
 - a. Clean nonporous surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

- B. **Joint Priming:** Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. **Masking Tape:** Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

- A. **Sealant Installation Standard:** Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- B. **Install sealant backings** of type indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.
- C. **Install bond-breaker tape** behind sealants where sealant backings are not used between sealants and backs of joints.
- D. **Install sealants** using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. **Tooling of Non-sag Sealants:** Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.
- F. **Clean off excess sealant** or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

- A. Exterior Perimeter joints between concrete and frames of storefront.
 - 1. Joint Sealant: Single-component neutral-curing Silicone sealant.
 - 2. Joint-Sealant Color: As selected by the Architect from the manufacturer's available full range of colors.
- B. Interior perimeter joints of exterior openings.
 - 1. Joint Sealant: Single-component neutral-curing Silicone sealant.
 - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.
- C. Vertical control and expansion joints on exposed exterior surfaces of exterior walls.
 - 1. Joint Sealant: As recommended per Expansion Joint System Manufacturer.
 - 2. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

END OF SECTION 07 9200

SECTION 07 9500 - EXPANSION CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior expansion control systems for Horizontal Slab-to-Slab application.
2. Exterior expansion control systems for Vertical Wall-to-Wall application.

1.2 ACTION SUBMITTALS

- A. Shop Drawings:** For each expansion control system specified. Include plans, elevations, sections, details, splices, block-out requirement, attachments to other work, and line diagrams showing entire route of each expansion control system. Where expansion control systems change planes, provide isometric or clearly detailed drawing depicting how components interconnect.
- B. Samples for Initial Selection:** For each type of expansion control system indicated.
1. Include manufacturer's color charts showing the full range of colors and finishes available for each exposed metal and elastomeric seal material.
- C. Samples for Verification:** For each type of expansion control system indicated, full width by 6 inches long in size.
- D. Product Schedule:** Prepared by or under the supervision of the supplier. Include the following information in tabular form:
1. Manufacturer and model number for each expansion control system.
 2. Expansion control system location cross-referenced to Drawings.
 3. Nominal joint width.
 4. Movement capability.
 5. Classification as thermal or seismic.
 6. Materials, colors, and finishes.
 7. Product options.
 8. Fire-resistance ratings.

1.3 INFORMATIONAL SUBMITTALS

- A. Product Test Reports:** For each fire barrier provided as part of an expansion control system, for tests performed by a qualified testing agency.

1.4 QUALITY ASSURANCE

- A. Pre-installation Inspection – the General Contractor, Engineer/Architect, Manufacturer’s Representative and Certified Contractor, will conduct a pre-installation project site inspection. The General Contractor shall provide a field report that summarizes the project conditions and any remedial action necessary to correct field conditions (substrate, joint size, vertical offsets, etc.) that may affect expansion joint system performance.
- B. Service Condition - ensure that anticipated service conditions (loads, speed of traffic, movement, etc) are part of the expansion joint system selection criteria.
- C. Certification / Installation – a factory-trained and “certified” contractor shall install the specified expansion joint system. The contractor shall provide proof of certification from manufacturer and proof of participation in manufacturer’s continuing education program.

1.5 WARRANTY

- A. The Manufacturer and Certified Contractor jointly warrant to the Owner that the expansion joint system shall be free from manufacturing, material and installation defects for a period of five (5) years from the date of installation, based on specified movements and design conditions for normal traffic use as recommended by the National Parking Association’s “Parking Facility Maintenance Manual”. The warranty covers leakage at the joint under normal use due to cohesive or adhesive failure and material failure related to tearing, weathering or abrasion. The Certified Contractor and Manufacturer will jointly warrant and provide at no charge, all materials and labor needed to properly repair defective expansion joint within the term of the warranty.

PART 2 - PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. General: Provide expansion control systems of design, basic profile, materials, and operation indicated. Provide units with capability to accommodate variations in adjacent surfaces.
 - 1. Furnish units in longest practicable lengths to minimize field splicing. Install with hairline mitered corners where expansion control systems change direction or abut other materials.
 - 2. Include factory-fabricated closure materials and transition pieces, T-joints, corners, curbs, cross-connections, and other accessories as required to provide continuous expansion control systems.
 - 3. All expansion joint systems and glands shall comply with the Americans with Disabilities Act guidelines to accept pedestrian traffic.
 - 4. Select the system size at each joint location based on the movement and design requirements that meet the project specification or as defined by the structural engineer of record.
 - 5. The same Manufacturer shall be used throughout the entire project inclusive of each type of expansion joint selected.

6. The Certified Contractor must provide written confirmation, utilizing manufacturer's product data, ensuring that the model and size selected will comply with and accommodate expansion, contraction, vertical displacement and lateral shear throughout the full movement cycle.

2.2 EXTERIOR EXPANSION CONTROL SYSTEMS

- A. Source Limitations: Obtain expansion control systems from single source from single manufacturer.
- B. Slab-to-Slab horizontal Expansion Joint System at locations as indicated on drawings:
 1. Basis-of-Design Product: Indicated on Drawings.
 2. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Color: Standard Black.
 3. Components and Materials
 - a. Epoxy Bonded Rubber Seal – material shall be a flexible, extruded ethylene propylene diene monomer rubber exhibiting the physical properties listed below. To ensure a watertight seal, the seal shall have ribbed sidewall profiles through which an epoxy adhesive bonds the seal to the vertical walls of the joint opening.

PHYSICAL PROPERTIES OF ELASTOPRENE-200 RUBBER SEAL:

<u>Property</u>	<u>Requirement</u>	<u>ASTM Method</u>
Tensile Strength	2800 psi (19 MPa)	D412
Ultimate Elongation	430%	D412
Hardness, Shore A	65 +/- 5 points	D2240
Compression Set		
22 hrs.	23% @ 212 °F/100°C	D395
70 hrs.	26% @ 100°C	D395
Ozone Resistance	No Cracks	D1149
UV Resistance	Very Good	
Brittle Point	-76°F(-60°C)	D746
Oven Aging, 70h at 212°F (100°C)		D573
Tensile Strength	20% loss max.	
Elongation at Break	20% loss max.	
Oil Swell / Weight Change 70h at 212°F (100°C)	45% max	ASTM D471

- b. Epoxy Adhesive – provide manufacturer's high strength aggregate reinforced epoxy adhesive consisting of liquid components "A" and "B".

- C. Wall-to-Wall vertical Expansion Joint System at locations as indicated on Drawings:

1. Basis-of-Design Product: Indicated on Drawings.
2. Design Criteria:
 - a. Nominal Joint Width: As indicated on Drawings.
 - b. Color: As selected by Architect from manufacturer's full range matching with existing.
3. Components and Materials
 - a. Primary Silicone Bellows Seal – provide ColorJoint SIF Series consisting of a primary flexible, preformed silicone rubber compound exhibiting the physical properties listed in the table below.

PHYSICAL PROPERTIES OF SILICONE SEAL

(after 14 days at 77°F (25°C) and 50% relative humidity)

<u>Property</u>	<u>Requirement</u>	<u>ASTM Method</u>
Hardness, Shore A	15 points	C661
Tensile strength @ max.	100 psi (.07 kg/mm ²)	D412
Tensile at 25% extension	15 psi (.010 kg/mm ²)	C1135
Tensile at 50% extension	20 psi (.015 kg/mm ²)	C1135
Peel Strength	25 lb/in (4.46 kg/cm)	C794
Cyclical Movement	+100 / -50%	C719
Staining	None	

- b. Secondary Expanding Impregnated Foam Seal - shall be a micro-cell polyurethane foam impregnated with an acrylic polymer that is UV stable, flame resistant, chemical resistant, and meets ASTM 283, ASTM 518, and DIN 18542.

