

JERSEY CITY REDEVELOPMENT AGENCY
HUDSON COUNTY, NEW JERSEY
4 Jackson Square, Jersey City, New Jersey 07305

REQUEST FOR BIDS

FOR

**HUDSON AND MANHATTAN POWERHOUSE
STABILIZATION PROJECT**

JCRA CONTRACT NO. 26-11-RN25

BOARD OF COMMISSIONERS

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SEPTEMBER 30, 2026

JERSEY CITY REDEVELOPMENT AGENCY

**NOTICE OF
REQUEST FOR BIDS
FOR
H&M POWERHOUSE STABILIZATION PROJECT
JCRA CONTRACT NO. 26-11-RN25**

Sealed bids for the **HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT** (the “Project”) located at the Hudson & Manhattan Powerhouse (the “Powerhouse”) on property identified as Block 11609, Lot 1, commonly known by the street address, 350 Washington Street (60–84 Bay Street) (the “Property”) in the City of Jersey City (the “City”) will be received by the Jersey City Redevelopment Agency (the “JCRA”) at 4 Jackson Square, Jersey City, New Jersey on:

OCTOBER 29, 2026 AT 11:00 AM PREVAILING TIME

at which time the bids will be publicly opened at the JCRA offices at 4 Jackson Square, Jersey, New Jersey, and read aloud in accordance with law.

Bids are to be submitted in writing on forms provided herein, in a sealed envelope, addressed to Christopher Fiore, JCRA Acting Executive Director, and marked “Public Bid” with the name and address of the bidder and the name of the Project on the outside of the envelope, and may be sent by United States Certified Mail Return Receipt Requested, overnight delivery or by private courier service or hand-delivered to JCRA at 4 Jackson Square, Jersey City, New Jersey. Bids will have the date and time stamped upon receipt. Bidder is solely responsible for the timely delivery of the bid and no bids shall be considered that are presented after the date and time specified for receiving bids. Any bid received after the date and time specified will be returned, unopened to the bidder.

NO BIDS MAY BE SUBMITTED ELECTRONICALLY.

The Request for Bids and all associated documents, specifications and drawings may be obtained electronically and will be made available to bidders at no charge via Dropbox or otherwise by electronic link by submitting the following required information to Economic Project Solutions, Inc. c/o Bethany Russo (the “Owner’s Representative”), at brusso@economicprojects.com.

1. Title of Project.
2. Company name of prospective Bidder.
3. Name of contact person.
4. Mailing address.
5. Telephone number.
6. E-mail address.

BIDDER MUST SUPPLY ONE HARD COPY ORIGINAL AND ONE HARD COPY OF A

COPY OF THE BID WHICH SHALL INCLUDE ALL DOCUMENTS CONTAINED IN THIS REQUEST FOR BIDS FOR THE PROJECT. IN ADDITION, BIDDER MUST SUPPLY ONE CD ROM OR USB DRIVE VERSION IN PDF FORMAT. BIDDER DOES NOT HAVE TO INCLUDE A COPY OF THE DRAWINGS WITH ITS BID SUBMITTAL. HOWEVER, IT IS UNDERSTOOD AND AGREED BY THE BIDDER THAT THE DRAWINGS CONSTITUTE AN INTEGRAL PART OF THE BID SPECIFICATIONS AND WILL BE CONSIDERED AS PART OF THE BIDDER'S BID SUBMITTAL.

The Project work will include furnishing all labor, materials, and equipment necessary to complete the work as shown on the drawings, as described in the bid specifications, and in accordance with all documents included in this Request for Bids (collectively, the "Contract Documents"). The Project generally consists of building stabilization measures and installation of a monitoring system including but not limited to installation of netting, removal of building material, set up of a monitoring system, installation of a protective support structure for the existing tower and all other associated work as contained in the Contract Documents. The Project work shall be completed within 365 calendar days of the Contractor's receipt of written Notice to Proceed.

The Powerhouse is a nationally designated landmark; therefore, all bidders are required to be pre-qualified under the New Jersey Division of Property Management and Construction ("DPMC") C024 Historical Restoration classification. Any firm not classified with DPMC, may apply for DPMC classification at: <https://www.njportal.com/DPMC/ClassificationRequest/>. Any questions regarding classification may be submitted to the classification unit by emailing cclass@treas.nj.gov.

The Property is adjacent to NJ Transit's ("NJT") Light Rail tracks. The Port Authority of NY/NJ ("PATH") is currently occupying a portion of the Property and is staging materials and storing equipment on the Property as part of PATH's project to build a new substation across the NJT tracks to the north. Project work will need to be coordinated with NJT.

All questions pertaining to the Requests for Bids should be sent to the Owner's Representative by e-mail to brusso@economicprojects.com between the hours of 9:00 a.m. and 4:00 p.m., Monday through Friday with a copy to JCRA's project manager, Robert Napiorski (the "Project Manager"), by email to rnapiorski@jcra.org. All questions must be received by the Owner's Representative with a copy to the Project Manager no later than, October 19, 2026 by 4:00 p.m. In accordance with N.J.S.A. 40A:11-23(c), responses will be issued by either a clarification or addendum mailed or delivered to all parties recorded by JCRA as having received the Request for Bids. Questions received after 4:00 p.m. on October 19, 2026 will not be answered. Only questions answered by formal written addenda or clarifications will be binding. Oral and other interpretations will have no binding legal effect.

A Mandatory Pre-Bid Conference/Site Tour is scheduled for Thursday, October 15, 2026 at 11:00 A.M. to be held at the Powerhouse, beginning on Greene St, Jersey City, NJ 07035.

CONTRACTOR PRE-REGISTRATION IS REQUIRED

Contractors are required to PRE-REGISTER THE NAMES OF ALL ATTENDEES via email to the Project Manager by emailing rnapiorski@cnj.org with a copy to the Owner's Representative at brusso@economicprojects.com NO LATER THAN 2:00 PM on Monday, October 12, 2026 to attend the Mandatory Pre-Bid Conference/Site Tour. Firms failing to pre-register the names of attendees prior to 2:00 PM on Monday, October 12, 2026 will not be permitted entry.

ONLY BIDS SUBMITTED BY CONTRACTORS WHO ATTEND THE PRE-BID CONFERENCE/SITE TOUR WILL BE ACCEPTED.

Bids must be accompanied by a Surety's Consent and either a bid bond, cashier's check or certified check for ten (10%) percent of the amount of the bid or \$20,000.00, whichever is the lesser. Cashier's check or certified checks shall be made payable to Jersey City Redevelopment Agency. The Surety shall be bound to furnish Performance, Labor and Material, and Maintenance Bonds, each in an amount equal to one hundred percent (100%) of the contract price.

BIDDERS MUST COMPLY WITH THE REQUIREMENTS OF N.J.S.A. 10:5-31 et seq. AND N.J.A.C. 17:27-1 et seq. PERTAINING TO AFFIRMATIVE ACTION IN THE STATE OF NEW JERSEY.

Accompanying the Bid there shall be submitted a disclosure statement setting forth the name and address of all stockholders in the corporation or partnership who own 10% or more of its stock, of any class; or of all individual partners in the partnership who own a 10% or greater interest therein, or of all members of the limited liability company who own a 10% or greater interest, as the case may be. **If one or more such stockholder(s) or partner(s) or members is itself a corporation or partnership or limited liability company, the stockholders holding 10% or more of that corporation's stock, or the individual partners owning a 10% or greater interest in that partnership, or the individual members owning a 10% or greater interest in that limited liability company, as the case may be, shall also be listed. The disclosure statement shall be continued until names and addresses of every non-corporate stockholder and individual partner or member exceeding the 10% ownership criteria established in N.J.S.A. 52:25-24.2 has been listed.** The requirements of N.J.S.A. 52:25-24.2 are applicable to all forms of corporations, partnerships, and limited liability companies.

Bidders and their Subcontractors of any tier must comply with all applicable provisions of the Public Works Contractors Registration Act, N.J.S.A. 34:11-56.48 et seq., and the New Jersey Prevailing Wage Act, N.J.S.A. 34:11-56.25 et seq.

No Bidder may withdraw its bid within sixty (60) days after the date of the opening of Bids except in accordance with N.J.S.A. 40A:11-23.3.

JCRA reserves the right to reject all Bids in accordance with N.J.S.A. 40A:11-13.2, as well as the right to waive minor immaterial informalities, and to accept the Bid for the Contract that, in accordance with applicable law, is the lowest, responsible Bid.

All bid prices submitted shall hold firm for a minimum of sixty (60) days from the date of Bid

opening, per the Local Public Contracts Law, N.J.S.A. 40A:11-1 et seq., unless otherwise mutually extended in accordance with applicable law. JCRA and any Bidders may, in accordance with law, mutually agree upon extensions of time for the award of the Contract as may be necessary.

Christopher Fiore
Acting Executive Director
Jersey City Redevelopment Agency

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SECTION 00100 – INSTRUCTIONS TO BIDDERS

00101 DEFINED TERMS

1.1 Terms defined below shall have the following definitions throughout the Contract Documents.

- 1.1.1 “Agreement” or “Contract” shall mean the agreement to be executed between the Successful Bidder and the JCRA. The Contract includes as a part thereof, the Request for Bids (the “RFB”), and all Addenda, if any issued to the RFB, the Bid of the Successful Bidder, including all documents submitted to the JCRA therewith, or relating thereto, all documents submitted to the JCRA by the Successful Bidder in connection with or subsequent to the award of the Contract to the Successful Bidder or the execution thereof, all Change Orders or other modifications of the Contract entered into by the Successful Bidder and the JCRA, the award of the Contract or the Work or performance thereof, and all directions or instructions issued by or on behalf of the JCRA to the Successful Bidder concerning the Contract and/or the performance of the Work.
- 1.1.2 “Agreement Time” shall mean 365 calendar days within which the Work must be completed.
- 1.1.3 “Bid” shall mean the proposal submitted to the Owner by the Bidder to enter into the Contract for the performance of the Work which satisfies all of the material requirements of the RFB.
- 1.1.4 "Bidder" shall mean the entity submitting a bid directly to the Owner, distinct from a sub-bidder or one who submits a bid to a Bidder.
- 1.1.5 “Bid Prices” shall refer to the prices that the Contactor bid on the various Items within the Contract.
- 1.1.6 “Contract Documents” shall mean collectively, all of the documents, forms, covenants, terms and conditions in this RFB that shall be made part of and constitute essential parts of the Agreement.
- 1.1.7 "Contract Price" shall mean the total amount earned by the Contractor and paid in the final estimate and payment under the Article of the Agreement entitled, "Contract Payment."
- 1.1.8 “Contractor” shall mean the party entering into the Agreement for the performance of the Work required to be performed hereunder, and the legal representatives of the Contractor, or agents appointed to act for the Contractor in the performance of the Work.
- 1.1.9 "Drawings" and "Contract Drawings" shall mean the drawings that show the character and scope of the Work to be performed and that form an integral part of

this project and bear the following general title:

JERSEY CITY REDEVELOPMENT AGENCY
HUDSON COUNTY, NEW JERSEY
HUDSON & MANHATTAN POWERHOUSE STABILIZATION
JCRA CONTRACT NO. 26-11-RN25

- 1.1.10 "Effective Date of the Agreement" shall mean the date on which all parties have signed the Agreement.
- 1.1.11 "Engineer" shall mean PEI Associates, acting through properly authorized agents or project representatives, such agents or project representatives acting within the scope of their authority; or such other engineer named by the Owner in the event that the named Engineer is unable to act or ceases to act as the Engineer for the Owner.
- 1.1.12 "Final Completion" shall mean the proper completion of all Work for the entire project as contemplated and provided for under this Contract, sufficient for acceptance by the Owner. If any items of Work shall not have been properly completed, e.g., should any punch list items remain uncompleted, Final Completion shall not have been achieved. The Owner, with the advice of the Engineer, shall fix the date of Final Completion of all Work and shall annotate the date of Final Completion upon the Contractor's final Application for Payment.
- 1.1.13 "Notice of Contract Award" see Section 00305.
- 1.1.14 "Notice to Proceed" see Section 00306.
- 1.1.15 "Owner" or "JCRA" shall mean the Jersey City Redevelopment Agency, or any agency or officer duly authorized to act in its place under the RFB or the Contract.
- 1.1.16 "Owner's Representative" shall mean Economic Project solutions, Inc., acting through properly authorized agents or project representatives, such agents or project representatives acting within the scope of their authority; or such other Owner's Representative named by the Owner in the event that the named Owner's Representative is unable to act or ceases to act as the Owner's Representative for the Owner.
- 1.1.17 "Parties" shall mean, collectively, JCRA and the Successful Bidder.
- 1.1.18 "Project" shall mean the HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT.
- 1.1.19 "Subcontractor" shall mean a person, firm, corporation or entity supplying labor materials and/or other services regarding the Work to be performed under the

Contract under separate contract or agreement with the Successful Bidder.

- 1.1.20 "Substantial Completion" or "Substantially Complete" shall mean satisfactory completion of the major portions of the Work, including, without limitation, inspection and testing and the issuance of any necessary governmental Certificates of Occupancy, so that the facility may be turned over to the Owner for its intended use or occupancy. The date of Substantial Completion shall be certified by the Engineer.
- 1.1.21 "Successful Bidder" shall mean the lowest, responsible Bidder to whom Owner (on the basis hereinafter provided in Section 00117) makes an award of a contract.
- 1.1.22 "Work" shall mean all labor and equipment associated with the Project and as described in the Bid Specifications in Section 00401 and Drawings in Section 00402.

00102 COPIES OF BIDDING DOCUMENTS

- 2.1 Refer to Notice of Request for Bids, and Section 00104 for information on examination and procurement of Contract Documents.
- 2.2 The Owner has placed a Notice of Request for Bids in a manner as required by law no less than ten (10) days prior to the bid opening in accordance with N.J.S.A. 40A:11-23.
- 2.3 Complete Sets of Contract Documents shall be used in preparing Bids; neither Owner nor Owner's Representative nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.
- 2.4 Owner and Owner's Representative, in making copies of Contract Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not confer a license or grant for any other use.
- 2.5 Pursuant to N.J.S.A. 40A:11-24(b), if for any reason the contract is not awarded, and the bidders have paid for or paid a deposit for the Contract Documents to the Owner, the payment or deposit shall immediately be returned to the Bidders when the Contract Documents are returned in reasonable condition within ninety (90) days of notice that the contract has not been awarded.

00103 RESPONSIBILITY OF BIDDERS

- 3.1 To demonstrate responsibility to perform the Work, each Bidder must be prepared to submit with its Bid written evidence such as previous experience and evidence of authority and certifications to conduct business in the State of New Jersey or a covenant to obtain such qualification prior to award of the contract.

3.1.1 Previous Construction Experience:

Bidder shall provide a construction activity history commencing with the most recent construction to a period of five (5) years prior to the Bid receipt date. The Bidder shall list the following information relative to each project: (1) Owner, (2) Contract Number and Description, (3) Design Engineer, (4) Contract Amount (rounded to nearest \$50,000), and (5) Contract Completion Date.

00104. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

4.1 Before submitting a Bid, each Bidder must:

4.1.1 Examine the Contract Documents and other related documents thoroughly.

4.1.2 Familiarize itself with the site and with local conditions that may in any manner affect cost, progress or performance of the Work.

4.1.3 Familiarize itself with federal, state and local laws, ordinances, rules and regulations that may in any manner affect cost, progress or performance of the Work;

4.1.4 Study and carefully correlate Bidder's knowledge and observations with the Contract Documents.

4.1.5 Promptly notify Owner's Representative and Project Manager of all conflicts, errors, ambiguities, or discrepancies that the Bidder has discovered in or between the Contract Documents and other related documents.

4.2 Reference is made to the Bid Specifications and Drawings, included in Section 00400 for the identification of the general nature of the Work that is to be performed at the site by the Contractor on behalf of the Owner or others (such as utilities and other prime contractors) that relates to the Work for which a Bid is to be submitted.

4.3 The submission of a Bid will constitute an incontrovertible representation by the Bidder that it has complied with every requirement of this Section and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions, for performance of the Work.

4.4 The Bidder shall inspect the general area where the Work will occur to become acquainted with the conditions under which the Work shall be performed.

00105 AVAILABILITY OF LANDS FOR WORK, ETC.

5.1 The lands upon which the Work is to be performed, rights-of-way and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for

temporary construction facilities, construction equipment or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Contract Documents.

00106 INTERPRETATIONS AND ADDENDA.

- 6.1 All questions about the meaning or intent of the Contract Documents shall be submitted to the Owner's Representative with a copy to the Project Manager, in writing only, **NO LESS THAN FOURTEEN (14) WORKING DAYS** prior to the Bid date. In accordance with N.J.S.A. 40A:11-23(c), replies will be issued by addenda mailed or delivered to all parties recorded by the Owner or the Owner's Representative as having received the Contract Documents. Questions received less than fourteen (14) days prior to the date for opening of Bids will not be answered. Only questions answered by formal written addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 6.2 Written Addenda may also be issued to modify the Contract Documents as deemed advisable by the Owner, the Owner's Representative, or the Engineer.
 - 6.2.1 The Owner or the Owner's Representative will transmit a notice of revision or addenda to advertisements or Contract Documents in writing by certified mail or by certified facsimile transmission, meaning that the sender's facsimile machine produces a receipt showing date and time of transmission and that the transmission was successful or by a delivery service that provides certification of delivery to the sender no less than (7) working days, Saturdays, Sundays, and holidays excepted, prior to bid opening as required by N.J.S.A. 40A:11- 23(c)(2).

00107 BID SECURITY.

- 7.1 In accordance with N.J.S.A. 40A:11-21, Bid security shall be made payable to Owner, in an amount of ten percent (10%) of the Bidder's maximum Bid price (but not in excess of \$20,000.00) and in the form of a certified or bank check or a Bid Bond (either on the form attached or one supplied by the surety) issued by a surety meeting the requirements of N.J.S.A. 2A:44-143 et seq. and the requirements of the Contract Documents. Bidder must also supply a Consent of Surety to provide Performance, Labor and Materials, and Maintenance Bonds.
- 7.2 All Bid security, except the security of the three (3) apparent lowest, responsible and complying Bidders shall be returned, unless otherwise requested by a Bidder within ten (10) days after the opening of bids, Sunday and holidays excepted, as required by N.J.S.A. 40A:11-24.
- 7.3 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required performance and maintenance bonds, and insurance, whereupon it will be returned. If the Successful Bidder fails to execute and

deliver the Agreement and furnish the required performance and maintenance bonds, and insurance within fifteen (15) days of the notice of contract award, the Owner may annul the notice of contract award and the Bid security of the Successful Bidder will be forfeited. Within three (3) days, Sundays and holidays excepted, after the awarding and signing of the Agreement and the approval of the Successful Bidder's performance bond, the Bid security of the remaining unsuccessful bidders will be returned in accordance with N.J.S.A. 40A:11-24.

00108 AGREEMENT TIME.

- 8.1 The number of days within which the Work is to be completed shall be known as the Agreement Time. The Agreement Time is **365 calendar days** from the Effective Date of the Agreement.

00109 LIQUIDATED DAMAGES.

- 9.1 The Owner and Contractor hereby acknowledge, agree, and recognize that TIME IS OF THE ESSENCE for completion of the Work in accordance with the Agreement and that the Owner may suffer financial loss and/or penalty if the Work is not performed and/or delivered in accordance with this Agreement. As such, and instead of requiring proof of such losses or damages, the Owner and the Contractor agree that as and for liquidated damages for delay, but not as a penalty, the Contractor shall pay the Owner \$1,000.00 per working day for each day that expires after the time specified in this Agreement until performance of the Work is complete. Owner may deduct the amount of liquidated from any money due to the Contractor under the Agreement.
- 9.2 In accordance with N.J.S.A. 40A11-17, the contract shall provide for a deduction from the contract price, or any wages paid by the Owner to any inspector or inspectors necessarily employed by it on the Work, for any number of days in excess of the number allowed in the Specifications.

00110 BRAND NAMES, STANDARDS OF PRODUCTS, QUALITY, AND PERFORMANCE.

- 10.1 Brand names and/or descriptions used in the Contract Documents, if applicable, are to acquaint Bidders with the types of goods and services desired and will be used as a standard by which goods and services offered as equivalent will be evaluated.

When a specification uses "brand name or equivalent," the listed brand name shall serve as a reference point or point of comparison for the functional or operational characteristic desired for the good or service being requested. Where a Bidder submits an equivalent, it shall be the responsibility of the Bidder to document the equivalence claim. Failure to submit such documentation shall be grounds for rejection of the claim of equivalence and the Bidder will be required to utilize the brand-named item.

In submitting its bid, the Bidder certifies that the goods and services to be furnished will

not infringe upon any valid patent or trademark and that the Bidder shall, at its own expense, defend any and all actions or suits infringement, and will save the Owner harmless from any damages resulting from such infringement.

The Successful Bidder shall guarantee any or all goods and services supplied under the Contract Documents. Defective or inferior goods shall be replaced at the expense of the Successful Bidder. The Successful Bidder will be responsible for return freight or restocking charges.

- 10.2 Contractor shall utilize manufactured and farm products of the United States, wherever available in its performance of the Work in accordance with N.J.S.A. 40A:11-18.

00111 SUBCONTRACTORS AND OTHERS.

- 11.1 If the Contract Documents require the identity of certain prime Subcontractors, suppliers and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the Successful Bidder shall within five (5) days after Notice of Contract Award submit to the Owner a list of all such Subcontractors, suppliers and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, supplier, person or organization. This must include a Business Registration Certificate, a Public Works Contractor's Certification, and any other information required by the Owner. The Owner or the Owner's Representative, who after due investigation has reasonable objection to any proposed Subcontractor other than those listed in the bid specifications pursuant to N.J.S.A. 40A:11-16, supplier, other person or organization, may before the Effective Date of the Agreement request the Successful Bidder to submit an acceptable substitute, without an increase in Bid price. If the Successful Bidder declines to make any such substitution, the Owner may rescind the contract award and award the contract to the next lowest, complying and responsible Bidder that proposes to use acceptable Subcontractors, suppliers and other persons and organizations. The refusal to make requested substitutions will not constitute grounds for forfeiting the Bid security of any Bidder. Any Subcontractor, supplier, other person or organization listed and to whom the Owner or the Owner's Representative does not make written objection prior to the giving of the Notice of to Proceed will be deemed acceptable to the Owner and the Owner's Representative, subject to revocation of such acceptance after the Effective Date of the Agreement as provided in the Contract Documents.
- 11.2 The Contractor shall not be required to employ any Subcontractor or other person or organization against whom it has reasonable objection.
- 11.3 In accordance with N.J.S.A. 40A:11-16, all Bidders must list the names of all Subcontractors performing any one of the four (4) specialty trade categories at the time Bids are submitted. The four specialty trades are as follows:

- 1) Plumbing and Gas Fitting and all Kindred Work;
- 2) Steam Powered Plants, Steam and Hot Water Heating and Ventilation Apparatus and all Kindred Work;
- 3) Electrical Work, including any electrical power plants, tele-data, fire alarm, or security system; and
- 4) Structural Steel and Ornamental Iron Work.

11.3.1 In addition, Bidders shall provide evidence of performance security simultaneously with the list of Subcontractors, which may be supplied by the Bidder on its behalf and any or all Subcontractors or by each respective Subcontractor, or by any combination thereof that results in evidence of performance security equaling, but not exceeding, the total amount in the Bid.

11.3.2 In accordance with N.J.S.A. 40A:11-16, any Bidder who proposes using more than one Subcontractor for any of the specialty trade categories listed above must submit a certificate with its Bid listing each Subcontractor named in the Bid for that category. Specifically, the certificate shall set forth the scope of Work for which the Subcontractor has submitted a price and that the Bidder has agreed to award to each Subcontractor should the Bidder be awarded the contract. This certificate shall be submitted to the Owner simultaneously with the list of Subcontractors. The certificate may take the form of a single certificate listing all Subcontractors or, alternatively, a separate certificate may be submitted for each Subcontractor. If a Bidder does not submit a certificate or certificates with its Bid, the Owner will award the contract to the next lowest, responsible Bidder.

00112 PREPARATION OF BIDS

- 12.1 The Bid Form, Bid Price Sheet, and required supplements are contained within the Contract Documents. Bids should be submitted on the prescribed forms, but may utilize additional pages where necessary and appropriate.
- 12.2 All blank spaces for Bid prices must be completed in ink or typed. The Bid price of each item on the form must be stated both in words and figures.
- 12.3 Bidders shall submit their Bids with complete set of the Contract Documents, including all pages correctly assembled. When submitting a Bid, Bidders do not have to include the Drawings, however, it is understood that they are part of your submitted Bid.
- 12.4 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested to by the secretary or an assistant secretary. The corporate address and state of incorporation shall be below the signature.
- 12.5 Bids by partnerships must be executed by the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must

be shown below the signature.

- 12.6 Bids by limited liability companies must be executed in the company name by the president or a vice-president (or other company officer accompanied by evidence of authority to sign) and the company seal must be affixed and attested to by the secretary or an assistant secretary. The company address shall be below the signature.
- 12.7 All names must be typed or printed in ink below the signature.
- 12.8 The Bid shall contain the Acknowledgment of Addenda form (the numbers of any addenda shall be filled in on the form provided).
- 12.9 The Bidder's address to which communications regarding the Bid are to be directed must be indicated on the Bid Form.
- 12.10 The Bid Price shall include all such amounts as the Bidder deems proper for overhead and profit.
- 12.11 For allowances line items, if the allowance calls for the Bidder to utilize its workforce such as equipment, labor and material, the Bidder may submit overhead and profit of not more than fifteen percent (15%) of the combined total. It is at the sole discretion of the Owner whether or not overhead and profit will be allowed. There will be no overhead and profit allowed on utility relocation and police traffic directors.

00113 SUBMISSION OF BIDS

- 13.1 Bids shall be submitted on or before the time and at the place indicated in the Notice for Request for Bids and shall be enclosed in an opaque sealed envelope, marked with the project title and name and address of the Bidder and accompanied by the Bid Security and other required documents.

00114 WITHDRAWAL OF BIDS

- 14.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the deadline for receipt of bids.

If, within five (5) business days after Bids are opened, any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material mistake in the preparation of its Bid, the Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work.

- 14.2 Permission for a Bidder to withdraw a Bid due to a mistake in certain circumstances:

- 14.2.1 N.J.S.A. 40A:11-23.3 permits a Bidder to request withdrawal of a Bid for a public works contract due to a mistake on the part of the Bidder. A mistake is defined by N.J.S.A. 40A:11-2(42) as a clerical error that is an unintentional and substantial computational error, an unintentional omission of a substantial quantity of labor, material, or both, from the final bid computation.
- 14.2.2 A Bidder claiming a mistake under N.J.S.A. 40A:11-23.3 must submit a request for withdrawal, in writing, by certified or registered mail to Christopher Fiore, Acting Executive Director, Jersey City Redevelopment Agency, 4 Jackson Square, Jersey City, New Jersey 07305 with a copy to the Owner's Representative. The Acting Executive Director may contact all Bidders, after Bids are opened, to ascertain if any Bidders wish to or already have submitted a request to withdraw their Bid pursuant to N.J.S.A. 40A:11-23.3.
- 14.2.3 A Bidder's request to withdraw its Bid shall contain evidence, including any pertinent documents, demonstrating that a mistake was made. Such documents and relevant written information shall be reviewed and evaluated by the Owner's designated staff pursuant to N.J.S.A. 40A:11-23.3.
- 14.2.4 The Owner will not consider any written request for withdrawal of a Bid due to a mistake by a Bidder in the preparation of a Bid unless the postmark on the certified or registered mailing is within five (5) business days following the opening of Bids.

00114A TRUTH IN CONTRACTING LAWS

- 14A.1 N.J.S.A. 2C:21-34 provides that it is a crime for the Bidder to knowingly submit a false claim and/or knowingly make a material misrepresentation.
- 14A.2 N.J.S.A. 2C:27-10 provides that a public servant commits a crime if said public servant solicits or receives a benefit directly or indirectly, for an official act performed or to be performed by a public servant, which is a violation of official duty.
- 14A.3 N.J.S.A. 2C:27-11 provides that a person commits a crime if said person, directly or indirectly, confers or agrees to confer any benefit not allowed by law to a public servant.

Bidders should consult the statutes or legal counsel for further information.

00115 OPENING OF BIDS.

- 15.1 Bids will be opened publicly in the method and at the time specified in the Notice of Request for Bids.
- 15.2 Bids will be read aloud, and an abstract of the amounts of the base Bids and alternates (if any) will be made available after the opening of Bids.

- 15.3 Bidders may review bids submitted by other Bidders one person at a time under the supervision of Owner's representative.

00116 BIDS TO REMAIN SUBJECT TO ACCEPTANCE.

- 16.1 All Bids shall remain open subject to acceptance for sixty (60) days after the day of the Bid opening, but Owner shall return all Bid security except those of the apparent three (3) lowest, responsible and responsive Bidders within ten (10) days, Sundays and holidays excepted after the opening of Bids. By mutual written consent of the Owner and the affected Bidder(s), the period during which Bids remain open may be extended beyond sixty (60) days in accordance with applicable provisions of the Local Public Contracts Law.

00116A UNBALANCED BIDS.

- 16A.1 The amount bid for each pay item in the Bid shall reflect the actual cost the Bidder reasonably anticipates that performance of that pay item will entail, together with a proportional share of the cost to perform Work for which no separate pay item is provided and a proportional share of the Bidder's anticipated overhead and profit. Bids that are, in the sole discretion of the Owner, materially unbalanced, will be considered unresponsive. Materially unbalanced means that the Bid is structured on the basis of nominal prices for some items and inflated prices for other items creating, in the sole judgment of the Owner, reasonably exercised, the possibility that: 1) progress payments for items completed early may result in the unpaid project balance being insufficient to complete early may result in the unpaid project balance being insufficient to complete the Work and/or 2) award to the Bidder will not result in the lowest, ultimate cost to the Owner, taking into consideration the reasonable potential for adjustment of quantities including, but not limited to, "If and Where Directed" items and quantities.

00117 AWARD OF CONTRACT

- 17.1 The Owner may reject any Bid in accordance with applicable law, or all Bids in accordance with N.J.S.A. 40A:11-13.2. Discrepancies between a column of figures determined by extending the unit prices and the indicated sum thereof will be resolved on the basis of the unit prices. Discrepancies between the indicated sum of columns and the correct sum thereof will be resolved in favor of the correct sum. In the event of any discrepancy, price written in words will govern.
- 17.2 In evaluating Bids, the Owner will award a contract to the lowest, responsible, responsive Bidder, including such alternates unit prices and other data if requested in the Bid Price Sheet.
- 17.3 To demonstrate qualifications to perform the Work, each Bidder must submit with its Bid written evidence of the types set forth in the Contract Documents, such as previous experience. Each Bid must contain evidence of Bidder's authorization to do business in the State of New Jersey.