PHYSICAL PROPERTIES OF EXPANDING IMPREGNATED FOAM

<u>Property</u>	<u>Requirement</u>	<u>ASTM Method</u>
Density Average	10 lbs./cu.ft. (160kg/m ³)	
Resistance – thermal	3.3 hr. °F-ft ² /BTU	
Conductivity – thermal	0.05 W/m. °C	C3574
Temp. Stability Range	-39 °F to 186 °F	
Shear Strength	8 N/cm ² minimum	
Tensile Strength - minimum	21 psi	D3574
Compression Set Resistance	2.5% maximum	D3574
Bleeding (212°F at 20% compress)	No Bleeding	
Mildew Resistance	Excellent	
Staining	None	
Flammability	Self Extinguishing	UL94VO
Flame Spread	Zero	E84
Flash Point	590 °F (310 °C)	

2.3 GENERAL FINISH REQUIREMENTS

- A. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces where expansion control systems will be installed for installation tolerances and other conditions affecting performance of work.
 - 1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prepare substrates according to expansion control system manufacturer's written instructions.
- B. Coordinate and furnish anchorages, setting drawings, and instructions for installing expansion control systems. Provide fasteners of metal, type, and size to suit type of construction indicated and to provide for secure attachment of expansion control systems.

3.3 INSTALLATION

- A. Comply with manufacturer's written instructions for storing, handling, and installing expansion control systems and materials unless more stringent requirements are indicated.
- B. Install manufactured expansion control assemblies in accordance with approved shop drawings and manufacturer's product data, except where more stringent requirements are specified herein. Cover and protect expansion joint cover assemblies from construction traffic.
- C. Remove excess and misplaced sealants as work progresses.
- D. Remove protective film or coverings from expansion joint covers upon completion of adjacent construction.

3.4 PROTECTION

- A. Do not remove protective covering until finish work in adjacent areas is complete. When protective covering is removed, clean exposed metal surfaces to comply with manufacturer's written instructions.
- B. Protect the installation from damage by work of other Sections. Where necessary due to heavy construction traffic, remove and properly store cover plates or seals and install

temporary protection over expansion control systems. Reinstall cover plates or seals prior to Substantial Completion of the Work.

END OF SECTION 07 9500

SECTION 09 9000 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:
 - 1. Paint two (2) Stairwell metal handrails, located in NE and SW corners of the Garage and metal handrails in both Elevator Lobbies (Total quantity will be 900 LF).

1.2 DEFINITIONS

- A. Gloss Level 1: Not more than 5 units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- D. Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- E. Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- F. Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- G. Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Step coats on Samples to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product List: For each product indicated, include the following:

1. Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules.
2. Printout of current "MPI Approved Products List" for each product category specified in Part 2, with the proposed product highlighted.
3. VOC content.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.5 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Parking Authority will select one surface to represent surfaces and conditions for application of each paint system specified in Part 3.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 100 sq. ft. (9 sq. m).
 - b. Other Items: Parking Authority will designate items or areas required.
2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Parking Authority at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Parking Authority specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).

- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by the following or approved Equal:
 - 1. Sherwin-Williams Company (The).
- B. Products: Subject to compliance with requirements, provide product listed in other Part 2 articles for the paint category indicated.

2.2 PAINT, GENERAL

- A. MPI Standards: Provide products that comply with MPI standards indicated and that are listed in its "MPI Approved Products List."
- B. Material Compatibility:
 - 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.
- C. VOC Content: Products shall comply with VOC limits of authorities having jurisdiction and, for interior paints and coatings applied at Project site, the following VOC limits, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
 - 1. Flat Paints and Coatings: 50 g/L.
 - 2. Nonflat Paints and Coatings: 150 g/L.
 - 3. Dry-Fog Coatings: 400 g/L.
 - 4. Primers, Sealers, and Undercoaters: 200 g/L.
 - 5. Anticorrosive and Antirust Paints Applied to Ferrous Metals: 250 g/L.
 - 6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
 - 7. Pretreatment Wash Primers: 420 g/L.
 - 8. Floor Coatings: 100 g/L.
 - 9. Shellacs, Clear: 730 g/L.
 - 10. Shellacs, Pigmented: 550 g/L.
- D. Low-Emitting Materials: Interior paints and coatings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

- E. Colors: As indicated in Interior Painting Schedule.

2.3 METAL PRIMERS

- A. Primer, Alkyd, Quick Dry, for Metal: MPI #76.
 - 1. Sherwin Williams Kem Bond HS Universal Metal Primer, Code B50WZ0004 or approved equal.

2.4 SOLVENT-BASED PAINTS

- A. Urethane Alkyd, Exterior, High Gloss:
 - 1. Sherwin Williams Pro Industrial Urethane Alkyd Enamel, B54W00151 or approved equal.

2.5 SOURCE QUALITY CONTROL

- A. Testing of Paint Materials: Owner reserves the right to invoke the following procedure:
 - 1. Owner will engage the services of a qualified testing agency to sample paint materials. Contractor will be notified in advance and may be present when samples are taken. If paint materials have already been delivered to Project site, samples may be taken at Project site. Samples will be identified, sealed, and certified by testing agency.
 - 2. Testing agency will perform tests for compliance with product requirements.
 - 3. Owner may direct Contractor to stop applying coatings if test results show materials being used do not comply with product requirements. Contractor shall remove noncomplying paint materials from Project site, pay for testing, and repaint surfaces painted with rejected materials. Contractor will be required to remove rejected materials from previously painted surfaces if, on repainting with complying materials, the two paints are incompatible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- C. Proceed with coating application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Manual" applicable to substrates indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Steel Substrates: Remove rust, loose mill scale, and shop primer, if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 2, "Hand Tool Cleaning."
 - 2. SSPC-SP 3, "Power Tool Cleaning."
 - 3. SSPC-SP 7/NACE No. 4, "Brush-off Blast Cleaning."
 - 4. SSPC-SP 11, "Power Tool Cleaning to Bare Metal."
- E. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- F. Previously Painted Surfaces: If in sound condition, prepare the surface as per manufacturer's written instruction. Clean the surface of all foreign material. Smooth, hard or glossy coatings and surfaces should be dulled by abrading the surface. Apply a test area, allowing paint to dry one week before testing adhesion. If adhesion is poor, or if this product attacks the previous finish, removal of the previous coating may be necessary. If paint is peeling or badly weathered, clean surface to sound substrate and treat as a new surface as above. Recognize that any surface preparation short of total removal of the old coating may compromise the service length of the system.
 - 1. If the previously painted substrate is damaged, repair or replace as indicated in the drawings or as instructed by the Parking Authority, prior to the painting work.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.

3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness.
1. Contractor shall touch up and restore painted surfaces damaged by testing.
 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Parking Authority, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 INTERIOR PAINTING SCHEDULE

- A. Steel Handrail:
1. Alkyd System:

- a. Prime Coat: Primer, Alkyd, Quick Dry, for Metal: MPI #76. Provide Sherwin Williams Kem Bond HS Universal Metal Primer, Code B50WZ0004 or approved equal.
- b. Intermediate Coat: Alkyd, exterior, matching topcoat.
- c. Topcoat: Urethane Alkyd, Exterior, High Gloss. Provide Sherwin Williams Pro Industrial Urethane Alkyd Enamel, B54W00151 or approved equal.
- d. Color: Match existing "Red" color in Garage as approved by the Parking Authority.
- e. System DFT: Per Manufacturer.