- 17.4 The Owner may consider the qualifications and experience of Subcontractors, suppliers and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, suppliers and other persons and organizations must be submitted as provided in the Contract Documents. The Owner may also consider the operating costs, maintenance considerations, performance data and guarantees of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 17.5 If during the Bid evaluation period it is determined that the Bidder has provided or made false statements in its Bid, the Bid of the Bidder will be rejected.
- 17.6 The Owner may conduct such investigations as it deems necessary in the evaluation of any Bid to establish the responsibility and responsiveness of the Bidders, proposed Subcontractors, suppliers and other persons and organizations to do the Work in accordance with the Contract Documents and N.J.S.A. 40A:11-1 and 40A:11-4 to the Owner's satisfaction within the prescribed time.
- 17.7 If the Contract is to be awarded, it will be awarded to the lowest, responsible Bidder. The Owner will give the Successful Bidder a notice of award within sixty (60) days after the day of the Bid opening, unless the time frame for award is otherwise extended by the Owner and Bidders. The award of the Contract shall be subject to review and approval of those regulatory agencies exercising jurisdiction over the procurement and/or the Work.
- 17.8 Without invalidating the Contract and without notice to any surety, the Owner may, at any time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive in accordance with all applicable laws and regulations, including, but not limited to, N.J.A.C. 5:30-11.3, N.J.S.A. 40A:11-13g and N.J.S.A. 40A:11-23.1a, subject to agreement with the Contractor as to terms and conditions for the additional or deleted Work. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved that will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

00118 PERFORMANCE, AND LABOR AND MATERIALS BONDS

- 18.1 Performance Bond: Within ten (10) calendar days of the date of issuance of the notice of award, the Contractor shall furnish and deliver a performance bond from a surety company authorized to conduct business in New Jersey for the faithful performance and completion of the Work. The performance bond shall not be returned or canceled until all liability to any and all persons protected by the conditions of the performance bond shall have been met by the Contractor or person primarily liable for the payment thereof or by the surety on the performance bond.
- 18.2 The performance bond shall be in an amount equal to one hundred percent (100%) of the total contract price, shall be satisfactory to the Owner's General Counsel, and shall be

executed by a surety company licensed to do business in the State of New Jersey, in compliance with N.J.S.A. 2A:44-143 et seq., as amended. In no case shall the Contractor begin Work prior to approval of the performance bond by the Owner.

- 18.3 Form for Performance Bond: The Contractor must submit the performance and payment bond on the form provided by the Owner. The submission of bonding on an alternate form not supplied by the Owner may result in the rescission of the contract award.
- 18.4 In the event change order(s) are approved that increase the contract total beyond the original amount, the Contractor shall provide the Owner with a rider to the existing performance bond for the additional amount. The Contractor shall provide this rider to the original performance bond no later than fourteen (14) days after receiving approval by the Owner of an increase in the Work and amount of compensation payable to the Contractor.
- 18.5 In the event the project exceeds the time period for which the performance bond is issued, the Bidder shall no later than thirty (30) days before the expiration date, provide the Owner with either a new performance bond or a rider to the existing bond extending the coverage for at least one (1) year from the expiration date. The Contractor will continue to update the bond until this project is complete.
- 18.6 The labor and material bond shall be in an amount equal to one hundred percent (100%) of the total contract price, shall be satisfactory to the Owner's General Counsel, and shall be executed by a surety company licensed to do business in the State of New Jersey, in compliance with N.J.S.A. 2A:44-143 et seq., as amended. In no case shall the Contractor begin Work prior to approval of the performance bond by the Owner.
- 18.7 Labor and Materials Bond: Within ten (10) calendar days of the date of issuance of the notice of award, the Contractor shall furnish and deliver a labor and materials bond from a surety company authorized to business in New Jersey for the payment of all lawful claims and bills against the Contractor for all labor, material, tools and equipment used in or in connection therewith. The labor and materials bond shall hold the Contractor fully responsible for payment of all lawful claims of any and or all Subcontractors, material men, laborers, firms or corporations for labor performed or material services or supplies provided in connection with the Work.
- 18.8 Form for Labor and Materials Bond: The Contractor must submit the labor and materials bond on the form provided by the Owner in the amount of 100% of the maximum Contract Price. The submission of bonding on an alternate form not supplied by the Owner may result in the rescission of the contract award.
- 18.9 In the event change order(s) are approved that increase the contract total beyond the original amount, the Contractor shall provide the Owner with a rider to the existing labor and materials bond for the additional amount. The Contractor shall provide this rider to the original bond no later than fourteen (14) days after receiving approval by the Owner of an increase in the Work and amount of compensation payable to the Contractor.

- 18.10 In the event the project exceeds the time period for which the labor and materials bond is issued, the Bidder shall no later than thirty (30) days before the expiration date, provide the Owner with either a new labor and materials bond or a rider to the existing bond extending the coverage for at least one (1) year from the expiration date. The Contractor will continue to update the bond(s) until this project is complete.

00119 MAINTENANCE BOND

- 19.1 Upon acceptance of the Work by the Owner, the Contractor shall supply a maintenance bond in the amount not to exceed of 100% of the final contract amount guaranteeing against defective quality of the Work and or materials for the period of two (2) years.

00120 SIGNING OF AGREEMENT

- 20.1 When the Owner gives a notice of award to the Successful Bidder, it will be accompanied by at least three (3) unsigned counterparts of the Agreement and all other Contract Documents. Within fifteen (15) days thereafter, Contractor shall sign and deliver at least three (3) copies of the Agreement to the Owner with the required bonds. Within ten (10) days thereafter, the Owner will deliver one (1) fully signed copy to the Contractor. Each copy of the Agreement shall be accompanied by a complete set of the drawings with appropriate identification. The Owner's Representative will identify those portions of the Contract Documents not fully signed by the Owner and Contractor and require the Owner and Contractor to execute those unsigned portions of the Contract Documents before the Contract Documents shall be binding on all parties.
- 20.2 Contractor shall provide the Owner, within fifteen (15) days after receipt of the unsigned copy of the Agreement from the Owner, with sufficient actual copies, as the Owner deems necessary, of the required insurance policies, performance, payment and other bonds and other items required by the Contract Documents. The Owner shall review the insurance policy for compliance to the Contract Documents. If the Contractor's insurance policy does not meet the requirements of the Contract Documents, the Owner shall notify the Contractor, and the Contractor shall within ten (10) days of the notice provide an insurance policy that complies in all respects with the Contract Documents.
- 20.3 Should the Contractor fail or refuse to execute and deliver the Agreement, bonds, certificate of insurance, cost breakdown, construction schedule, shop drawings submission schedule, or any of them, satisfactory to Owner, within twenty-one (21) days after the Contractor has received the notice of award, Sundays and holidays excepted or within such further time period as the Contractor and the Owner may in writing agree, the Owner shall have the right to rescind the award and declare the amount of the Contractor's Bid security to be forfeited to the Owner as liquidated damages for such failure or refusal.

00121 SALES AND USE TAX

- 21.1 The Owner is exempt from New Jersey sales tax and use taxes imposed by the Sales and Use Tax Act (N.J.S.A. 54:32B-1 et seq.)
- 21.2 The Contractor is responsible for confirming with the State of New Jersey on items that may be exempt and the steps that should be taken to obtain such exemption.

00122 NEW JERSEY AFFIRMATIVE ACTION REQUIREMENTS

- 22.1 The Contractor must, after notification of award but prior to signing the Agreement, submit its Initial Project Workforce Report form to the Owner. The Initial Project Workforce Report will be made available to the Contractor by the Owner. The contract award to the Contractor will be rescinded if the Contractor fails to submit the Initial Project Workforce Report within the time specified in the Contract Documents.
- 22.2 The Contractor must execute the Agreement containing the mandatory provisions set forth in Exhibit "B." The Contractor also agrees to submit a copy of the Monthly Project Workforce Report Form AA 202 each month for the duration of the Agreement to the Department of Labor and Workforce Development and to the Owner's Compliance Officer.
- 22.3 Exhibit B of the model Instructions to Bidders and Statutory Requirements is the current and complete mandatory language for construction bid specifications and contracts. The document is the mandatory language for construction bid specifications and contracts pursuant to N.J.A.C. 17:27-3.5, and the mandatory bid specification and contract language for employment goal compliance for construction contracts at N.J.A.C. 17:27-3.7. A complete review of both rule provisions is recommended.

00123 NEW JERSEY ANTI-DISCRIMINATION

- 23.1 The Agreement for the Work shall require the Contractor to agree not to discriminate in employment and agree to abide by all anti-discrimination laws including, but not limited to, N.J.S.A. 10:2-1.

00124 NEW JERSEY STATE WAGE RATE REQUIREMENTS

- 24.1 All workers, whether employed by the Contractor or a Subcontractor, shall be paid at rate not less than the prevailing wage rate as designated by the Commissioner of the New Jersey Department of Labor and Workforce Development, Division of Wage and Hour Compliance, pursuant to this authority under N.J.S.A. 34:11-56.25 et seq.
- 24.2 In the event any workers employed by the Contractor or a Subcontractor have been paid at a rate of wages less than the prevailing wage rate required in this Agreement, the Owner may terminate the Agreement or the Contractor's or Subcontractor's right to proceed with the Work, or such part of the Work as to which there has been a failure to pay the required rate of wages.

- 24.3 The Contractor and the surety of the Contractor shall be liable to the Owner for any damages and excess costs caused by the termination of the Agreement for failure to pay the required rate of wages as contained in the Contract Documents and the Agreement.
- 24.4 N.J.A.C. 12:60-5.1 requires that all public works employers shall submit a certified payroll record as defined in N.J.A.C. 12:60-2.1 to the public body that contracted for the public work project each payroll period within ten (10) days of the payment of wages. In accordance with N.J.S.A. 34:11-56.27, should the Contractor fail to comply with the requirement, the public body may terminate the Contractor's or Subcontractor's right to proceed with the work, or such part of the work as to which there has been a failure to pay required wages and to prosecute the work to completion or otherwise. The Contractor and its sureties shall be liable for any excess costs occasioned thereby to the Owner, any lessee to whom the Owner is leasing a property or premises or any lessor from whom the Owner is leasing or will be leasing a property or premises and may result in the withholding of payments from the Contractor.
- 24.5 Final payment under this Agreement shall be contingent upon compliance by Contractor and any Subcontractor with the provisions of N.J.S.A. 34:11-56.33 and the Owner shall not be required to make final payment under this Agreement to the Contractor until the Contractor files with the Owner a written statement verified under oath certifying the wages still due and owing from Contractor or any of its Subcontractors to any worker for Work performed under this Agreement. Said Certification shall contain the names of the persons whose wages are unpaid and the amount of wages due to each respectively and shall also contain a statement that Contractor had read the Certification, knows the contents thereof and that the information contained therein is true to the best of its knowledge.

00126 MUNICIPAL MECHANICS' LIEN LAW

- 26.1 Bidders must be aware of the provisions of the Municipal Mechanics' Lien Law, N.J.S.A. 2A:44-125 et seq., and the requirement for the provision of notice pursuant N.J.S.A. 2A:44-128, as follows:

NOTICE OF THE DELIVERY OF LABOR OR MATERIALS

In accordance with the terms and provisions of the Municipal Mechanics' Lien Law, N.J.S.A. 2A:44-125 et seq., notice pursuant to N.J.S.A. 2A:44-128 is hereby given that:

- (1) (Name of person supplying labor or materials) of (address of person supplying labor or materials) has on (date) provided to (name or Subcontractor) the following: (description of labor or material). My telephone number is (telephone number of person supplying labor or materials).
- (2) The description of labor or materials) were provided for the (name of public improvement) in (name of municipality), New Jersey.

Signed: _____

For: _____
(individual, firm or corporation)

00127 SURETY BONDS FOR CONSTRUCTION PROJECTS

- 27.1 Bidders must be aware of and comply with N.J.S.A. 2A:44-143 and 144, for surety bonding for public Contractors.
- 27.2 Surety companies executing bonds must appear on the United States Treasury Department's most current List (Circular 570 as amended) and be authorized to transact business in the state where the Project is located.

00128 COVERAGE OF "OWNERSHIP DISCLOSURE FORM"

- 28.1 N.J.S.A. 52:25-24.2, in referring to corporations, partnerships, and limited liability companies, is intended to apply to all forms of corporations, partnerships including limited partnerships, limited liability corporations, limited liability partnerships and Subchapter S corporations. This coverage is applicable to the Ownership Disclosure Statement located in the Contract Documents.

00129 BID SPECIFICATION CHALLENGE

- 29.1 Per N.J.S.A. 40A:11-13, any prospective Bidder who wishes to challenge a bid specification, shall file such challenges in writing with the Project Manager with a copy to the Owner's Representative no less than three (3) business days prior to the opening of the Bid. Challenges filed after that time shall be considered void and having no impact on the Owner of the award of the Contract.

00130 PUBLIC WORKS CONTRACTOR REGISTRATION ACT

- 30.1 The Public Works Contractor Registration Act, N.J.S.A. 34:11-56.48 et seq., requires a Bidder to submit copies of the certificate of registration for the Bidder and any listed Subcontractors prior to the award of a Contract. Also, the Bidder and its proposed listed Subcontractors must be registered pursuant to Public Works Contractor Registration Act at the time the Bid is submitted.

00131 SUBCONTRACTOR REGISTRATION

- 31.1 No Contractor shall list a Subcontractor in a Bid for the Contract unless the Subcontractor is registered pursuant to Public Works Contractor Registration Act at the time the Bid is made. No Contractor or Subcontractor, including a Subcontractor not listed in the Bid, shall engage in the performance of any public work subject to the Contract, unless the

Contractor or Subcontractor is registered pursuant to that act.

Contractor shall, after the Bid is submitted and prior to the awarding of the Contract, submit to the Owner the certificate of registration for all Subcontractors listed in the Bid. Applications for registration shall not be accepted as a substitute for a certificate of registration.

00132 NEW JERSEY BUSINESS REGISTRATION CERTIFICATE

- 32.1 Pursuant to N.J.S.A. 52:32-44, the Owner is prohibited from entering into a Contract with an entity unless the Bidder and each Subcontractor that is required by law to be named in a Bid has submitted a copy of a valid Business Registration Certificate on file with the Division of Revenue and Enterprise Services within the Department of Treasury.
- 32.2 Prior to contract award or authorization, Bidders shall provide the Owner with proof of business registration and that of any named Subcontractor(s). Subcontractors named in a Bid shall provide proof of business registration to the Bidder, who in turn, shall provide it to the Owner prior to the time a Contract for the Work is awarded.
- 32.3 During the course of contract performance:
 - 32.3.1 The Contractor shall not enter into a Contract with a Subcontractor unless the Subcontractor first provides the Contractor with a valid proof of business registration.
 - 32.3.2 The Contractor shall maintain and submit to the Owner a list of Subcontractors and their addresses that may be updated from time to time.
 - 32.3.3 The Contractor and any Subcontractor providing goods or performing services under the Contract, and each of their affiliates, shall remit to the Director of the Division of Taxation in the Department of the Treasury, the use tax due pursuant to the Sales and Use Tax Act, (N.J.S.A. 54:32B-1 et seq.) on all sales of tangible personal property delivered into the State. Any questions in this regard can be directed to www.state.nj.us/treasury/revenue/busregcert.shtml.
- 32.4 Before final payment is made under the Agreement, the Contractor shall submit to the Owner a complete and accurate list of all Subcontractors used and their addresses.
- 32.5 Pursuant to N.J.S.A. 54:49-4.1, a business organization that fails to provide a copy of a business registration as required, or that provides false business registration information, shall be liable for a penalty of \$25 for each day of violation, not to exceed \$50,000, for each proof of business registration not properly provided under a contract with a contracting agency.

00133 DISCLOSURE OF CONTRIBUTION TO N.J. ELECTION LAW ENFORCEMENT COMMISSION

- 33.1 All business entities are advised of their responsibility to file an annual disclosure statement of political contributions with the New Jersey Election Law Enforcement Commission (“ELEC”) pursuant to N.J.S.A. 19:44A-20.27 if they receive contracts in excess of \$50,000 from public entities in a calendar year. Questions may be directed to ELEC at 888-313-3532 or at www.elec.state.nj.us.

00134 VALUE ENGINEERING CONSTRUCTION PROPOSALS (if contract exceeds \$5 Million Dollars)

- 34.1 In accordance with N.J.S.A. 11-16.6, the Owner will consider value engineering construction proposals from the Successful Bidder after Contract award, and only when certain conditions are met as set forth in Section 00227. The term “Proposal” as used in this Section 00134 is construed to mean a Value Engineering Construction Proposal submitted by the Contractor for changing the Drawings, Bid Specifications, or other requirements of the Contract. The Bidder is cautioned not to base any Bid prices on the anticipated approval of a Proposal and to recognize that any such Proposal may be rejected. In the event of rejection, the Successful Bidder will be required to complete the Contract according to the Contract and the prices initially bid and accepted by the Owner.
- 34.2 Pursuant to N.J.S.A. 40A:11-16.6 and N.J.A.C. 7:22-3.37, the Owner will consider Proposals from the Contractor in accordance with the following:
- 34.2.1 Proposals shall not be used to impair any of the essential functions, or characteristics of the Project, or any portion of the Work.
- 34.2.2 The Contractor shall submit a Proposal that completely describes the changes to the Bid Specifications or Bid, impact on other Project components, advantages and disadvantages of the proposed change, cost estimates and calculations on which they are based, any impact on the Agreement Time, and any other relevant information that the Owner may require in order to review the Proposal. The Contractor's cost for developing the Proposal shall not be eligible for reimbursement by the Owner.
- 34.2.3 The Contractor shall be liable for all reasonable costs incurred by the Owner for the technical evaluation and engineering review of a Proposal presented by the Contractor.
- 34.2.4 The Engineer shall prepare a written report for the Owner that shall evaluate the Proposal, make a recommendation on whether or not it should be accepted, rejected, or modified, and state to the Owner and Contractor the amount of any projected cost savings.

- 34.2.5 The Proposal shall not be approved unless the Engineer reports to the Owner that the Proposal appears consistent with the required performance, quality, reliability, and safety of the Project and does not impair any of the essential functions, or characteristics of the Project, or any portion of the Work.
- 34.2.6 The Owner shall have the sole discretion to approve or disapprove a Proposal.
- 34.2.7 The Contractor and the Owner shall equally share in the cost savings generated on the Contract as a result of an approved Proposal. Once the Project is completed, the Engineer shall verify the cost savings to reflect the actual cost of the Work, and such verified cost saving shall be the basis for the savings shared equally with the Contractor.
- 34.2.8 The Contractor shall have no claim against the Owner as a result of the Owner's disapproval of a Proposal.

00135 CHANGED CONDITIONS FOR CONSTRUCTION CONTRACT

- 35.1 All construction contracts issued by the Owner for bids and advertised on or after the effective date of N.J.S.A. 40A:11-16.7 and 40A:11-16.8 shall include the changed conditions contract provisions set forth in this section, which provisions shall be deemed to be a part of any such Contract even if not expressly incorporated therein, and which provisions may not be modified in any manner by the Owner.
- 35.1.1 A Contract subject to this section shall include the following differing site conditions provisions:
- (1) If the Contractor encounters differing site conditions during the progress of the Work of the Contract, the Contractor shall promptly notify the Owner in writing of the specific differing site conditions encountered before the site is further disturbed and before any additional work is performed in the impacted area.
 - (2) Upon receipt of a differing site conditions notice in accordance with paragraph (1) of this subsection, or upon the Owner otherwise learning of differing site conditions, the Owner shall promptly undertake an investigation to determine whether differing site conditions are present.
 - (3) If the Owner determines different site conditions that may result in additional costs or delays exist, the Owner shall provide prompt written notice to the Contractor containing directions on how to proceed.
 - (4) (a) The Owner shall make a fair and equitable adjustment to the contract price and contract completion date for increased costs and delays resulting

from the agreed upon differing site conditions encountered by the Contractor.

(b) If both parties agree that the Owner's investigation and directions decrease the Contractor's costs or time of performance, the Owner shall be entitled to a fair and equitable downward adjustment of the contract price or time of performance.

(c) If the Owner determines that there are no differing site conditions present that would result in additional costs or delays, the Owner shall so advise the Contractor, in writing, and the Contractor shall resume performance of the contract, and shall be entitled to pursue a differing site conditions claim against the Owner for additional compensation or time attributable to the alleged differing site conditions.

- (5) Execution of the contract by the Contractor shall constitute a representation that the Contractor has visited the site and has become generally familiar with the local conditions under which the work is to be performed.
- (6) As used in this subsection, "differing site conditions" mean physical conditions at the contract work site that are subsurface or otherwise concealed and which differ materially from those indicated in the contract documents or are of such an unusual nature that the conditions differ materially from those ordinarily encountered and generally recognized as inherent in the work of the character provided for in the contract.

35.1.2 A contract subject to this section shall include the following suspension of work provisions:

- (1) The Owner shall provide written notice to the Contractor in advance of any suspension of work lasting more than 10 calendar days of the performance of all or any portion of the work of the contract.
- (2) If the performance of all or any portion of the work of the contract is suspended by the Owner for more than 10 calendar days due to no fault of the Contractor or as a consequence of an occurrence beyond the Owner's control, the Contractor shall be entitled to compensation for any resultant delay to the project completion or additional Contractor expenses, and to an extension of time, provided that, to the extent feasible, the Contractor, within 10 calendar days following the conclusion of the suspension, notifies the Owner, in writing, of the nature and extent of the suspension of work. The notice shall include available supporting information, which may thereafter be supplemented by the Contractor as needed and as may be reasonably requested by the Owner. Whenever a work suspension exceeds 60 days, upon seven days' written notice, either party shall have the option to terminate the contract for cause and to be fairly and equitably compensated therefor.

- (3) Upon receipt of the Contractor's suspension of work notice in accordance with paragraph (2) of this subsection, the Owner shall promptly evaluate the Contractor's notice and promptly advise the Contractor of its determination on how to proceed in writing.
- (4)
 - (a) If the Owner determines that the Contractor is entitled to additional compensation or time, the Owner shall make a fair and equitable upward adjustment to the contract price and contract completion date.
 - (b) If the Owner determines that the Contractor is not entitled to additional compensation or time, the Contractor shall proceed with the performance of the contract work and shall be entitled to pursue a suspension of work claim against the Owner for additional compensation or time attributable to the suspension.
- (5) Failure of the Contractor to provide timely notice of a suspension of work shall result in a waiver of a claim if the Owner can prove by clear and convincing evidence that the lack of notice or delayed notice by the Contractor actually prejudiced the Owner's ability to adequately investigate and defend against the claim.

35.1.3 A contract subject to this section shall include the following change in quantity provisions:

- (1) The Owner may increase or decrease the quantity of work to be performed by the Contractor.
- (2)
 - (a) If the quantity of a pay item is cumulatively increased or decreased by 20 percent or less from the bid proposal quantity, the quantity change shall be considered a minor change in quantity.
 - (b) If the quantity of a pay item is increased or decreased by more than 20 percent from the bid proposal quantity, the quantity change shall be considered a major change in quantity.
- (3) For any minor change in quantity, the Owner shall make payment for the quantity of the pay item performed at the bid price for the pay item.
- (4)
 - (a) For a major increase in quantity, the Owner or Contractor may request to renegotiate the price for the quantity in excess of 120 percent of the bid proposal quantity. If a mutual agreement cannot be reached on a negotiated price for a major quantity increase, the Owner shall pay the actual costs plus an additional 10 percent for overhead and an additional 10 percent for profit, unless otherwise specified in the original bid.

(b) For a major decrease in quantity, the Owner or Contractor may request to renegotiate the price for the quantity of work performed. If a mutual agreement cannot be reached on a negotiated price for a major quantity decrease, the Owner shall pay the actual costs plus an additional 10 percent for overhead and an additional 10 percent for profit, unless otherwise specified in the original bid; provided, however, that the Owner shall not make a payment in an amount that exceeds 80 percent of the value of the bid price multiplied by the bid proposal quantity.

00136 DPMC CO24 HISTORICAL CLASSIFICATION REQUIRED

- 36.1 The Hudson and Manhattan Powerhouse, built in 1908, is listed on the National Register of Historic Places. Therefore, all bidders are required to be pre-qualified under the DPMC C024 Historical Restoration classification. Any firm not classified with DPMC, may apply for DPMC classification at:

<https://www.njportal.com/DPMC/ClassificationRequest/>.

Any questions regarding classification may be submitted to the classification unit by emailing cclass@treas.nj.gov.

00137 SITE SECURITY PLAN

- 37.1 The Contractor is fully responsible for providing a secure site and for the care, custody and control of the Project at all times during its performance of the Work until Final Completion and is required to prepare and submit a security plan for securing the Property (the "Security Plan"), as follows:

37.1.1 At a minimum, the Contractor's Security Plan shall require Contractor to provide all fencing, gates, locks, and security measures necessary to secure and properly protect the Powerhouse, the Property, and the Work until Final Completion. In addition, the Contractor shall be responsible for the security of any stored materials and/or temporary structures that it has located on the Property or elsewhere for its use in the Work.

37.2.2 The Contractor shall be responsible for preparing and submitting the Security Plan to the Owner's Representative. Within ten (10) Days of receipt of the Contractor's Security Plan, the Owner's Representative shall review and recommend to the Owner acceptance or rejection of the Contractor's Security Plan. The Owner will either accept or reject the Contractor's Security Plan within five (5) Days of receipt of the Owner's Representative's recommendation to the Owner. If the Contractor's Security Plan is rejected, the Contractor shall revise and resubmit its Security Plan to the Owner's Representative until it is accepted. Once the Contractor's Security Plan is accepted, the Owner's Representative shall monitor the Contractor's

compliance with the Security Plan to ensure that the Contractor meets or exceeds the accepted Security Plan.

00138 PRECONSTRUCTION CONFERENCE/JOB MEETINGS/FINAL INSPECTION

- 38.1 Preconstruction meetings, utility coordination meetings and construction progress meetings will be held during the Project. Upon completion of the Work, a final inspection will be scheduled upon formal notification from the Contractor. Attendance at the meetings and final inspection shall include the Owner, the Owner's Representative, the Engineer, any inspectors and the Contractor.

00139 PENALTIES FOR FALSIFICATION

- 39.1 Any person(s) making false statements will be assessed as follows:

39.1.1 N.J.S.A. 40A:11-33. Forfeiture of deposit in certain cases.

A deposit made by any person who makes or causes to be made a false, deceptive or fraudulent statement or answers in response to a questionnaire or in the course of a hearing hereunder may be caused to be forfeited, as liquidated damages by and to the Owner.

39.1.2 N.J.S.A. 40A:11-34. Penalties for false statements.

Any person who makes or causes to be made, a false, deceptive or fraudulent statement in the statement or answers in response to the questionnaire, or in the course of any hearing hereunder, shall be guilty of a misdemeanor, and upon conviction shall be punishable by a fine of not less than \$100.00 nor more than \$1,000.00, and shall be permanently disqualified from bidding on all public work or contracts of the Owner which submitted the questionnaire; or, in the case of an individual or an officer or employee charged with the duty of responding to the questionnaire for a person, firm, co-partnership, association or corporation, by such fine or by imprisonment, not exceeding 6 months, or both.

00140 NEW JERSEY TRANSIT WORK REQUIREMENTS AND TAP PROCESS

- 40.1 The successful bidder must apply and comply with NJ Transit's Temporary Access Permits Requirements (TAP). This information is included in Section 00403. Bidders may also follow this link for additional information. [Welcome to NJ TRANSIT's Temporary Access Permit \(TAP\) Information Hub | New Jersey Public Transportation Corporation](#)

SECTION 00200 – BIDDING REQUIREMENTS

Section 00201

BID FORM

PROJECT IDENTIFICATION:

HUDSON AND MANHATTAN POWERHOUSE STABILIZATION PROJECT

THIS BID IS SUBMITTED FROM:

Name of Bidder:

Address of Bidder:

Telephone Number(s):

Email Address:

Facsimile:

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with the JCRA in the form included in the Contract Documents to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the other terms and conditions of the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Advertisement or Invitation to Bid and Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for sixty days after the day of Bid opening. BIDDER will sign and submit the Agreement with the Bonds and other documents required by the Bidding Requirements within twenty-one days after the date of the JCRA's Notice of Award.
3. In submitting this Bid, BIDDER represents, as more fully set forth in the Agreement, that:
 - a. BIDDER has examined copies of all the Bidding Documents and the Addenda.
 - b. BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost, progress, performance or furnishing of the Work.
 - c. BIDDER has studied carefully all reports and drawings of physical conditions which are identified in the Contract Documents as provided in Section 00400 and accepts the determination of the extent of the technical data contained in such reports and drawings upon which BIDDER is entitled to rely.
 - d. BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests and studies (in addition to or to supplement those referred to in [c] above) which pertain to the physical

conditions at the site or otherwise may affect the cost, progress, performance or furnishing of the Work at the Contract Price, within the Agreement Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Section 00400; and no additional examinations, investigations, explorations, tests, reports or similar information or data are or will be required by BIDDER for such purposes.

e. BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing underground facilities at or contiguous to the site and assumes responsibility for the accurate location of said underground facilities. No additional examinations, investigations, explorations, tests, reports or similar information or data in respect of said underground facilities are or will be required by BIDDER in order to perform and furnish the Work at the Contract Price, within the Agreement Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Section 00400.

f. BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports and studies with the terms and conditions of the Contract Documents.

g. BIDDER has given OWNER'S REPRESENTATIVE AND PROJECT MANAGER written notice of all conflicts, errors or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by OWNER'S REPRESENTATIVE is acceptable to BIDDER.

h. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; BIDDER has not solicited or induced any person, firm or corporation to refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantages over any other Bidder or over the JCRA.

i. BIDDER has evaluated the requirements of the following items and included all costs and other factors related to same in his Bid:

ITEM	REQUIRED	NOT REQUIRED
[1] Contractor's Field Office is		X
[2] Engineer's Field Office is		X
[3] Project Photographs are	X	
[4] Agency's Protective Insurance Policy	X	

[5] Agency and City named as
Insured parties on Contractor's
Liability Insurance policies is X

[6] A Performance Bond
in the amount of 100% of the
contract amount is X

[7] A separate Labor & Material
payment Bond in the amount of 100%
of the Contract Amount is X

[8] A Maintenance Bond in the amount
of 100% of the final contract amount is X

[9] Project sign is X

j. If awarded the Contract, the undersigned BIDDER agrees to fully comply with the requirements of *N.J.S.A. 10:5-31 et seq.*, and *N.J.A.C. 17:27*, as amended and supplemented.

k. If awarded the Contract, the undersigned BIDDER agrees to comply with "The Prevailing Wage Act", P.L. 1963, c.150, as amended and supplemented.

Name of Bidder: _____

By: _____
(signature)

Name of Signatory: _____
(print)

Title: _____

Date: _____

SECTION 00202

BID DOCUMENT SUBMISSION CHECKLIST

PROJECT IDENTIFICATION:

HUDSON AND MANHATTAN POWERHOUSE STABILIZATION PROJECT

THIS BID IS SUBMITTED FROM:

Name of Bidder:

Address of Bidder:

Telephone Number(s):

Email Address:

Facsimile:

I, the undersigned, certify that the following documents have been completed and executed in ink and are hereby submitted in the sealed Bid package pursuant to the terms of the Contract Documents for above referenced Project. I understand that those documents under paragraphs 2 and 3 below are not statutorily required at time of Bid for the Bidder or for any Subcontractors, however, the Owner is requesting that the Bidder submit these documents with its Bid.