END OF SECTION 09 9000

SECTION 22 0529 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Metal pipe hangers and supports.
 - 2. Fastener systems.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 METAL PIPE HANGERS AND SUPPORTS

- A. Carbon-Steel Pipe Hangers and Supports:
 - 1. Description: MSS SP-58, Types 1 through 58, factory-fabricated components.
 - 2. Galvanized Metallic Coatings: Pregalvanized, hot-dip galvanized, or electro-galvanized.
 - 3. Hanger Rods: Continuous-thread rod, nuts, and washer made of stainless steel.

2.2 FASTENER SYSTEMS

- A. Powder-Actuated Fasteners: Threaded-steel stud, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
- B. Mechanical-Expansion Anchors: Insert-wedge-type anchors, for use in hardened portland cement concrete, with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.
 - 1. Indoor and Outdoor Applications: Stainless steel.

2.3 MATERIALS

- A. Carbon Steel: ASTM A 1011/A 1011M.
- B. Structural Steel: ASTM A 36/A 36M carbon-steel plates, shapes, and bars; black and galvanized.
- C. Stainless Steel: ASTM A 240/A 240M.
- D. Grout: ASTM C 1107/C 1107M, factory-mixed and -packaged, dry, hydraulic-cement, nonshrink and nonmetallic grout; suitable for interior and exterior applications.
 - 1. Properties: Nonstaining, noncorrosive, and nongaseous.
 - 2. Design Mix: 5000-psi (34.5-MPa), 28-day compressive strength.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Strength of Support Assemblies: Where not indicated, select sizes of components, so strength will be adequate to carry present and future static loads within specified loading limits. Minimum static design load used for strength determination shall be weight of supported components plus 200 lb.

3.2 HANGER AND SUPPORT INSTALLATION

- A. Metal Pipe-Hanger Installation: Comply with MSS SP-58. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.
- B. Fastener System Installation:
 - 1. Install powder-actuated fasteners for use in lightweight concrete or concrete slabs less than 4 inches thick in concrete, after concrete is placed and completely cured. Use operators that are licensed by powder-actuated tool manufacturer. Install fasteners according to powder-actuated tool manufacturer's operating manual.
 - 2. Install mechanical-expansion anchors in concrete, after concrete is placed and completely cured. Install fasteners according to manufacturer's written instructions.
- C. Install hangers and supports complete with necessary attachments, inserts, bolts, rods, nuts, washers, and other accessories.
- D. Install hangers and supports to allow controlled thermal and seismic movement of piping systems, to permit freedom of movement between pipe anchors, and to facilitate action of expansion joints, expansion loops, expansion bends, and similar units.
- E. Install lateral bracing with pipe hangers and supports to prevent swaying.
- F. Install building attachments within concrete slabs or attach to structural steel. Install additional attachments at concentrated loads, and at changes in direction of piping.

- G. Load Distribution: Install hangers and supports, so that piping live and dead loads and stresses from movement will not be transmitted to connected equipment.
- H. Pipe Slopes: Install hangers and supports to provide indicated pipe slopes and to not exceed maximum pipe deflections allowed by ASME B31.9 for building services piping.

3.3 ADJUSTING

- A. Hanger Adjustments: Adjust hangers to distribute loads equally on attachments and to achieve indicated slope of pipe.
- B. Trim excess length of continuous-thread hanger and support rods to 1-1/2 inches.

3.4 PAINTING

- A. Touchup: Clean field welds and abraded, shop-painted areas. Paint exposed areas immediately after erecting hangers and supports. Use same materials as those used for shop painting. Comply with SSPC-PA 1 requirements for touching up field-painted surfaces.
 - 1. Apply paint by brush or spray to provide a minimum dry film thickness of 2.0 mils.
- B. Galvanized Surfaces: Clean welds, bolted connections, and abraded areas, and apply galvanizing-repair paint to comply with ASTM A 780/A 780M.

3.5 HANGER AND SUPPORT SCHEDULE

- A. Specific hanger and support requirements are in Sections specifying piping systems and equipment.
- B. Comply with MSS SP-58 for pipe-hanger selections and applications that are not specified in piping system Sections.
- C. Use hangers and supports with galvanized metallic coatings for piping and equipment that will not have field-applied finishes.
- D. Use carbon-steel pipe hangers and supports and attachments for general service applications.
- E. Horizontal-Piping Hangers and Supports: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Adjustable, Steel Clevis Hangers (MSS Type 1): For suspension of noninsulated, stationary pipes NPS 1/2 to NPS 30.
- F. Vertical-Piping Clamps: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Extension Pipe or Riser Clamps (MSS Type 8): For support of pipe risers NPS 3/4 to NPS 24 (DN 24 to DN 600).

- G. Hanger-Rod Attachments: Unless otherwise indicated and except as specified in piping system Sections, install the following types:
 - 1. Steel Turnbuckles (MSS Type 13): For adjustment of up to 6 inches for heavy loads.
- H. Use powder-actuated fasteners or mechanical-expansion anchors instead of building attachments where required in concrete construction.
- I. Use operators that are licensed by powder actuated tool manufacturer. Install fasteners according to powder actuated tool manufacturer's operating manual. Do not use in lightweight concrete slabs or in concrete slabs less than 4 inches thick.

END OF SECTION 22 0529

SECTION 22 0553 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Pipe labels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For color, letter style, and graphic representation required for each identification material and device.
- C. Equipment Label Schedule: Include a listing of all equipment to be labeled with the proposed content for each label.
- D. Valve numbering scheme.
- E. Valve Schedules: For each piping system to include in maintenance manuals.

PART 2 - PRODUCTS

2.1 GENERAL PRODUCT REQUIREMENTS

- A. Labels, Signs and Tags: All labels, signs and tags shall conform to ANSI/OSHA requirements for letter/color combinations.
- B. Basis of Design: The basis of design shall be mechanical identifications materials manufactured by the Seton Name Plate Corporation as follows:
 - 1. Plumbing Pipe Labels – Size 8SM - 32
- C. Other Acceptable Manufacturers: Subject to compliance with requirements, provide mechanical identifications materials from one (1) of the following:
 - 1. Brady (Wilt.) Co. Singmark Division.
 - 2. Industrial Safety Supply Co., Inc.

2.2 PIPE LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.
- B. Pretensioned Pipe Labels: Precoiled, semirigid plastic formed to partially cover circumference of pipe and to attach to pipe without fasteners or adhesive.
- C. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings; also include pipe size and an arrow indicating flow direction.
 - 1. Flow-Direction Arrows: Integral with piping-system service lettering to accommodate both directions or as separate unit on each pipe label to indicate flow direction.
 - 2. Lettering Size: Size letters according to ASME A13.1 for piping.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean piping and equipment surfaces of substances that could impair bond of identification devices, including dirt, oil, grease, release agents, and incompatible primers, paints, and encapsulants.

3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Coordinate installation of identifying devices with completion of covering and painting of surfaces where devices are to be applied.
- B. Coordinate installation of identifying devices with locations of access panels and doors.
- C. Install identifying devices before installing acoustical ceilings and similar concealment.