I understand that the Authority is requesting that the following documents be submitted in the order set forth in this checklist. I further understand that submission of all of the **documents listed in paragraph 1 below are mandatory** and failure to submit them with the Bid is a mandatory cause for the Bid to be rejected (N.J.S.A. 40A:11-23.1 & 23.2). Failure to submit any of the other documents set forth below, specifically the documents listed in paragraph 2 below, may be cause for the Bid to be rejected (N.J.S.A. 40A:11-23.1b):

1. Failure to provide or properly complete or sign any of the following forms will result in a mandatory rejection of the Bid:

- 00201 ☐ Bid Form
- 00202 ☐ Bidder Checklist
- 00203 ☐ Bid Price Sheet/Schedule of Values
- 00204 ☐ Bid Bond
- 00205 ☐ Consent of Surety
- 00206 ☐ Statement of Ownership (Ownership Disclosure Certification)
- 00207 ☐ Certified Copy of Resolution of Board of Directors (*Required if Bidder is a corporation)
- 00208 ☐ Acknowledgement of Addenda
- 00209 ☐ List of Subcontractors

2. Failure to provide or properly complete or sign any of the following forms may result in a rejection of the Bid:

- 00210 ☐ Subcontractor Certificate
- 00211 ☐ Statement of Bidder's Qualifications
- 00212 ☐ Non-Collusion Affidavit
- 00213 ☐ Site Investigation Statement
- 00214 ☐ Business Registration Certificate
- 00215 ☐ Public Works Contractor Registration Certificate(s)
- 00216 ☐ Equipment Certification
- 00217 ☐ Debarred, Suspended, and Disqualified Bidder Affidavit
- 00218 ☐ Certification of Non-Debarment for Federal Government Contracts
- 00219 ☐ Underground Facility Protection Act "One Call Law"
- 00220 ☐ Hold Harmless Agreement
- 00221 ☐ DPMC CO24 Historical Restoration Classification

3. The following forms must be provided prior to signing the Agreement with the JCRA together with the requirements of Section 00300 entitled "Contract Requirements" but the following may be provided together with the Bid:

- 00222 ☐ New Jersey Worker and Community Right to Know Act
- 00223 ☐ IRS Form W-9
- 00224 ☐ Affirmative Action Affidavit Exhibit B
- 00225 ☐ Prevailing Wage Affidavit
- 00226 ☐ Americans with Disability Act Affidavit
- 00227 ☐ Certification of Equal Employment Opportunity
- 00228 ☐ Prompt Payment Procedure
- 00229 ☐ Value Engineering Construction Proposal Process and Acknowledgment (if value of contract is estimated to exceed \$5 Million Dollars)

Name of Bidder: _____

By: _____
(signature)

Name of Signatory: _____
(print)

Title: _____

Date: _____

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Section 00203

BID PRICE SHEET/SCHEDULE OF VALUES

JERSEY CITY REDEVELOPMENT AGENCY (JCRA)**Hudson and Manhattan Railroad Powerhouse — Emergency Stabilization and Building Monitoring**

350 Washington Street (60-84 Bay Street), Jersey City, NJ 07302 - Block 11609, Lot 1, Hudson County

BID SHEET — Request for Bid Attachment

Bidder: _____

Project No.: _____

Date: _____

Bid Due: _____

ITEM	DESCRIPTION OF WORK	UNIT	EST. QTY	UNIT PRICE	EXTENDED PRICE	EXTENDED PRICE IN WORDS
1. THREADED ROD INSTALLATION - TOWER TIE-BACK RESTRAINT SYSTEM						
1.1	Furnish and install complete threaded rod tie-back restraint system, all-inclusive, comprising 3/4" dia. ASTM F1554 Grade 55 hot-dip galvanized threaded rods, chamfer corner bracket plates, main wall bracket plates, post-installed field-tested masonry anchors, coupling nuts, and all hardware and accessories required for a complete installation, including masonry removal as necessary at standoff bracket locations for flush installation and patch/repair of surrounding masonry to match adjacent finish, and inspection of existing exterior restraint straps, which shall remain in place except where a strap has failed or is no longer attached to its anchor/bracket, in which case the strap shall be removed, per Details on Sheet S-501.	SET	20			
<i>Basis of estimated quantity: 20 tie-back sets (bracket, anchors, threaded rod, and accessories) per tower elevation/return-wall layout, Sheets S-201 thru S-204 and S-501. Contractor to field-verify bracket locations and quantity prior to bid.</i>						
SECTION 1 SUBTOTAL - THREADED ROD INSTALLATION					\$	
DEMOLITION • - " • ' 0						
2.1	Complete demolition of upper tower, all-inclusive: hand demolition (non-powered tools only) of multiwythe brick masonry walls (approx. 20" to 24" thick, 30' x 30' plan, chamfered corners) and existing tower roof/roof framing down to 2'-0" above existing roof level; photographing and cataloguing of all terra cotta and architectural features; palletizing and delivery to Owner-designated storage location of features removed intact; legal off-site removal and disposal of demolition debris; and temporary shoring/bracing of remaining tower walls and adjacent construction throughout the demolition sequence, per Tower Demolition Plan and General Notes, Sheets S-100 and S101.	SF	4,000			

HUDSON AND MANHATTAN RAILROAD POWERHOUSE - SHORT TERM FACADE STABILIZATION
BID PRICE SHEET / SCHEDULE OF VALUES

ITEM	DESCRIPTION OF WORK	UNIT	EST. QTY	UNIT PRICE	EXTENDED PRICE	EXTENDED PRICE IN WORDS
<i>Basis of estimated quantity: 35-foot demolition zone (upper tower to 2'-0" above existing roof) x approx. 114 LF tower perimeter (30'x30' plan, chamfered corners, approx. 20" to 24" wall thickness) z: 4,000 SF wall face area (250-300 CY of multiwythe masonry). Wall thickness and tower dimensions are approximate; Owner is not responsible for variations in dimension — Contractor to field-verify existing tower height, wall thickness, and condition prior to bid.</i>						
SECTION 2 SUBTOTAL - DEMOLITION OF TOP OF TOWER					\$	
3. INSTALLATION OF DEBRIS NETTING						
3.1	Furnish and install complete debris netting system, all-inclusive, in coping-wrap configuration with inner parapet anchoring, including mesh, hardware, fasteners, eye clips, and railing post wrap straps per Debris Netting Component Schedule and Details on Sheet S-501; netting to include an integral waterproof layer to protect underlying masonry from the elements; and inspection/removal of any broken, cracked, or spalled terra cotta parapet coping stone units prior to netting installation, at North, South, East, and West elevations.	LF	805			
<i>Basis of estimated quantity: full building perimeter at parapet/coping level z 805 LF (N 172.6 + S 191.3 + E 220.9 + W 220.1), per Sheets S-201 thru S-204 and Netting Installation Details on Sheet S-501. Contractor to field-verify perimeter and netting drop height.</i>						
SECTION 3 SUBTOTAL - DEBRIS NETTING					\$	
4. TOWER ROOF INSTALLATION						
4.1	Furnish and install complete new hipped tower roof, all-inclusive, comprising galvanized steel roof framing (common rafters, jack rafters, hip rafters, ridge beam, apex cap plate, rafter seat angles, rafter seat clips, and masonry anchors), 26-gauge standing seam metal roof panels (no exposed fasteners), underlayment membrane, plywood sheathing, ridge/hip flashing, eave flashing, continuous-vented hip/ridge cap, and all framing connections, over the 30' x 30' tower at 3:12 pitch, per Hipped Roof Component Schedule and Details, Sheets S-101 and S-501.	SF	930			
<i>Basis of estimated quantity: 30'x 30' tower plan (900 SF) at 3:12 roof pitch, sloped-area factor = 1.03, "==" 930 SF of roof area, per Sheet S-101, Tower — New Roof Plan/Framing Plan/Section.</i>						
SECTION 4 SUBTOTAL - TOWER ROOF INSTALLATION					\$	
5. REMOTE BUILDING MONITORING						
5.1	Furnish, install, and operate complete Remote Building Monitoring System, all-inclusive, for the initial one (1) year monitoring term, comprising: Remote Optical Monitoring System devices (OC- series, 5 EA); Vibration Monitoring System devices (VB- series, 2 EA); Crack/Displacement Monitoring System devices (CM- series, 6 EA); Weather Monitoring Station (WX- series, 1 EA); Remote Monitoring	LS	1 (Yr. 1) 43			

HUDSON AND MANHATTAN RAILROAD POWERHOUSE - SHORT TERM FACADE STABILIZATION

BID PRICE SHEET / SCHEDULE OF VALUES

ITEM	DESCRIPTION OF WORK	UNIT	EST. QTY	UNIT PRICE	EXTENDED PRICE	EXTENDED PRICE IN WORDS
	Station (RMS) host installations at RMS-1 (389 Washington St.) and RMS-2 (65 Bay St.), including gateways, cellular telemetry, and solar/battery-AC power backup (2 EA); Monitoring Points/survey control targets (MP- series, 2 EA); executed temporary access/rooftop-license agreements for RMS hosts; software platform setup with automated ingestion/alarm configuration; baseline (zero-reading) data collection; weekly summary reporting and real-time web/mobile dashboard for Owner, EOR, and Contractor access; and ongoing maintenance of all monitoring equipment, including repair or replacement of any component that fails to operate, at no additional cost to the Owner, for the duration of the term, per Sheet BM-200 and Specification Section 01 91 15. Contractor shall arrange for remote monitoring locations and obtain approval from building owner for installing the necessary equipment.					
5.2 (Alt.)	Building Monitoring System — Optional Renewal Term (Year 2), all-inclusive per Item 5.1 scope, Owner's sole discretion.	YR	1			
5.3 (Alt.)	Building Monitoring System — Optional Renewal Term (Year 3), all-inclusive per Item 5.1 scope, Owner's sole discretion.	YR	1			
<i>Basis of estimated device quantities: device tags shown on Remote Building Monitoring Elevations, Sheet BM-200 (North, South, East, West). Final device count, type, and location per approved Building Monitoring Consultant submittal, Specification Section 01 91 15. Items 5.2 and 5.3 are Owner's alternates, priced separately and not included in the Base Bid.</i>						
SECTION 5 SUBTOTAL - REMOTE BUILDING MONITORING (BASE YEAR 1)					\$	
6.					■	
6.1	Repair Type 1 — Coping Stone Inspection & Repair: Inspect all terra cotta parapet coping stones; remove and replace any broken, cracked, or spalled units.	LF	805			
6.2	Repair Type 2 — Terra Cotta Sill Repair: Repair deteriorated terra cotta window sill units with approved patching material to match surrounding stone, per Detail 11/S-500 and Terra Cotta Restoration Procedures.	EA	40 (Allow.)			
6.3	Repair Type 3A — Cracked Multi-Wythe Brick Wall Repair: Remove and stitch new brick into cracked through- wall locations, per Details 3 & 4/S-500.	SF	150 (Allow.)			
6.4	Repair Type 3B — Cracked/Deteriorated Face Brick Repair: Remove cracked units or install helical wall ties, per Details 2, 7 & 8/S-500.	SF	900 (Allow.) 44			

HUDSON AND MANHATTAN RAILROAD POWERHOUSE - SHORT TERM FACADE STABILIZATION
BID PRICE SHEET / SCHEDULE OF VALUES

ITEM	DESCRIPTION OF WORK	UNIT	EST. QTY	UNIT PRICE	EXTENDED PRICE	EXTENDED PRICE IN WORDS
6.5	Repair Type 4 — Spalled Face Brick Replacement: Remove sinned units and stitch new brick into wall, per Details 2, 7 & 8/S-500.	SF	900 (Allow.)	\$	\$	
6.6	Repair Type 5 — Mortar Repointing: Saw-cut deteriorated joints and repoint with new mortar matching surrounding area, per Detail 1/S-500 and Mortar Repair Procedures.	SF	6,600 (Allow.)	\$	\$	
6.7	Repair Type 6 — Concrete Repair: Repair deteriorated concrete, per Detail 11/S-500.	SF	200 (Allow.)	\$	\$	
6.8	Repair Type 7 — Facade Cleaning: Remove efflorescence, biological growth, and soiling from masonry surfaces, per Detail 1/S-501.	SF	44,000 (Allow.)	\$	\$	
6.9	Repair Type 8A — Tower Window Enclosure: Enclose tower window openings, per Detail 12/S-500.	EA	4	\$	\$	
6.10	Repair Type 8B — Main Building Window Enclosure: Enclose main building window openings, per Detail 12/S- 500.	EA	6 (Allow.)	\$	\$	
<i>Masonry repair quantities marked "(Allow)" are Engineer's preliminary allowances based on repair locations identified on Elevation Drawings S-201 thru S-204 (Repair Identification markers 1 through 8B) and estimated gross facade area (---- 805 LF perimeter x avg. ;--: 55 ft exposed height ;--: 44,000 SF). Actual extent of deterioration cannot be fully verified until scaffold/lift access is established. Contractor shall include unit prices for use in adjusting final quantities via Owner-approved change order/unit-price reconciliation; a pre-bid site walk is strongly recommended.</i>						
SECTION 6 SUBTOTAL - MASONRY REPAIRS					\$	
7. SITE UTILIZATION PLAN						
7.1	Implementation of the Site Utilization Plan, all-inclusive, for the duration of the Work, comprising purchase, rental, installation, and maintenance of all equipment, materials, and facilities required per the Site Utilization Plan, Sheet C-100, including perimeter construction fencing, traffic control (signage, cones, flaggers, and devices), sanitary facilities, dumpsters/roll-off containers, construction trailer(s), material staging and laydown areas, temporary utilities, inlet protection, and all other temporary site logistics items shown or required, and removal/demobilization of same at completion of the Work.	LS	1	\$	\$	
<i>Basis: Site Utilization Plan, Sheet C-100, and Inlet Protection Detail, Sheet S-501. Extent offencing, staging, and trailer/container areas per plan; actual layout and duration subject to Contractor's approved means and methods and GC/CM coordination with the Building Monitoring Consultant per Sheet BM-200 coordination notes.</i>						
SECTION 7 SUBTOTAL - SITE UTILIZATION PLAN					\$	
TOTAL BASE BID (SECTIONS 1-7)						

40

HUDSON AND MANHATTAN RAILROAD POWERHOUSE - SHORT TERM FACADE STABILIZATION

BID PRICE SHEET / SCHEDULE OF VALUES

General Notes:

1. Estimated quantities are for bid comparison purposes only and are based on the Engineer's review of Contract Drawings T-100 thru BM-200 (Final Design Phase, dated April 7, 2026). Quantities are not guaranteed. Contractor shall field-verify all dimensions, quantities, and existing conditions prior to bid submission, and shall include unit prices sufficient to support quantity reconciliation during construction.
2. Work shall conform to the 2024 NJ IBC (with ASCE 7-16 as reference standard), NJ Rehabilitation Subcode, NJ Uniform Fire Code, OSHA 29 CFR 1926, and NJDEP erosion/sediment control requirements. No NYC code or agency has jurisdiction over this Work.
3. Sections 1 through 7 above constitute the Base Bid. Alternates (if any), including optional monitoring renewal terms (Items 5.2 and 5.3), are to be priced separately and are not included in the Total Base Bid.
4. All labor shall be paid in accordance with the NJ Prevailing Wage Act. Contractor shall comply with the NJ Public Works Contractor Registration Act, Local Public Contracts Law, Business Registration Certificate (BRC), Pay-to-Play, EEO/AA under N.J.A.C. 17:27, and [SAM.gov](https://www.sam.gov) registration requirements as applicable.
5. Owner reserves the right to select all or none of the bid items, and to award the Contract on the basis of any combination of bid items deemed to be in the Owner's best interest.
6. Tower wall thickness is indicated as approximately 20" to 24", and tower plan dimensions as approximately 30' x 30', based on available record information. These dimensions are approximate; actual field dimensions may vary. Owner is not responsible for variations in dimensions, and Contractor shall field-verify all existing dimensions and conditions prior to bid submission and prior to commencing work.

Name of Bidder _____

Business Address _____

(signature of Bidder)

(Date)

(title or position)

(printed or typed name of Bidder)

Seal if Bid by corporation

Section 00204

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 Jersey City
Redevelopment Agency in the sum of _____ Dollars, as liquidated
damages for payment of which, well and truly to be made, we hereby jointly and severally bind
ourselves, our heirs, executors administrators, successors and assigns.

The condition to the above obligation is such that whereas the Principal has submitted to the Jersey
City Redevelopment Agency, a certain bid, attached hereto and hereby made a part hereof, to enter
into a contract in writing, providing work, service, equipment and/or supplies as set forth above.

NOW THEREFORE

- (a) If said Bid shall be rejected, or in alternate,
- (b) If said Bid shall be accepted and the Principal shall execute and deliver the Contract and
shall furnish a bond for the faithful performance of said contract for the prompt payment
of labor and material furnished in the prosecution thereof and for the environmental
maintenance requirements thereof; and deliver evidence of insurance and such other
documents as are required as conditions precedent to the Agency's execution of the
Contract, all within the times required in the Contract Documents; 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 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 such bid
may be accepted, and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the parties hereto duly executed this bond on

this _____ day of _____, 20_____.

(Name of Principal)

BY: _____
Signature of Bidder's Authorized Representative

Delivered in the
presence of:

(Name of Surety)

(As to Surety)

By: _____
Signature of Surety's
Attorney-In-Fact

Section 00205

Consent of Surety

In consideration of the premises, in the receipt whereof is hereby acknowledged, the undersigned consents and agrees that if the Contract for which the proceeding Bid is made be awarded to the corporation, person or persons making the same, it will become bound as surety and guarantor for its faithful performance and payment, and will execute bonds in the forms required by N.J.S.A. 2A:44-147, each bond to be in an amount equal to one hundred percent of the contract price and to be conditioned so as to indemnify the Jersey City Redevelopment Agency against loss due to failure of the Contractor to meet the stipulations of the bonds, and to guarantee payment to all persons shall omit or refuse to execute the Agreement, if so awarded, it will pay on demand to the Jersey City Redevelopment Agency, and the difference between the sum to which said corporation, person or persons would have been entitled upon the completion of such Agreement and the sum which the Jersey City Redevelopment Agency may be obligated to pay the Contract to whom the contract may afterwards awarded, the amount in each case to be determined by the Bid.

IN WITNESS WHEREOF, said corporation has set its seal and caused these presents to be signed by its duly authorized officers, this _____ day of _____, 20____.

(Principal - Print or Type Name & Title)

By _____
(Seal) Signature of Principal's Authorized
Representative and Date

ATTEST:

Witness as to Principal Signature and Date

Surety - Print or Type

ATTEST:

Name of Attorney-in-Fact - Print or Type

Witness as to Surety and Date

By _____
Signature of Attorney-in-Fact and Date

Section 00206

OWNERSHIP DISCLOSURE CERTIFICATION **N.J.S.A. 52:25-24.2**

**This Statement Shall Be Included with
All Bid Submissions**

Name of Business: _____

Address of Business: _____

Name of person completing this form: _____

N.J.S.A. 52:25-24.2:

"No corporation, partnership, or limited liability company shall be awarded any contract nor shall any agreement be entered into for the performance of any work or the furnishing of any materials or supplies, unless prior to the receipt of the bid or proposal, or accompanying the bid or proposal of said corporation, said partnership, or said limited liability company there is submitted a statement setting forth the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be.

If one or more such stockholder or partner or member is itself a corporation or partnership or limited liability company, the stockholders holding 10 percent or more of that corporation's stock, or the individual partners owning 10 percent or greater interest in that partnership, or the members owning 10 percent or greater interest in that limited liability company, as the case may be, shall also be listed. The disclosure shall be continued until names and addresses of every noncorporate stockholder, and individual partner, and member, exceeding the 10 percent ownership criteria established in this act, has been listed.

To comply with this section, a bidder with any direct or indirect parent entity which is publicly traded may submit the name and address of each publicly traded entity and the name and address of each person that holds a 10 percent or greater beneficial interest in the publicly traded entity as of the last annual filing with the federal Securities and Exchange Commission or the foreign equivalent, and, if there is any person that holds a 10 percent or greater beneficial interest, also shall submit links to the websites containing the last annual filings with the federal Securities and Exchange Commission or the foreign equivalent and the relevant page numbers of the filings that contain the information on each person that holds a 10 percent or greater beneficial interest."

Part I

Check the box that represents the type of business organization:

☐Sole Proprietorship ☐Non-Profit Corporation (skip Parts II and III, sign and notarize at the end)

☐Partnership ☐Limited Partnership ☐Limited Liability Partnership

☐Limited Liability Company

☐For-profit Corporation (including Subchapters C and S or Professional Corporation)

☐Other (be specific): _____

Part II

☐ I certify that the list below contains the names and addresses of all stockholders in the corporation who own 10 percent or more of its stock, of any class, or of all individual partners in the partnership who own a 10 percent or greater interest therein, or of all members in the limited liability company who own a 10 percent or greater interest therein, as the case may be.

OR

☐ I certify that no one stockholder in the corporation owns 10 percent or more of its stock, of any class, or no individual partner in the partnership owns a 10 percent or greater interest therein, or that no member in the limited liability company owns a 10 percent or greater interest therein, as the case may be.

The disclosure shall be continued until names and addresses of every non-corporate stockholder, and individual partner, and member, exceeding the 10 percent ownership criteria at any tier has been disclosed.

Sign and notarize the form below, and, if necessary, complete the list below.

(Please attach additional sheets if more space is needed):

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Name:

Address:

Part III - Any Direct or Indirect Parent Entity Which is Publicly Traded:

“To comply with this section, a bidder with any direct or indirect parent entity which is publicly traded may submit the name and address of each publicly traded entity and the name and address of each person that holds a 10 percent or greater beneficial interest in the publicly traded entity as of the last annual filing with the federal Securities and Exchange Commission or the foreign equivalent, and, if there is any person that holds a 10 percent or greater beneficial interest, also shall submit links to the websites containing the last annual filings with the federal Securities and Exchange Commission or the foreign equivalent and the relevant page numbers of the filings that contain the information on each person that holds a 10 percent or greater beneficial interest.”

- ☐ Pages attached with name and address of each publicly traded entity as well as the name and address of each person that holds a 10 percent or greater beneficial interest.

OR

- ☐ Submit here the links to the Websites (URLs) containing the last annual filings with the federal Securities and Exchange Commission or the foreign equivalent.

AND

- ☐ Submit here the relevant page numbers of the filings containing the information on each person holding a 10 percent or greater beneficial interest.

The Bidder hereby certifies by signature below that they have fully and accurately completed Part I, II or III as it relates to the attached Statement of Ownership (Ownership Disclosure Certification).

Subscribed and sworn before me this ____ day of

_____ 20 ____.

(Affiant)

(Notary Public)

My Commission expires:

(Print name of affiant and title if applicable)

(Corporate Seal if a Corporation)

Section 00207

CERTIFIED COPY OF RESOLUTION
OF BOARD OF DIRECTORS *

(Name of Corporation)

RESOLVED THAT _____
(person authorized to sign) (Title)

Of _____ to be authorized to sign and submit the Bid of this
(Name of Corporation)

corporation for the following project:

JERSEY CITY REDEVELOPMENT AGENCY

HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT

The following is a true and correct copy of the resolution adopted by

(Name of Corporation)

At a meeting of its Board of Directors _____ held on the _____ day of 20____

By _____

Title _____

(SEAL)

*** must be completed if the Bidder is a corporation.**

Section 00208

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA

JERSEY CITY REDEVELOPMENT AGENCY

HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT

The undersigned Bidder hereby acknowledges receipt of the following notices, revisions, or addenda to the Bid advertisement, Bid Specifications or Contract Documents. By indicating date of receipt, Bidder acknowledges the submitted Bid takes into account the provisions of the notice, revision or addendum. Note that the JCRA's record of notice to bidders shall take precedence and that failure to include provisions of changes in a bid proposal may be subject for rejection of the Bid.

Reference Number of Title of Addendum/Revision	How Received (mail, pick- up, etc.)	Date Received

OR () No Addenda were received.

Acknowledged for:

Name of Bidder: _____ (Corporate Seal if a Corporation)

By Authorized Representative:

Signature: _____

Print or Type Name: _____

Title: _____

Date: _____

Section 00209

LIST OF SUBCONTRACTORS

Before submitting their bid, the Bidder shall completely familiarize himself with N.J.S.A. 40A:11-16 of the New Jersey Local Public Contracts Law. On contracts for the erection, alteration or repair of any public building, if the Bidder will use Subcontractors for the plumbing work and gas fitting and all kindred work, steam and hot water heating and ventilating apparatus, steam power plants and kindred work, electrical work, structural steel and ornamental iron work, they shall list below the name and address of each Subcontractor to be used for these respective and kindred categories of work.

All potential bidders who intend to use “in-house” plumbers to perform the plumbing work on the contract are required to comply with N.J.S.A. 45:14C-2 and N.J.A.C. 13:32. These provisions restrict a licensed master plumber from being utilized as a company employee and applying for a plumbing permit, unless that licensed master plumber holds not less than 10% of the issued corporate stock, or 10% of the partnership capital of a partnership.

In the event the Contractor will furnish work within the four (4) Specialty Trade Categories listed below with their own salaried non-subcontracted work force, the General Contractor must complete the appropriate space(s) on the Bid form, and submit the required information establishing their own or employee(s)’ qualifications in such specialty trade categories. If none, state “none” below, do not leave any category blank.

TYPE OF WORK: Plumbing and gas fitting and all kindred work.

Name of Subcontractor _____

License No. _____

Public Works Certification _____

Scope of Work _____

TYPE OF WORK: Steam power plants, steam and hot water heating and ventilation apparatus and all kindred work.

Name of Subcontractor _____

License No. _____

Public Works Certification _____

Scope of Work _____

TYPE OF WORK: Electrical Work.

Name of Subcontractor _____

License No. _____

Public Works Certification _____
Scope of Work _____

TYPE OF WORK: Structural Steel and Ornamental Iron Work.

Name of Subcontractor _____

License No. _____

Public Works Certification _____

Scope of Work _____

NOTE: Submission of the names of the Subcontractors required by N.J.S.A. 40A:11-16 is essential and non-waivable. The names of Subcontractors must be provided for each work category above, otherwise the Bid will be deemed non-responsive. Where more than one Subcontractor is named for a work category, the Bidder must identify, in the Bid, the scope of work that is to be performed by each Subcontractor, as required by N.J.S.A. 40A:11-16. Failure to comply with these statutory requirements will result in the Bid being deemed non-responsive.

Name of Bidder _____

Business Address _____

(signature of Bidder)

(Date)

(title or position)

(printed or typed name of Bidder)

Seal if Bid by corporation

SECTION 00210

SUBCONTRACTOR CERTIFICATE

Bidder shall list below, the name and address of the subcontractors whom he/she intends to employ in executing the portions of the work listed below, in the event that the Bidder is awarded the Contract. The Bidder further certifies that if it does not identify any subcontractors below, that it does not intend to use any subcontractors.

Subcontractor Name and Address	Work to be Performed
(1) _____	_____
(2) _____	_____
(3) _____	_____

(Add pages if necessary)

[] BIDDER WILL NOT USE ANY SUBCONTRACTORS (CHECK IF APPLICABLE)

Bidder may attach copies of Subcontractors' Business Registration Certificates and Public Works Contractor Registration Certificates to its Bid but must submit these Certificates prior to the award of a Contract by the Owner.

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00211

NON-COLLUSION CERTIFICATION

I, the undersigned, hereby certify, in accordance with N.J.S.A. 52:34-15, that the Bidder named below, has not, directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Contract; that all statements contained in said Proposal and in this Certification are true and correct, and made with full knowledge that the Jersey City Redevelopment Agency relies upon the truth of the statements contained in said Proposal and in the statements contained in this Certification in awarding the above referenced Contract.

I further certify that no person or selling agent has been employed or retained to solicit or secure such Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bond fide employees or bona fide established commercial or selling agencies maintained by the Bidder.

Name of Bidder

Signature of Authorized Representative

Print Name and Title of Signatory

Date

(Corporate Seal if a Corporation)

SECTION 00210

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT

The manufacturer or supplier of chemical substances or mixtures shall label them in accordance with the N.J. Worker and Community Right to Know Law (N.J.S.A. 34:5A-1 et seq., and N.J.A.C. 8:59-1.1 et seq.). All direct use containers shall bear a label indicating the chemical name(s) and Chemical Abstracts Service number(s) of all hazardous substances in the container, and all other substances which are among the five most predominant substances in the container, or their trade secret registry number(s) pursuant to N.J.A.C. 8:59-5. "Container" means a receptacle used to hold a liquid, solid or gaseous substance such as bottles, bags, barrels, cans, cylinders, drums and cartons. (N.J.A.C. 8:59-1.3). Further, all applicable Material Safety Data Sheets (MSDS) – hazardous substance fact sheet – must be furnished. All containers which are stored at an owner's facilities by the contractor or subcontractors shall display RTK labeling. Vendors with questions concerning labeling should contact the New Jersey Department of Health and Senior Services Right to Know Program for assistance in developing proper labels. www.nj.gov/health/workplacehealthandsafety/right-to-know/.

Bidder acknowledges and affirms that it has reviewed the aforementioned New Jersey Worker and Community Right to Know Act requirements per N.J.S.A. 34:5A-1 et seq. and N.J.A.C. 8:59-1.1 et seq., and by signing below, consents and agrees that if the Contract for which the proceeding Bid is awarded to the corporation will comply with said requirements.

Signature of Bidder and business address:

Name of Bidder: _____

Business Address: _____

(Print or type name and title of authorized representative)

(Signature of authorized representative and date)

Witness by _____ Date _____

(Corporate Seal if a Corporation)

SECTION 00211

STATEMENT OF BIDDER'S QUALIFICATIONS

NAME OF FIRM _____

ADDRESS _____
Street City State Zip

TELEPHONE _____ FAX _____
Area Code & Number Area Code & Number

FEDERAL I.D NUMBER _____

1. CHECK TYPE OF WORK PERFORMED

BLASTING	☐ SEWERS	☐
BORING-TUNNELING	☐ STRUCTURAL STEEL	☐
BUILDING CONSTRUCTION	☐ UNDERGROUND TANKS	☐
CONCRETE	☐ A REMOVAL	☐
EXCAVATION	☐ B INSTALLATION	☐
ELECTRICAL	☐ WRECKING/DEMOLITION	☐
GENERAL CONTRACTING HVAC	☐ CLOSED CIRCUIT TELEVISION INSPECTION ()	
LANDSCAPING	☐ SANITARY SEWER CLEANING	☐
MECHANICAL	☐ SONAR INSPECTION OF PIPE	☐
PAVING	☐	
PLUMBING	☐ OTHER _____	
ROOFING	☐	

YEARS IN BUSINESS _____

Bidder may attach Business Registration Certificate and Public Works Contractor Registration Certificate to its Bid, but must submit these Certificates prior to the award of a contract by the Owner.

2. WORK OF A SIMILAR NATURE COMPLETED IN THE PAST TWO YEARS

A. OWNER _____

ADDRESS OF OWNER _____

DESCRIPTION OF WORK _____

CONTRACT PRICE _____

DATE OF COMPLETION _____

NAME OF FIRM, CONTACT PERSON, AND PHONE # OVERSEEING WORK

B. NAME _____

ADDRESS OF OWNER _____

DESCRIPTION OF WORK _____

AS-BID CONTRACT PRICE _____

DATE OF COMPLETION _____

NAME OF FIRM, CONTACT PERSON, AND PHONE # OVERSEEING WORK

C. OWNER _____

ADDRESS OF WORK _____

DESCRIPTION OF WORK _____

AS-BID CONTRACT PRICE _____

DATE OF COMPLETION _____

NAME OF FIRM, CONTACT PERSON, AND PHONE # OVERSEEING WORK

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00212

NON-COLLUSION CERTIFICATION

I, the undersigned, hereby certify, in accordance with N.J.S.A. 52:34-15, that the Bidder named below, has not, directly or indirectly entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Contract; that all statements contained in said Proposal and in this Certification are true and correct, and made with full knowledge that the Jersey City Redevelopment Agency relies upon the truth of the statements contained in said Proposal and in the statements contained in this Certification in awarding the above referenced Contract.

I further certify that no person or selling agent has been employed or retained to solicit or secure such Contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, except bond fide employees or bona fide established commercial or selling agencies maintained by the Bidder.

Name of Bidder

Signature of Authorized Representative

Print Name and Title of Signatory

Date

(Corporate Seal if a Corporation)

SECTION 00213

SITE INVESTIGATION STATEMENT

I am _____
(Name of individual visiting site)

on behalf of (Name of Bidder) _____

Business Address _____,

the Bidder making the bid for

JERSEY CITY REDEVELOPMENT AGENCY

HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT

and I certify that I or my authorized representative named above has fully informed ourselves as to all existing conditions and limitations, made all necessary investigations to determine the various means of approach and access to the site, to determine the facilities and means for delivery, placing, and operating the necessary construction equipment and for delivering and handling materials at the site, and to inform ourselves thoroughly as to all difficulties involved in the completion of all Work under this Contract in accordance with its requirements.