3.3 PIPE LABEL INSTALLATION

- A. Piping Color Coding: Painting of piping is specified in other sections and drawings.
- B. Pipe Label Locations: Locate pipe labels where piping is exposed.
- C. Directional Flow Arrows: Arrows shall be used to indicate direction of flow in pipes, including pipes where flow is allowed in both directions.
- D. Pipe Label Color Schedule:

PLUMBING SERVICE DESIGNATION	LABEL DESIGNATION	FIELD/LETTER COLOR
Storm Water	Same as Service Designation	Brown / White
Storm Water Leader	Same as Service Designation	Brown / White

END OF SECTION 22 0553

SECTION 22 1413 - FACILITY STORM DRAINAGE PIPING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. PVC pipe and fittings.
 - 2. Cleanouts.
 - 3. Pipe Protection Bollards

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

1.4 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Detail storm drainage piping. Show support locations, type of support, weight on each support, required clearances, and other details, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
 - 1. Structural members to which drainage piping will be attached or suspended from.
 - 2. Scale sketch showing the exact location of Bollards in respect to other building components.
- B. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

1.6 FIELD CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

1. Notify Owner no fewer than two days in advance of proposed interruption of storm drainage service.
2. Do not proceed with interruption of storm drainage service without Owner's written permission.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Components and installation shall be capable of withstanding the following minimum working pressure unless otherwise indicated:
 1. Storm Drainage Piping: 10-foot head of water.

2.2 PVC PIPE AND FITTINGS

- A. NSF Marking: Comply with NSF 14, "Plastics Piping Systems Components and Related Materials," for plastic piping components. Include marking with "NSF-drain" for plastic storm drain piping.
- B. Cellular-Core PVC Pipe: ASTM F 891, Schedule 40.
- C. PVC Socket Fittings: ASTM D 2665, made to ASTM D 3311, drain, waste, and vent patterns and to fit Schedule 40 pipe.
- D. Adhesive Primer: ASTM F 656.
 1. Adhesive primer shall have a VOC content of 550 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- E. Solvent Cement: ASTM D 2564.
 1. PVC solvent cement shall have a VOC content of 510 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 SPECIALTY PIPE FITTINGS

- A. Transition Couplings:
 1. General Requirements: Fitting or device for joining piping with small differences in ODs or of different materials. Include end connections same size as and compatible with pipes to be joined.
 2. Fitting-Type Transition Couplings: Manufactured piping coupling or specified-piping-system fitting.

2.4 CLEANOUTS

- A. Plastic Cleanouts:
1. Size: Same as connected branch.
 2. Body Material: PVC.
 3. Closure Plug: PVC.
 4. Riser: Drainage pipe fittings.

2.5 BOLLARD

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Post Guard
 2. ULINE
 3. Ideal Shield
- B. Metal Bollard
1. Material: Fabricate metal bollards from Schedule 40 round steel pipe.
 - a. Cap bollards with dome cap.
- C. 4 Inch Bollard on Plate:
1. Bollard: 4" Bollard on Plate.
 2. Fabricate bollards with 1/2 inch thick by 8x8 inch square steel baseplate for bolting to concrete slab. Drill baseplates with four 3/4 inch corner holes for anchor bolts. Weld baseplate to pipe.
 3. Provide four 5/8 inch by 4 inches anchor bolts per bollard.
 4. Size: 4 inches outside diameter by 3 feet long.
- D. Finish bollards with safety yellow powder coated factory applied paint finish.

PART 3 - EXECUTION

3.1 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems.
1. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations.
 2. Install piping as indicated unless deviations from layout are approved on coordination drawings.
- B. Install piping in concealed locations unless otherwise indicated and except in equipment rooms and service areas.
- C. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

- D. Install piping at indicated slopes.
- E. Install fittings for changes in direction and branch connections.
- F. Make changes in direction for piping using appropriate branches, bends, and long-sweep bends.
 - 1. Do not change direction of flow more than 90 degrees.
 - 2. Use proper size of standard increasers and reducers if pipes of different sizes are connected.
 - a. Reducing size of drainage piping in direction of flow is prohibited.
- G. Install piping at the following minimum slopes unless otherwise indicated:
 - 1. Horizontal Storm Drainage Piping: 2 percent downward in direction of flow.
- H. Install aboveground PVC piping according to ASTM D 2665.
- I. Plumbing Specialties:
 - 1. Install cleanouts at grade and extend to where building storm drains connect to building storm sewers in storm drainage gravity-flow piping.
- J. Do not enclose, cover, or put piping into operation until it is inspected and approved by authorities having jurisdiction.

3.2 JOINT CONSTRUCTION

- A. Plastic, Nonpressure-Piping, Solvent-Cemented Joints: Clean and dry joining surfaces. Join pipe and fittings according to the following:
 - 1. Comply with ASTM F 402 for safe-handling practice of cleaners, primers, and solvent cements.
 - 2. ABS Piping: Join according to ASTM D 2235 and ASTM D 2661 appendices.
 - 3. PVC Piping: Join according to ASTM D 2855 and ASTM D 2665 appendices.
- B. Joint Restraints and Sway Bracing:
 - 1. Provide joint restraints and sway bracing for storm drainage piping joints to comply with the following conditions:
 - a. Provide axial restraint for pipe and fittings 5 inches and larger, upstream and downstream of all changes in direction, branches, and changes in diameter greater than two pipe sizes.
 - b. Provide rigid sway bracing for pipe and fittings 4 inches and larger, upstream and downstream of all changes in direction 45 degrees and greater.

3.3 SPECIALTY PIPE FITTING INSTALLATION

- A. Transition Couplings:

1. Install transition couplings at joints of piping with small differences in ODs.
2. In Drainage Piping: Unshielded, nonpressure transition couplings.

3.4 HANGER AND SUPPORT INSTALLATION

- A. Comply with requirements for pipe hanger and support devices and installation specified in Section 220529 "Hangers and Supports for Plumbing Piping and Equipment."
 1. Install stainless-steel pipe hangers for horizontal piping in corrosive environments.
 2. Install stainless-steel pipe support clamps for vertical piping in corrosive environments.
 3. Vertical Piping: MSS Type 8 or Type 42, clamps.
 4. Install individual, straight, horizontal piping runs:
 - a. 100 Feet and Less: MSS Type 1, adjustable, steel clevis hangers.
 - b. Longer Than 100 Feet: MSS Type 43, adjustable roller hangers.
 - c. Longer Than 100 Feet if Indicated: MSS Type 49, spring cushion rolls.
 5. Multiple, Straight, Horizontal Piping Runs 100 Feet or Longer: MSS Type 44, pipe rolls. Support pipe rolls on trapeze.
 6. Base of Vertical Piping: MSS Type 52, spring hangers.
- B. Support horizontal piping and tubing within 12 inches of each fitting and coupling.
- C. Support vertical piping and tubing at base and at each floor.
- D. Rod diameter may be reduced one size for double-rod hangers, with 3/8-inch minimum rods.
- E. Install hangers for PVC piping with the following maximum horizontal spacing and minimum rod diameters:
 1. NPS 4 and NPS 5: 48 inches with 5/8-inch rod.
 2. NPS 6 and NPS 8: 48 inches with 3/4-inch rod.
- F. Install supports for vertical PVC piping every 48 inches.
- G. Support piping and tubing not listed above according to MSS SP-58 and manufacturer's written instructions.