Name of Bidder _____

Business Address _____

(signature of Bidder)

(Date)

(title or position)

(printed or typed name of Bidder)

(Corporate Seal if a Corporation)

SECTION 00214

BUSINESS REGISTRATION CERTIFICATE

Attach N.J. Business Registration Certificate(s) in accordance with N.J.S.A. 52:32-44 for prime and listed Subcontractors.

SECTION 00215

PUBLIC WORKS CONTRACTOR REGISTRATION CERTIFICATE(S)

Attach N.J. Public Works Contractor Registration Certificate(s) in accordance with the Public Works Contractor Registration Act, N.J.S.A. 34:11-56.48 et seq., for prime and listed Subcontractors.

SECTION 00216

EQUIPMENT CERTIFICATION

The undersigned Bidder hereby certifies as follows:

The Bidder owns, controls, or has proof of lease of all the necessary equipment required to accomplish the Work described in the Contract Documents. To the extent that said equipment is not currently owned or under lease by the Bidder, attached hereto is documentation from that owner or leasing organization stating the equipment will be available as required by the Bidder upon award of a Contract.

☐ Check here if documentation is attached.

Name of Bidder: _____

By: _____

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00217

DEBARRED, SUSPENDED, AND DISQUALIFIED BIDDER AFFIDAVIT

The Bidder shall submit with its bid a sworn statement, as set forth herein signed by an officer or partner of the Contractor, indicating that neither the Contractor, nor any of its affiliates is at the time of the Bid, included on the State Treasurer's List of Debarred, Suspended, and Disqualified Bidders or debarred at the federal level. The Contractor shall immediately notify the Owner whenever it appears that the Contractor or any of its affiliates is on the State Treasurer's List or debarred at the federal level. The Contractor may be debarred, suspended, or disqualified from contracting with the State of New Jersey and New Jersey Department of Environmental Protection if the Contractor commits any of the acts listed in N.J.A.C. 7:1D-2.2

STATE OF NEW JERSEY

§:

COUNTY OF _____

I, _____ of the City of _____
in the County of _____ and the State of _____ of full age,
being duly sworn according to law on my oath depose and say that:

I am _____, an officer of the firm of _____
_____ the bidder making a Bid for

JERSEY CITY REDEVELOPMENT AGENCY

HUDSON & MANHATTAN POWERHOUSE STABILIZATION PROJECT

and that I executed the said Bid with full authority to do so that said Bidder at the time of making of this bid is not included on the State of New Jersey, State Treasurer's List of Debarred, Suspended and Disqualified Bidders or debarred at the federal level; and that all statements contained in said Bid and in the affidavit are true and correct, and made with the full knowledge that the Jersey City Redevelopment Agency as Local Unit relies upon the truth of the statements contained in said Bid and in the statements contained in this affidavit in awarding the Contract for said Work.

The undersigned further warrants that should the name of the firm, company, or corporation making this Bid appear on the State Treasurer's List of Debarred, Suspended and Disqualified Bidders or debarred at the federal level at any time prior to, and during the life of this Contract, including the Guarantee Period, that the Jersey City Redevelopment Agency shall be immediately notified by the signatory of this Eligibility Affidavit.

The undersigned understands that the firm, company, or corporation making the Bid as a Contractor is subject to debarment, suspension, and/or disqualification in contracting with the State of New Jersey and the Department of Environmental Protection if the Contractor, pursuant to N.J.A.C. 7:1D-2.2, commits any of the acts listed therein, and as determined according to applicable law and regulation.

Name and address of Contractor (Print or Type)

Name and Title of Contractor's Affiant (Authorized Representative) (Print or Type)

Signature of Bidder's Authorized Representative and Date

Subscribed and Sworn

before me this _____ day of

_____ 20____.

Notary Public of _____

My Commission expires _____

SECTION 00218

Certification of Non-Debarment for Federal Government Contracts

Pursuant to N.J.S.A. 52:32-44.1, any natural person, company, firm, association, corporation, or other entity prohibited, or “debarred,” from contracting with federal government agencies, shall also be prohibited from contracting for public work in the state of New Jersey. This prohibition also extends to any affiliate organization(s).

"Affiliate" means any entity that (1) directly, indirectly, or constructively controls another entity, (2) is directly, indirectly, or constructively controlled by another entity, or (3) is subject to the control of a common entity. An entity controls another entity if it owns, directly or individually, more than 50% of the ownership interest in that entity.

Prior to awarding a contract for public work, local units must obtain written certification from the contracting person or entity through the form below, attesting to their non-debarment from contracting with federal government agencies. Contracting units are reminded that they must fill-in the boilerplate information in the certification sections of Parts II through IV regarding their name and type of contracting unit before using the form.

CERTIFICATION OF NON-DEBARMENT FOR FEDERAL GOVERNMENT CONTRACTS

N.J.S.A. 52:32-44.1 (P.L. 2019, c.406)

As used herein, "Affiliate" means any entity that (1) directly, indirectly, or constructively controls another entity, (2) is directly, indirectly, or constructively controlled by another entity, or (3) is subject to the control of a common entity. An entity controls another entity if it owns, directly or individually, more than 50% of the ownership interest in that entity.

This certification shall be completed, certified to, and submitted to the JCRA prior to contract award.

PART I: BIDDER INFORMATION	
Individual or Organization Name ("Bidder")	
Address of Bidder	
DUNS Code (if applicable)	
CAGE Code (if applicable)	

PART II – Identification of Affiliates: Individual or Entity Owning Greater than 50 Percent of Bidder ("Parent Organization")	
Section A (Check the Box that applies)	
☐	Below is the name and address of the interest holder(s) owning, directly, indirectly or constructively, as the case may be, a greater than 50 percent interest in the Bidder.
Name of Individual or Organization	
Address	
OR	
☐	No interest holder(s) owns, directly, indirectly or constructively, a greater than 50 percent interest in the Bidder.

Part III – Identification of Affiliates: Bidder-Controlled Entities ("Child Entities")	
Section A	
☐	Below is the name and address of the entities in which the Bidder listed in Part I owns, directly, indirectly or constructively, as the case may be, a greater than 50 percent interest.
Name	Address
Add additional sheets if necessary	
OR	
☐	The Bidder listed above in Part I does not own, directly, indirectly or constructively, a greater than 50 percent interest in any other entity.

Part IV – Identification of Affiliates: Entities under Common Control with Bidder (“Sister Entities”)	
Section A	
☐	Below is the name and address of all entities, other than the Bidder listed in Part I and the Bidder-Controlled Entities listed in Part III , of which the Parent Organization listed in Part II owns, directly, indirectly or constructively, as the case may be, a greater than 50 percent interest.
Name	Address
** Add additional sheets if necessary **	
OR	
☐	The Parent Organization listed in Part II does not own, directly, indirectly or constructively, greater than 50 percent interest in any entity other than the Bidder listed in Part I and the Bidder-Controlled Entities listed in Part III .

PART V – CERTIFICATION OF NON-DEBARMENT			
I hereby certify that the individual or organization listed above in Part I (i.e. the “Bidder”) is not debarred by the federal government from contracting with a federal agency, nor are any of its “Affiliates”, as defined above and identified herein in Parts II, III, and IV, so debarred. I further acknowledge: that I am authorized to execute this certification on behalf of the above-named organization; that the <i><Jersey City Redevelopment Agency></i> is relying on the information contained herein and that I am under a continuing obligation from the date of this certification through the date of contract award by <i><Jersey City Redevelopment Agency></i> to notify the <i><Agency></i> in writing of any changes to the information contained herein; that I am aware that it is a criminal offense to make a false statement or misrepresentation in this certification, and if I do so, I am subject to criminal prosecution under the law and that it will constitute a material breach of my agreement(s) with the <i><Agency></i> , permitting the <i><Agency></i> to declare any contract(s) resulting from this certification void and unenforceable.			
Full Name (Print):		Title:	
Signature:		Date:	

SECTION 00219

UNDERGROUND FACILITY PROTECTION ACT “ONE CALL LAW”

New Jersey is one of the most densely populated states in the country and underground facilities exist everywhere.

The Owner would like to remind each potential Bidder that excavation damage to underground facilities can result in serious injury or death, disruption of critical public services and great financial loss. As the communication link between excavators and the operators of underground facilities, the New Jersey One-Call System is a valuable tool in preventing such damage. By providing excavators with a single toll-free number to call (1-800-272-1000) the One-Call System will arrange to have underground facilities marked out to prevent damage.

Since October 1994, when the Underground Facility Protection Act was signed into law, the NJ Board of Public Utilities has been charged with overseeing and enforcing compliance with the “One Call Law”. All operators of underground activities are required by law to participate in and comply with the requirements of the One-Call Prevention System. Currently more than 600 operators of underground facilities are members of the One-Call system.

State law (N.J.S.A. 48:2-73) requires that anyone planning to excavate call for a free mark out of facilities at least three business days before any project digging. The Board of Public Utilities has established rigorous standards for the mark out of underground facilities, educational outreach, and aggressive pursuit of violators of the law. Anyone who fails to call for a mark out and damages underground facilities can be liable for the cost of repair and civil penalties. For more information you can visit the New Jersey One-Call web site at www.nj1-call.org or call 1-800-272-1000.

With the cooperative efforts of everyone we can ensure the public’s safety and the service reliability that we have all come to depend on.

ACKNOWLEDGED BY:

Name of Bidder: _____

By: _____

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00220

INDEMNITY AND HOLD HARMLESS AGREEMENT

_____(Contractor) agrees to indemnify and hold harmless the City of Jersey City and the Jersey City Redevelopment Agency, and their agents, officials, officers, and employees, from and against all claims, damages, losses, and expenses, including reasonable attorney's fees in case it shall be necessary to file action, arising out of performance of the work herein, which is (1) for bodily injury, illness or death, or for property damage, including loss of use, and (2) caused in whole or in part by _____(Contractor) negligent act or omission, or that of Subcontractor, or that of anyone employed by them or for whose acts Contractor or Subcontractor may be liable. This indemnification and agreement shall apply in all instances whether the City of Jersey City or the Jersey City Redevelopment Agency is made a direct party to the initial action or claim is subsequently made a party to the action by third-party in-pleading or is made a party to a collateral action arising, in whole or in part, from any of the issues emanating from the original cause of action or claim.

CONTRACTOR

DATE

Subscribed and sworn

Before me this ____ day
of _____ 20 ____

Notary Public

My commission expires _____, 20____

SECTION 00221

DPMC C024 HISTORICAL RESTORATION CLASSIFICATION

Attach Certificate

SECTION 00222

NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT

The manufacturer or supplier of chemical substances or mixtures shall label them in accordance with the N.J. Worker and Community Right to Know Law (N.J.S.A. 34:5A-1 et seq., and N.J.A.C. 8:59-1.1 et seq.). All direct use containers shall bear a label indicating the chemical name(s) and Chemical Abstracts Service number(s) of all hazardous substances in the container, and all other substances which are among the five most predominant substances in the container, or their trade secret registry number(s) pursuant to N.J.A.C. 8:59-5. "Container" means a receptacle used to hold a liquid, solid or gaseous substance such as bottles, bags, barrels, cans, cylinders, drums and cartons. (N.J.A.C. 8:59-1.3). Further, all applicable Material Safety Data Sheets (MSDS) – hazardous substance fact sheet – must be furnished. All containers which are stored at an owner's facilities by the contractor or subcontractors shall display RTK labeling. Vendors with questions concerning labeling should contact the New Jersey Department of Health and Senior Services Right to Know Program for assistance in developing proper labels. www.nj.gov/health/workplacehealthandsafety/right-to-know/.

Bidder acknowledges and affirms that it has reviewed the aforementioned New Jersey Worker and Community Right to Know Act requirements per N.J.S.A. 34:5A-1 et seq. and N.J.A.C. 8:59-1.1 et seq., and by signing below, consents and agrees that if the Contract for which the proceeding Bid is awarded to the corporation will comply with said requirements.

Signature of Bidder and business address:

Name of Bidder: _____

Business Address: _____

(Print or type name and title of authorized representative)

(Signature of authorized representative and date)

Witness by _____ Date _____

(Corporate Seal if a Corporation)

SECTION 00223

IRS FORM W-9

Attach Completed Form

SECTION 00224

AFFIRMATIVE ACTION AFFIDAVIT

Bidder acknowledges and affirms that he/she has read and is familiar with the affirmative action requirements of N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27-1 et seq. and rules and regulations issued by the Treasurer, State of New Jersey, pursuant thereto, attached hereto, and has complied with all the affirmative action requirements of the State of New Jersey including those required by N.J.S.A. 10:5-31 et seq. and N.J.A.C. 17:27-1 et seq. and the rules and regulations issued by the Treasurer, State of New Jersey, pursuant thereto.

Name of Bidder (print or type)

Name of Bidder's authorized representative and title (print or type)

Signature of Bidder's Authorized Representative and Date

(Corporate Seal if a Corporation)

State of New Jersey, County of _____

(Notary Public)

Subscribed and Sworn to before me this

_____ day of _____ 20__

My Commission expires

EXHIBIT B

MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

N.J.S.A. 10:5-31 et seq. (P.L. 1975, C. 127)

N.J.A.C. 17:27

CONSTRUCTION CONTRACTS

During the performance of this contract, the Contractor agrees as follows: The Contractor or Subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the Contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, up-grading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The Contractor or Subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The Contractor or Subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The Contractor or Subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the Contractor or Subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that Division may, in its discretion, exempt a Contractor or Subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B and C, as long as the Division is satisfied that the Contractor or Subcontractor is employing workers provided by a union which provides evidence, in accordance with standards prescribed by

Division, that its percentage of active "card carrying" members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The Contractor or Subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the Contractor or Subcontractor has a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the Contractor or Subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the Contractor or Subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the Contractor or Subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the Contractor's or Subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the Contractor or Subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the Contractor or Subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.

(B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the Contractor does not have a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor agrees to take the following actions:

- (1) To notify the public agency compliance officer, the Division, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-5.3, of its workforce needs, and request referral of minority and women workers;
- (2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;
- (3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the Contractor or Subcontractor has a referral agreement or arrangement with a union for the construction trade;
- (4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the Contractor or Subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and non-discrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;

(6) To adhere to the following procedure when minority and women workers apply or are referred to the Contractor or Subcontractor:

(i) The Contractor or Subcontractor shall interview the referred minority or women worker.

(ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the Contractor or Subcontractor shall in good faith determine the qualifications of such individuals. The Contractor or Subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a Contractor or Subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Division. If necessary, the Contractor or Subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.

(iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Division, the Contractor or Subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.

(iv) If, for any reason, said Contractor or Subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the Contractor or Subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Division.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Division and submitted promptly Division upon request.

(C) The Contractor or Subcontractor agrees that nothing contained in (B) above shall preclude the Contractor or Subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the Contractor or Subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the Contractor or Subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective

bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the Contractor or Subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the Contractor shall submit to the public agency compliance officer and the Division an initial project workforce report (Form AA 201) electronically provided to the public agency by the Division, through its website, for distribution to and completion by the Contractor, in accordance with N.J.A.C. 17:27-7. The Contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Division and to the public agency compliance officer.

The Contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on the-job and/or off-the-job programs for outreach and training of minorities and women.

(D) The Contractor and its Subcontractors shall furnish such reports or other documents to Division of Public Contracts Equal Employment Opportunity Compliance as may be requested by the Division from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Division of Public Contracts Equal Employment Opportunity Compliance for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).

SECTION 00225

PREVAILING WAGE AFFIDAVIT

Bidder acknowledges and affirms personal knowledge of and has reviewed a copy of the valid prevailing wage rates included as part of this section for all trades involved in the Project for the geographical location of the Project as issued by the Commissioner of the New Jersey Department of Labor & Workforce Development, Trenton, N.J. 08625 (609) 292-2259.