3.5 CONNECTIONS

- A. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Connect interior storm drainage piping to exterior storm drainage piping. Use transition fitting to join dissimilar piping materials.
- C. Connect storm drainage piping to roof drains and storm drainage specialties.
 1. Install test tees (wall cleanouts) in conductors near floor, and floor cleanouts with cover flush with floor.

- D. Where installing piping adjacent to equipment, allow space for service and maintenance.

3.6 IDENTIFICATION

- A. Identify exposed storm drainage piping.
- B. Comply with requirements for identification specified in Section 220553 "Identification for Plumbing Piping and Equipment."

3.7 FIELD QUALITY CONTROL

- A. During installation, notify authorities having jurisdiction at least 24 hours before inspection must be made. Perform tests specified below in presence of authorities having jurisdiction.
 - 1. Roughing-in Inspection: Arrange for inspection of piping before concealing or closing-in after roughing-in.
 - 2. Final Inspection: Arrange for final inspection by authorities having jurisdiction to observe tests specified below and to ensure compliance with requirements.
- B. Test storm drainage piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:
 - 1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired.
 - a. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
 - 2. Leave uncovered and unconcealed new, altered, extended, or replaced storm drainage piping until it has been tested and approved.
 - a. Expose work that was covered or concealed before it was tested.
 - 3. Test Procedure:
 - a. Test storm drainage piping, on completion of roughing-in.
 - b. Close openings in piping system and fill with water to point of overflow, but not less than 10-foot head of water. From 15 minutes before inspection starts until completion of inspection, water level must not drop. Inspect joints for leaks.
 - 4. Repair leaks and defects with new materials and retest piping, or portion thereof, until satisfactory results are obtained.
 - 5. Prepare reports for tests and required corrective action.
- C. Piping will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports.

3.8 CLEANING AND PROTECTION

- A. Clean interior of piping. Remove dirt and debris as work progresses.
- B. Protect drains during remainder of construction period to avoid clogging with dirt and debris and to prevent damage from traffic and construction work.
- C. Place plugs in ends of uncompleted piping at end of day and when work stops.

3.9 PIPING SCHEDULE

- A. Flanges and unions may be used on aboveground pressure piping unless otherwise indicated.
- B. Aboveground storm drainage piping NPS 6 and smaller shall be the following:
 - 1. Solid-wall PVC pipe, PVC socket fittings, and solvent-cemented joints.

3.10 BOLLARD ISNTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Installation: Anchor bollards to existing slab with anchors. Provide four 3/4-inch by 4 inches bolts at each bollard unless otherwise indicated.
- C. Refer to detail for more requirements.

END OF SECTION 22 1413

SECTION 23 3113 - METAL DUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Single-wall rectangular ducts and fittings.
 - 2. Hangers and supports.
 - 3. Louvers

1.3 ACTION SUBMITTALS

- A. Shop Drawings:
 - 1. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
 - 2. Factory- and shop-fabricated ducts and fittings.
 - 3. Duct layout indicating sizes, configuration, liner material, and static-pressure classes.
 - 4. Elevation of top and bottom of ducts.
 - 5. Dimensions of main duct runs from building grid lines.
 - 6. Fittings.
 - 7. Reinforcement and spacing.
 - 8. Seam and joint construction.
 - 9. Hangers and supports, including methods for duct and building attachment.
 - 10. Louver Product Data:
 - a. Manufacturer's product data including performance data.
 - b. Water penetration and air pressure drop performance at the design airflow rate
 - c. Preparation instructions and recommendations.
 - d. Storage and handling requirements and recommendations.
 - e. Installation methods.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Field quality-control reports.

PART 2 - PRODUCTS

2.1 SINGLE-WALL RECTANGULAR DUCTS AND FITTINGS

- A. General Fabrication Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" based on indicated static-pressure class unless otherwise indicated.
 - 1. Construct ducts of galvanized sheet steel unless otherwise indicated.
- B. Transverse Joints: Fabricate joints in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-1, "Rectangular Duct/Transverse Joints," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 1. For ducts with longest side less than 36 inches, select joint types in accordance with Figure 2-1.
 - 2. For ducts with longest side 36 inches or greater, use flange joint connector Type T-22, T-24, T-24A, T-25a, or T-25b. Factory-fabricated flanged duct connection system may be used if submitted and approved by engineer of record.
- C. Longitudinal Seams: Select seam types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Figure 2-2, "Rectangular Duct/Longitudinal Seams," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible." All longitudinal seams shall be Pittsburgh lock seams unless otherwise specified for specific application.
- D. Elbows, Transitions, Offsets, Branch Connections, and Other Duct Construction: Select types and fabricate in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Ch. 4, "Fittings and Other Construction," for static-pressure class, applicable sealing requirements, materials involved, duct-support intervals, and other provisions in SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."

2.2 SHEET METAL MATERIALS

- A. General Material Requirements: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for acceptable materials, material thicknesses, and duct construction methods unless otherwise indicated. Sheet metal materials shall be free of pitting, seam marks, roller marks, stains, discolorations, and other imperfections.
- B. Galvanized Sheet Steel: Comply with ASTM A 653/A 653M.
 - 1. Galvanized Coating Designation: G90.
 - 2. Finishes for Surfaces Exposed to View: Mill phosphatized.

2.3 HANGERS AND SUPPORTS

- A. Hanger Rods for Noncorrosive Environments: Galvanized-steel rods and nuts.

- B. Hanger Rods for Corrosive Environments: Electrogalvanized, all-thread rods or galvanized rods with threads painted with zinc-chromate primer after installation.
- C. Strap and Rod Sizes: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1, "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct."
- D. Steel Cables for Galvanized-Steel Ducts: Galvanized steel complying with ASTM A 603.
- E. Steel Cable End Connections: Galvanized-steel assemblies with brackets, swivel, and bolts designed for duct hanger service; with an automatic-locking and clamping device.
- F. Duct Attachments: Sheet metal screws, blind rivets, or self-tapping metal screws; compatible with duct materials.
- G. Trapeze and Riser Supports:
 - 1. Supports for Galvanized-Steel Ducts: Galvanized-steel shapes and plates.

2.4 LOUVERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Ruskin Company
 - 2. Airolite Co.
 - 3. American Warming and Ventilating, Inc.
 - 4. Construction Specialties, Inc.
- B. Performance/Standard
 - 1. Structural Performance: Engineer, fabricate, and install exterior metal wall louvers to withstand the effects of loads and stresses per local code from wind and normal thermal movement without evidencing permanent deformation of louver components including blades, frames, and supports; noise or metal fatigue caused by louver blade rattle or flutter; or permanent damage to fasteners and anchors.
 - 2. Air-Performance, Water-Penetration, and Air-Leakage Ratings: Provide louvers complying with performance requirements indicated as demonstrated by testing manufacturer's stock units of height and width indicated. Test units according to AMCA 500.
 - 3. Welding Standards: Comply with applicable provisions of D1.2 Structural Welding Code--Aluminum, and D1.3 Structural Welding Code--Sheet Steel.
 - 4. SMACNA Standard: Comply with SMACNA Architectural Sheet Metal Manual recommendations for fabrication, construction details, and installation procedures.
- C. Field Measurements: Check actual louver openings by accurate field measurements before fabrication, and show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. MATERIALS
 - 1. Aluminum Extrusions: ASTM B 221, Alloy 6063-T5 or T-52.

2. Aluminum Sheet: ASTM B 209, Alloy 3003 or 5005 with temper as required for forming, or as otherwise recommended by metal producer to produce required finish.
3. Fasteners: Of same basic metal and alloy as fastened metal or 300 series stainless steel, unless otherwise indicated. Do not use metals that are corrosive or incompatible with joined materials.
4. Use types and sizes to suit unit installation conditions.
5. Use Phillips flat-head screws for exposed fasteners, unless otherwise indicated.
6. Anchors and Inserts: Of type, size, and material required for type of loading and installation indicated. Use nonferrous metal or hot-dip galvanized anchors and inserts for exterior installations and elsewhere as required for corrosion resistance. Use toothed steel or expansion bolt devices for drilled-in-place anchors.
7. Bituminous Paint: Cold-applied asphalt mastic complying with SSPC-Paint 12 except containing no asbestos fibers.

E. FABRICATION, GENERAL

1. Assemble louvers in shop to minimize field splicing and assembly. Disassemble units as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
2. Maintain equal louver blade spacing to produce uniform appearance.
3. Fabricate frames, including integral sills, to fit in openings of sizes indicated, with allowances made for fabrication and installation tolerances of louvers, adjoining construction, and perimeter sealant joints.
4. Include supports, anchorages, and accessories required for complete assembly.
5. Provide vertical mullions of type and at spacings indicated but not more than recommended by manufacturer, or 72 inches o.c., whichever is less, except where continuous horizontal appearance is indicated on Drawing. At continuous horizontal units, provide concealed vertical stiffener. At horizontal joints between louver units, provide horizontal mullions except where continuous vertical assemblies are indicated.
6. Join frame members to one another and to fixed louver blades as follows, unless otherwise indicated or size of louver assembly makes bolted connections between frame members necessary:
7. With fillet welds, concealed from view; or mechanical fasteners; or a combination of these methods; as standard with louver manufacturer.

F. FIXED, EXTRUDED-ALUMINUM WALL LOUVERS

1. Horizontal, Drainable, Fixed-Blade Louvers: Extruded-aluminum frames and louver blades, designed to collect and drain water to exterior at sill by means of gutters in front edges of blades and channels in jambs and mullions, complying with the following requirements:
2. Louver Depth: 6 inches, unless otherwise indicated.
3. Frame Thickness: 0.081 inch, unless otherwise indicated.
4. Blade Thickness: 0.081 inch, unless otherwise indicated.
5. Blade Angle: 45 degrees, unless otherwise indicated.
6. Free Area: Not less than 50.0 percent
7. Water Penetration: Not more than 0.01 oz. per sq. ft. of free area at an airflow of 900 fpm free area velocity when tested for 15 minutes.

G. LOUVER SCREENS

1. General: Provide each exterior louver with louver screens complying with the following requirements:
2. Screening Type:

- a. Bird screening.
 - b. Insect screening.
- H. Secure screens to louver frames with stainless-steel machine screws, spaced 6 inches maximum from each corner and at 12 inches o.c. between.
- I. Louver Screen Frames: Fabricate screen frames with mitered corners to louver sizes indicated and to comply with the following requirements:
 - 1. Metal: Same kind and form of metal as indicated for louver frames to which screens are attached.
 - 2. Reinforce extruded-aluminum screen frames at corners with clips.
 - 3. Finish: Mill finish, unless otherwise indicated.
 - 4. Type: Non-rewireable, U-shaped frames for permanently securing screen mesh.

PART 3 - EXECUTION

3.1 DUCT INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of duct system. Indicated duct locations, configurations, and arrangements were used to size ducts and calculate friction loss for air-handling equipment sizing and for other design considerations. Install duct systems as indicated unless deviations to layout are approved on Shop Drawings and coordination drawings.
- B. Install ducts in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" unless otherwise indicated.
- C. Install ducts in maximum practical lengths with fewest possible joints.
- D. Install factory- or shop-fabricated fittings for changes in direction, size, and shape and for branch connections.
- E. Unless otherwise indicated, install ducts vertically and horizontally, and parallel and perpendicular to building lines.
- F. Install ducts close to walls, overhead construction, columns, and other structural and permanent enclosure elements of building.
- G. Protect duct interiors from moisture, construction debris and dust, and other foreign materials both before and after installation.

3.2 INSTALLATION OF EXPOSED DUCTWORK

- A. Protect ducts exposed in finished spaces from being dented, scratched, or damaged.
- B. Trim duct sealants flush with metal. Create a smooth and uniform exposed bead. Do not use two-part tape sealing system.

- C. Grind welds to provide smooth surface free of burrs, sharp edges, and weld splatter. When welding stainless steel with a No. 3 or 4 finish, grind the welds flush, polish the exposed welds, and treat the welds to remove discoloration caused by welding.
- D. Maintain consistency, symmetry, and uniformity in arrangement and fabrication of fittings, hangers and supports, duct accessories, and air outlets.
- E. Repair or replace damaged sections and finished work that does not comply with these requirements.

3.3 DUCTWORK EXPOSED TO WEATHER

- A. All external joints are to have secure watertight mechanical connections. Seal all openings to provide weatherproof construction.
- B. Construct ductwork to resist external loads of wind, snow, ice, and other effects of weather. Provide necessary supporting structures.
- C. Single Wall:
 - 1. Ductwork shall be galvanized steel.

3.4 DUCT SEALING

- A. Seal ducts for duct static-pressure, seal classes, and leakage classes specified in "Duct Schedule" Article in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
- B. Seal ducts at a minimum to the following seal classes in accordance with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible":
 - 1. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible."
 - 2. Outdoor, Supply-Air Ducts: Seal Class A.
 - 3. Unconditioned Space, Supply-Air Ducts in Pressure Classes 2-Inch wg and Lower: Seal Class B.

3.5 HANGER AND SUPPORT INSTALLATION

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Chapter 5, "Hangers and Supports."
- B. Building Attachments: Concrete inserts, powder-actuated fasteners, or structural-steel fasteners appropriate for construction materials to which hangers are being attached.
 - 1. Where practical, install concrete inserts before placing concrete.
 - 2. Use powder-actuated concrete fasteners for standard-weight aggregate concretes or for slabs more than 4 inches thick.
 - 3. Do not use powder-actuated concrete fasteners for lightweight-aggregate concretes or for slabs less than 4 inches thick.

- C. Hanger Spacing: Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible," Table 5-1 "Rectangular Duct Hangers Minimum Size," and Table 5-2, "Minimum Hanger Sizes for Round Duct," for maximum hanger spacing; install hangers and supports within 24 inches of each elbow and within 48 inches of each branch intersection.
- D. Hangers Exposed to View: Threaded rod and angle or channel supports.
- E. Support vertical ducts with steel angles or channel secured to the sides of the duct with welds, bolts, sheet metal screws, or blind rivets; support at each floor and at a maximum intervals of 16 feet.
- F. Install upper attachments to structures. Select and size upper attachments with pull-out, tension, and shear capacities appropriate for supported loads and building materials where used.

3.6 CONNECTIONS

- A. Comply with SMACNA's "HVAC Duct Construction Standards - Metal and Flexible" for branch, outlet and inlet, and terminal unit connections.

3.7 FIELD QUALITY CONTROL

- A. Perform tests and inspections.
- B. Leakage Tests:
 - 1. Comply with SMACNA's "HVAC Air Duct Leakage Test Manual." Submit a test report for each test.
 - 2. Test the following systems:
 - a. Outdoor-Air Ducts with a Pressure Class of 2-Inch wg or Higher: Test representative duct sections.
 - 3. Disassemble, reassemble, and seal segments of systems to accommodate leakage testing and for compliance with test requirements.
 - 4. Give seven days' advance notice for testing.
- C. Duct System Cleanliness Tests:
 - 1. Visually inspect duct system to ensure that no visible contaminants are present.
 - 2. Test sections of metal duct system, chosen randomly by Owner, for cleanliness in accordance with "Description of Method 3 - NADCA Vacuum Test" in NADCA ACR, "Assessment, Cleaning and Restoration of HVAC Systems."
 - a. Acceptable Cleanliness Level: Net weight of debris collected on the filter media shall not exceed 0.75 mg/100 sq. cm.
- D. Duct system will be considered defective if it does not pass tests and inspections.
- E. Prepare test and inspection reports.

3.8 DUCT CLEANING

- A. Clean new duct system(s) before testing, adjusting, and balancing.
- B. Use duct cleaning methodology as indicated in NADCA ACR.
- C. Particulate Collection and Odor Control:
 - 1. When venting vacuuming system inside the building, use HEPA filtration with 99.97 percent collection efficiency for 0.3-micron-size (or larger) particles.
 - 2. When venting vacuuming system to outdoors, use filter to collect debris removed from HVAC system, and locate exhaust downwind and away from air intakes and other points of entry into building.
- D. Mechanical Cleaning Methodology:
 - 1. Clean metal duct systems using mechanical cleaning methods that extract contaminants from within duct systems and remove contaminants from building.
 - 2. Use vacuum-collection devices that are operated continuously during cleaning. Connect vacuum device to downstream end of duct sections so areas being cleaned are under negative pressure.
 - 3. Use mechanical agitation to dislodge debris adhered to interior duct surfaces without damaging integrity of metal ducts, duct liner, or duct accessories.
 - 4. Clean fibrous-glass duct liner with HEPA vacuuming equipment; do not permit duct liner to get wet. Replace fibrous-glass duct liner that is damaged, deteriorated, or delaminated or that has friable material, mold, or fungus growth.
 - 5. Provide drainage and cleanup for wash-down procedures.
 - 6. Antimicrobial Agents and Coatings: Apply EPA-registered antimicrobial agents if fungus is present. Apply antimicrobial agents in accordance with manufacturer's written instructions after removal of surface deposits and debris.

3.9 LOUVER INSTALLATION

- A. Locate and place louver units plumb, level, and at indicated alignment with adjacent work.
- B. Use concealed anchorages where possible. Provide brass or lead washers fitted to screws where required to protect metal surfaces and to make a weathertight connection.
- C. Form closely fitted joints with exposed connections accurately located and secured.
- D. Provide perimeter reveals and openings of uniform width for sealants and joint fillers, as indicated.
- E. Repair finishes damaged by cutting, welding, soldering, and grinding operations required for fitting and jointing. Restore finishes so there is no evidence of corrective work. Return items that cannot be refinished in the field to the shop, make required alterations, and refinish entire unit, or provide new units.

- F. Protect galvanized- and nonferrous-metal surfaces from corrosion or galvanic action by applying a heavy coating of bituminous paint on surfaces that will be in contact with concrete, masonry, or dissimilar metals.
- G. Install concealed gaskets, flashings, joint fillers, and insulation, as louver installation progresses, where required to make louver joints weathertight.
- H. Protect louvers and vents from damage of any kind during construction period including use of temporary protective coverings where needed and approved by louver manufacturer. Remove protective covering at time of Substantial Completion.
- I. Clean and touch up minor abrasions in finishes with air-dried coating that matches color and gloss of, and is compatible with, factory-applied finish coating.
- J. Periodically clean exposed surfaces of louvers and vents that are not protected by temporary covering to remove fingerprints and soil during construction period. Do not let soil accumulate until final cleaning.
- K. Before final inspection, clean exposed surfaces with water and a mild soap or detergent not harmful to finishes. Rinse surfaces thoroughly and dry.

END OF SECTION 23 3113

SECTION 32 1400 – UNIT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 – General Requirements Specification Sections, apply to this Section.
- B. American Society of Testing and Materials International (ASTM) standards and test methods.
- C. American Concrete Institute Standard (ACI) – Manual of Concrete Practice with all addenda thereto at the time bids are received.

1.2 SUMMARY

- A. Section includes concrete and reinforcing materials and work required for the construction of the following:
 - 1. Brick Pavers.
 - 2. Concrete Pavers

1.3 SUBMITTALS

- A. General: Provide submittals in compliance with General Conditions of the Contract and Division 01 – General Requirements.
- B. Pavers:
 - 1. Product Data: Manufacturer's data sheets including:
 - a. Storage and handling requirements and recommendations.
 - b. Installation methods.
 - c. Cleaning and maintenance instructions provided by the cleaning agent manufacturer.
 - 2. Shop Drawings:
 - a. Indicate perimeter conditions, paver layout, patterns, color arrangement, installation and setting details
 - 3. Letters of Compliance:
 - a. Letter of compliance from the manufacturer showing compliance of pavers with ASTM Standards.
 - 4. Verification Samples:
 - a. Four representative full-size samples of pavers, thickness, color, finish that indicates the range of color variation and texture expected in the finished installation. Color(s) to match existing pavers.

1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Schedule delivery operations to avoid unnecessary re-handling.

B. Storage:

1. Store materials in accordance with manufacturer's recommendations.

1.5 PROJECT CONDITIONS

A. Limitations:

1. Underground Utilities:
 - a. Do not proceed with concrete construction until all underground utility construction is complete, passed testing and accepted by the Owner's Representative.
 - b. Do not proceed with work under adverse weather conditions, or when temperatures are above or below the manufacturer's recommended limitations for installation. Proceed with the work only when forecasted weather conditions are favorable for proper installation.
 - c. Do not install pavers on frozen or saturated materials.

1.6 CONSTRUCTION SURVEYS

- A. See Division 01 – General Requirements.**

1.7 EXTRA MATERIALS

- A. Provide 5% additional material for use by Owner for maintenance and repair**
- B. Pavers shall be from the same production run.**

PART 2 - PRODUCTS

2.1 PAVERS

- A. Match existing pavers in size and color. New pavers shall be free of cracks or other imperfections**
- B. New brick pavers shall meet ASTM C902 standards (Pedestrian and light traffic use).**
1. Class Type: SX- Brick that maybe frozen while saturated with water.

2. Traffic Type I: Pavers subjected to extensive abrasion, such as public sidewalks and driveways.
 3. Physical Requirements:
 - a. Compressive Strength: Not less than 8,000 psi for an average of 5 brick, with no individual unit having a strength of less than 7,000 psi.
 - b. Cold Water Absorption: Shall not exceed 8% for an average of 5 brick, with no individual unit having an absorption of greater than 11%.
 - c. Saturation Coefficient (Maximum): Shall not exceed 0.78 for an average of 5 brick, with no individual unit having a coefficient of greater than 0.80. Saturation coefficient is the ratio of absorption by 24 hour submersion in room temperature water to that after 5 hours of submersion in boiling water.
 - d. Warpage: Shall not exceed 1/16-inch for each 6 inches of brick length when measured in accordance with ASTM C67 Section 12.
 - e. Efflorescence: When units are tested in accordance with Section 10 of Methods C67, the rating for efflorescence shall not be more than "slightly effloresced."
 - f. Abrasion Requirements: The Abrasion Index for brick paver units shall not exceed 0.11. The Volume Abrasion Loss shall not exceed 1.7.
 - g. Chippage: Maximum permissible extent of chippage from edges shall be 1/4-inch; from corners shall be 3/8-inch. The aggregate length of chips on a single unit shall not exceed 10% of the perimeter of the exposed face of the brick.
- C. New concrete pavers shall meet ASTM C1782 standards.
1. Physical Requirements:
 - a. Flexural Strength: Not less than 725 psi.
 - b. Water Absorption: Shall not exceed 6%.
 - c. Dimension tolerance: +/- 1/8" Height, +/- 5/64" Length and width.
 - d. Warpage: Shall not exceed 1/8".
- D. Pavers Bedding Mortar shall meet Baltimore city Green book mortar specification 033700 & 033719.

PART 3 - EXECUTION

3.1 PAVER PLACEMENT

- A. Prior to the installation of the paver system, the contractor shall check and verify that the base material has been properly prepared and that the specified elevation, grade and slope. Install edge restraints per manufacturer's recommendations. For the replacement of existing pavers remove the loose, deteriorated mortar or remove the entire mortar bed if necessary to maintain the elevation.
- B. Install gravel and construct concrete base.
- C. Place wet mortar setting bed to thickness indicated on drawings.
- D. Before mortar setting bed has set, install pavers in the pattern(s), matching existing patterns.

- E. Do not clean pavers until mortar is cured.
- F. The final surface elevation shall be flush with adjacent construction.
- G. Clean soiled surfaces with cleaning solution approved by paving manufacturer.
- H. Protect adjacent construction and landscaping from cleaning agents.
- I. Rinse all surfaces with potable water. Pressure not to exceed 120 lbs. per square inch.

3.2 FIELD QUALITY CONTROL

A. Paver Installation Requirements:

- 1. All new pavers are to match the existing pavers.
- 2. The final surface tolerance from grade elevations shall not deviate more than plus or minus 3/8 inch (plus or minus 10 mm) under a 10 feet (3 m) straightedge.
- 3. Lippage: No greater than 1/8 inch (3 mm) difference in height between adjacent pavers.
- 4. Paver joint width is to match the existing paver joint width.
- 5. Joint (bond) lines are not deviate more than $\pm 1/2$ in. over 50 ft. from string lines.
- 6. Check final surface elevations for conformance to drawings.

3.3 CLEANING AND SEALING

- A. Clean pavers in accordance with the cleaning agent manufacturer's written recommendations.
- B. Seal pavers in accordance with the sealing agent manufacturer's written recommendations.

3.4 CORRECTIVE WORK:

- A. All work not conforming to the Contract Documents (drawings and specifications) shall be corrected by the Contractor as directed by the Owner's Representative at no increase to the Contract Sum.

END OF SECTION 32 1400

SECTION 32 1723 – PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Provide all necessary labor, equipment and material needed to paint all parking lines, space numbers, directional arrows, exit directions, signs, fire lanes, handicapped designations and the like on all of the horizontal concrete deck areas to match either the existing locations before the repairs were begun or the new striping plans provided. This will be performed after all demolition work and repairs are completed and after the traffic bearing waterproofing membrane and silane sealer has been applied.
- B. The base bid pricing is offered for re-striping the entire garage including slab-on-grade area.
- C. Related Sections include the following:
 - 1. Division 3 Section "Concrete Repair and Restoration" for concrete repairs to the elevated slab.
 - 2. Division 7 Section "Traffic Coatings" for application of the traffic bearing waterproofing membrane.
 - 3. Division 7 Section "Joint Sealants" for rout and seal crack repairs.

1.3 SUBMITTALS

- A. Manufacturer's Information: Manufacturer's technical information showing that the pavement marking is compatible with the membrane material.
- B. Certifications by manufacturer that products supplied are specifically designed for traffic marking and compatible with the waterproof membrane used.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.

1.4 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage an experienced applicator who has completed Restriping/Pavement Marking system applications similar in material and extent to those indicated for Project and whose work has a record of successful in-service performance.

1.5 PROJECT CONDITIONS

- A. Apply traffic striping only when temperature of surfaces to be coated and surrounding air temperatures are between 45 and 95 deg F.
- B. Do not apply striping in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
 - 1. Allow wet surfaces to dry thoroughly and attain temperature and conditions specified before proceeding with or continuing coating operation.

PART 2 – PRODUCTS

2.1 STRIPING MATERIAL

- A. Polyurethane traffic bearing striping paint material compatible with the membrane system. The contractor shall demonstrate that the materials will not strip or cause reaction with the urethane membrane.

2.2 COLORS

- A. Colors: As selected by the Owner from manufacturer's full range.

2.3 WARRANTY

- A. 5 years manufacturer warranty.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions under which re-striping/pavement marking will be applied for compliance with coating application requirements.
 - 1. Apply striping only after unsatisfactory conditions have been corrected and surfaces to receive coatings are thoroughly dry.

3.2 PREPARATION

- A. Cleaning: Before applying re-striping/pavement marking paint, clean substrates of oil, grease dirt and substances that could impair the bond of the striping paint.
- B. Layout striping lines for parking stalls to match original locations prior to repair work being performed. Layout handicap spaces in accordance with the latest ADA code requirements.

C. WORK RESTRICTION

- A. Please refer to the specification section 01 1400 for the work restriction.

3.3 APPLICATION

- A. General: Mix and apply re-striping/pavement marking paint according to manufacturer's written instructions.
 - 1. Use applicators and techniques best suited for the material being applied.
 - 2. Do not apply re-striping/pavement marking paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to forming a durable coating film.
- B. Apply traffic paint for striping and other markings with mechanical equipment to produce uniform straight edges. Apply at manufacturer's recommended rates for a 25-mil minimum wet film thickness.
- C. Completed Work: Match approved Samples for color, texture, and coverage. Remove, refinish, or recoat work that does not comply with specified requirements.

3.4 FIELD QUALITY CONTROL

- A. The Engineer may direct Contractor to stop applying traffic marking if visual inspections show materials being used do not comply with specified requirements. Contractor shall remove noncomplying paint striping materials from Project site, pay for testing, and re-stripe surfaces marked with rejected materials. If necessary, Contractor may be required to remove rejected materials from previously striped surfaces if, on re-striping with specified materials, the two products are not compatible.

3.5 PROTECTION

- A. Protect work of other trades, whether being striped or not, against damage from traffic marking operation. Correct damage by cleaning, repairing, replacing, and recoating, as approved by Engineer, and leave in an undamaged condition.
 - 1. At completion of construction activities of other trades, touch up and restore damaged or defaced striped surfaces. Comply with procedures specified in Painting and Decorating Contractors of America standard P1 (PDCA P1).

PART 4 - MEASUREMENT AND PAYMENT

- A. There is no separate payment for this item. Payments for painting of line striping and pavement marking shall be included in the traffic coating, water repellent, concrete crack and spall repair and any other repair work indicated on the contract documents. Restripe pavement markings at the garage floors areas where existing pavement marking will be affected or disturbed due to the repair work as shown on the contract documents.

END OF SECTION 32 1723