(Name of Bidder Print or Type)

Name of Bidder's Authorized Representative and Title (Print or Type)

Signature of Bidder's Authorized Representative and Date

State of New Jersey, County of _____

(Notary Public)

Subscribed and Sworn to before me this

_____ day of _____ 20____

My Commission expires

SECTION 00226

AMERICANS WITH DISABILITY ACT CERTIFICATION

Equal Opportunity for Individuals with Disabilities

The Contractor and OWNER do hereby agree that the provisions of Title II of the Americans with Disabilities Act of 1990 (the "Act") (42 U.S.C.A. §12101 et seq.) prohibits discrimination by public entities on the basis of disability. In all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant there unto, are made a part of this Contract. In providing any aid, benefit, or service on behalf of the Owner pursuant to this contract, the Contractor agrees that the performance shall be in strict compliance with the Act. In the event that the Contractor, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the Contractor shall defend the Owner in any action or administrative proceeding commenced pursuant to this Act. The Contractor, shall indemnify, protect, and save harmless the Owner, its agents, servants, and employees from and against all suits, claims, losses, demands, or violation. The Contractor shall, at its own expense, appear, defend, and pay any and all charges for legal services and any and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the Owner grievance procedure, the Contractor agrees to abide by any decision of the Owner that is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an of damages against the Owner or if the Owner incurs any expense to cure a violation of the Act which has been brought pursuant to its grievance procedure, the Contractor shall satisfy and discharge the same it its own expense.

The Owner shall, as soon as practicable after a claim has been made against it, give written notice thereof to the Contractor along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the Owner or any of its agents, servants, and employees of the Owner shall expeditiously forward or have forwarded to the Contractor every demand, complaint, notice, summons, pleading, or other process received by the Owner or its representatives.

It is expressly agreed and understood that any approval by the Owner of the services provided by the Contractor pursuant to this contract will not relieve the Contractor of the obligation to comply with this Act and to defend, indemnify, protect and save harmless the Owner pursuant to this paragraph.

It is further agreed and understood that the Owner assumes no obligation to indemnify or save harmless the Contractor, its agents, servants, employees and subcontractors for any claim that may arise out of their performance of this agreement. Furthermore, the Contractor expressly understands and agrees that the provisions of this indemnification cause shall in no way limit the Contractor's obligations assumed in this Agreement, nor shall they be construed to relieve the Contractor from any liability, nor preclude the Owner from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

Bidder acknowledges and affirms that they have reviewed the aforementioned Americans with Disabilities Act requirements and, by signing below, consents and agrees that if the Contract for which the proceeding Bid is awarded to the Bidder, it will comply with said requirements.

Name of Bidder _____

Business Address _____

(Print or type name and title of authorized representative)

(Signature of authorized representative and date)

Witness by _____ Date _____

SECTION 00227

**CERTIFICATION OF EQUAL EMPLOYMENT OPPORTUNITY
COMPOSITION AND COMPENSATION OF WORKFORCE**

I, the undersigned, hereby certify that the Bidder and its Subcontractor(s) shall comply with the Equal Employment Opportunity/Affirmative Action Composition and Compensation of Workforce provisions set forth in the RFB.

NAME OF BIDDER

SIGNATURE OF AUTHORIZED REPRESENTATIVE

PRINT SIGNATORY'S NAME AND TITLE

DATE

EXHIBIT A
N.J.S.A. 10:5-31 et seq., N.J.A.C. 17:27
MANDATORY EQUAL EMPLOYMENT OPPORTUNITY LANGUAGE

CONSTRUCTION CONTRACTS

During the performance of this contract, the Contractor agrees as follows:

The Contractor or Subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Except with respect to affectional or sexual orientation and gender identity or expression, the Contractor will ensure that equal employment opportunity is afforded to such applicants in recruitment and employment, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex. Such equal employment opportunity shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause.

The Contractor or Subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, affectional or sexual orientation, gender identity or expression, disability, nationality or sex.

The Contractor or Subcontractor will send to each labor union, with which it has a collective bargaining agreement, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the Contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The Contractor or Subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer, pursuant to N.J.S.A. 10:5-31 et seq., as amended and supplemented from time to time and the Americans with Disabilities Act.

When hiring or scheduling workers in each construction trade, the Contractor or Subcontractor agrees to make good faith efforts to employ minority and women workers in each construction trade consistent with the targeted employment goal prescribed by N.J.A.C. 17:27-7.2; provided, however, that the Dept. of LWD, Construction EEO Monitoring Program, may, in its discretion, exempt a Contractor or Subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B, and C, as long as the Dept. of LWD, Construction EEO Monitoring Program is satisfied that the Contractor or Subcontractor is employing workers

provided by a union which provides evidence, in accordance with standards prescribed by the Dept. of LWD, Construction EEO Monitoring Program, that its percentage of active “card carrying” members who are minority and women workers is equal to or greater than the targeted employment goal established in accordance with N.J.A.C. 17:27-7.2. The Contractor or Subcontractor agrees that a good faith effort shall include compliance with the following procedures:

- (A) If the Contractor or Subcontractor has a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor shall, within three business days of the contract award, seek assurances from the union that it will cooperate with the Contractor or Subcontractor as it fulfills its affirmative action obligations under this contract and in accordance with the rules promulgated by the Treasurer pursuant to N.J.S.A. 10:5-31 et. seq., as supplemented and amended from time to time and the Americans with Disabilities Act. If the Contractor or Subcontractor is unable to obtain said assurances from the construction trade union at least five business days prior to the commencement of construction work, the Contractor or Subcontractor agrees to afford equal employment opportunities minority and women workers directly, consistent with this chapter. If the Contractor’s or Subcontractor’s prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and women workers consistent with affording equal employment opportunities as specified in this chapter, the Contractor or Subcontractor agrees to be prepared to provide such opportunities to minority and women workers directly, consistent with this chapter, by complying with the hiring or scheduling procedures prescribed under (B) below; and the Contractor or Subcontractor further agrees to take said action immediately if it determines that the union is not referring minority and women workers consistent with the equal employment opportunity goals set forth in this chapter.
- (B) If good faith efforts to meet targeted employment goals have not or cannot be met for each construction trade by adhering to the procedures of (A) above, or if the Contractor does not have a referral agreement or arrangement with a union for a construction trade, the Contractor or Subcontractor agrees to take the following actions:
 - (1) To notify the public agency compliance officer, the Dept. of LWD, Construction EEO Monitoring Program, and minority and women referral organizations listed by the Division pursuant to N.J.A.C. 17:27-3.3, of its workforce needs, and request referral of minority and women workers;
 - (2) To notify any minority and women workers who have been listed with it as awaiting available vacancies;
 - (3) Prior to commencement of work, to request that the local construction trade union refer minority and women workers to fill job openings, provided the Contractor or Subcontractor has a referral agreement or arrangement with a union for the construction trade;
 - (4) To leave standing requests for additional referral to minority and women workers with the local construction trade union, provided the Contractor or Subcontractor

has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area;

- (5) If it is necessary to lay off some of the workers in a given trade on the construction site, layoffs shall be conducted in compliance with the equal employment opportunity and nondiscrimination standards set forth in this regulation, as well as with applicable Federal and State court decisions;
- (6) To adhere to the following procedure when minority and women workers apply or are referred to the Contractor or Subcontractor:
 - (i) The contractor or Subcontractor shall interview the referred minority or women worker.
 - (ii) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required in order to perform the work of the construction trade, the Contractor or Subcontractor shall in good faith determine the qualifications of such individuals. The Contractor or Subcontractor shall hire or schedule those individuals who satisfy appropriate qualification standards in conformity with the equal employment opportunity and non-discrimination principles set forth in this chapter. However, a Contractor or Subcontractor shall determine that the individual at least possesses the requisite skills, and experience recognized by a union, apprentice program or a referral agency, provided the referral agency is acceptable to the Dept. of LWD, Construction EEO Monitoring Program. If necessary, the Contractor or Subcontractor shall hire or schedule minority and women workers who qualify as trainees pursuant to these rules. All of the requirements, however, are limited by the provisions of (C) below.
 - (iii) The name of any interested women or minority individual shall be maintained on a waiting list, and shall be considered for employment as described in (i) above, whenever vacancies occur. At the request of the Dept. of LWD, Construction EEO Monitoring Program, the Contractor or Subcontractor shall provide evidence of its good faith efforts to employ women and minorities from the list to fill vacancies.
 - (iv) If, for any reason, said Contractor or Subcontractor determines that a minority individual or a woman is not qualified or if the individual qualifies as an advanced trainee or apprentice, the Contractor or Subcontractor shall inform the individual in writing of the reasons for the determination, maintain a copy of the determination in its files, and send a copy to the public agency compliance officer and to the Dept. of LWD, Construction EEO Monitoring Program.

- (7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract, on forms made available by the Dept. of LWD, Construction EEO Monitoring Program and submitted promptly to the Dept. of LWD, Construction EEO Monitoring Program upon request.
- (C) The Contractor or Subcontractor agrees that nothing contained in (B) above shall preclude the Contractor or Subcontractor from complying with the union hiring hall or apprenticeship policies in any applicable collective bargaining agreement or union hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement. However, where the practices of a union or apprenticeship program will result in the exclusion of minorities and women or the failure to refer minorities and women consistent with the targeted county employment goal, the Contractor or Subcontractor shall consider for employment persons referred pursuant to (B) above without regard to such agreement or arrangement; provided further, however, that the Contractor or Subcontractor shall not be required to employ women and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the Contractor or Subcontractor agrees that, in implementing the procedures of (B) above, it shall, where applicable, employ minority and women workers residing within the geographical jurisdiction of the union.

After notification of award, but prior to signing a construction contract, the Contractor shall submit to the public agency compliance officer and the Dept. of LWD, Construction EEO Monitoring Program an initial project workforce report (Form AA-201) electronically provided to the public agency by the Dept. of LWD, Construction EEO Monitoring Program, through its web-site, for distribution to and completion by the Contractor, in accordance with N.J.A.C. 17:27-7. The Contractor also agrees to submit a copy of the Monthly Project Workforce Report once a month thereafter for the duration of this contract to the Dept. of LWD, Construction EEO Monitoring Program, and to the public agency compliance officer.

The Contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and/or off-the-job programs for outreach and training of minorities and women.

- (D) The Contractor and its Subcontractors shall furnish such reports or other documents to the Dept. of LWD, Construction EEO Monitoring Program as may be requested by the Dept. of LWD, Construction EEO Monitoring Program from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Dept. of LWD, Construction EEO Monitoring

Program for conducting a compliance investigation pursuant to N.J.A.C. 17:27-1.1 et seq.

SECTION 00228

PROMPT PAYMENT PROCEDURE

Pursuant to N.J.S.A. 2A:30-1 et seq.

The Prompt Payment Act provides, in part, as follows: “If a prime contractor has performed in accordance with the provisions of a contract with the owner and the billing for the work has been approved and certified by the owner or the owner’s authorized approving agent, the owner shall pay the amount due to the prime contractor for each periodic payment, final payment or retainage monies not more than 30 calendar days after the billing date, which for a periodic billing, shall be the periodic billing date specified in the contract. The billing shall be deemed approved and certified 20 days after the owner receives it unless the owner provides, before the end of the 20-day period, a written statement of the amount withheld and the reason for withholding payment, except that in the case of a public or governmental entity that requires the entity’s governing body to vote on authorizations for each periodic payment, final payment or retainage monies, the amount due may be approved and certified at the next scheduled public meeting of the entity’s governing body, and paid during the entity’s subsequent payment cycle, provided this exception has been defined in the Bid Documents.” It is recommended that Bidders review the entirety of the Prompt Payment Act to determine the scope of its applicability to this contract.

As a public entity that requires the authorization of its governing body for periodic or final payments, and payments for change orders or release of retainage, the Owner hereby places bidders on notice that the Contract will be subject to the provisions of the Prompt Payment Act and that Owner is not subject to the twenty (20) day period for the approval and certification of billings and, consistent with the Prompt Payment Act, in the event that the Owner is unable to obtain formal consideration and approval of any billing for Work performed by the successful bidder as the basis for a periodic or final payment, or payments for change orders or retainage within the thirty (30) day time period mandated by the Prompt Payment Act, the Owner shall place the billing for work performed on its next regularly scheduled meeting of its Board of Commissioners and, should such billing for the Work performed be approved, pay the approved amount to the successful bidder during the Owner’s subsequent payment cycle.

It is agreed that any disputes as to whether the Owner or the successful bidder has failed to make payments required pursuant to the Contract shall be submitted to a process of alternative dispute resolution. Alternative dispute resolution agreed upon by the parties to the Agreement shall not apply to disputes concerning the bid solicitation or award process, or to the formation of contracts or subcontracts.

All Contractors must submit invoices, engineering certificates, change order requests, payroll certifications and any other documentation to Owner or its representatives by no later than the first Thursday of every month to be considered for approval, certification or withholding of full or partial payments. Documents submitted after such date shall not be paid until the next billing cycle.

After the submission of such documents to Owner or its representatives, Owner shall either approve, certify or withhold full or partial payment at the next public meeting following twenty (20) calendar days after Owner's receipt of the documentation.

If approved, payment shall be made by Owner within the payment cycle following the public meeting in which the bill was approved. Owner's billing cycle can vary from twenty to sixty (20 to 60) days after approval depending on the scheduled date of Owner's public meeting.

If a bill or a portion of a bill is denied, Owner or its representative shall immediately notify the contractor, in writing, of any denial of payment, its deficiency, and what is required to remedy the deficiency.

For final and retainage payment, the billing date shall be defined is the date the bill is received by Owner. Owner generally meets the last Thursday of the month except for November and December. A complete meeting schedule will be forwarded to the contractor upon issuance of a contract.

ACKNOWLEDGED BY:

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00229

VALUE ENGINEERING CONSTRUCTION PROPOSALS PROCESS AND ACKNOWLEDGMENT

27.1 The term “Proposal” as used in this Section 00227 is construed to mean a Value Engineering Construction Proposal submitted by the Contractor for changing the Drawings, Bid Specifications, or other requirements of the Contract.

27.2 Conditions In accordance with the statutory requirements of N.J.S.A. 40A:11-16.6 and N.J.A.C. 7:22-3.37, the Owner will consider value engineering construction proposals from the Contractor only when all of the following conditions are met:

- 27.2.1 All Proposals, approved or not approved by the Owner for use in the Contract, apply only to the ongoing Contract and Contracts referenced in the Proposal. The Proposals shall become the property of the Owner and shall contain no restrictions imposed by the Contractor on their use or disclosure. The Owner will have the right to use, duplicate, and disclose in whole or in part any data necessary for the utilization of the Proposal. The Owner retains the right to use any accepted Proposal or part thereof on any other or subsequent project without any obligation to the Contractor. This provision is not intended to deny rights provided by law with respect to patented materials or processes.
- 27.2.2 If the Owner already has under consideration certain revisions to the Contract that are subsequently incorporated in a Proposal, the Owner will reject the Contractor’s proposal and may proceed with such revisions without any value engineering obligation to the Contractor.
- 27.2.3 The Contractor shall make no claim against the Owner or the Owner’s agents for any costs or delays due to the Owner’s rejection of a Proposal, including but not limited to development costs, anticipated profits, or increased materials or labor costs resulting from delays in the review of such Proposal.
- 27.2.4 The Engineer will determine whether a proposal qualifies for consideration and evaluation. The Owner may reject any Proposal which is not consistent with the basic design criteria for the Project.
- 27.2.5 The Engineer may reject all or any portion of Work performed pursuant to an approved Proposal if the Engineer determines that unsatisfactory results are being obtained. The Engineer may direct the removal of such rejected Work and require the Contractor to proceed according to the original Contract requirements without reimbursement for any Work performed under the Proposal, or for its removal. Where modifications to the Proposal are approved to adjust to field or other conditions, reimbursement is limited to the total amount payable for the Work at the Contract prices as if it were constructed according to the original Contract requirements. Such rejection or limitation of reimbursement does not constitute the

basis of any claim against the Owner for delay or for any other costs.

27.2.6 Proposals will be considered only if equivalent options are not already provided in the Contract.

27.2.7 The Proposal shall be made based on items of work scheduled to be done by the Contractor. Anticipated cost savings based on revisions of utility relocations or other similar items to be done by others will not be considered. Proposals that may increase the cost of Work done by others may be considered.

27.2.8 If additional information is needed to evaluate Proposals, this information must be provided in a timely manner. Such additional information could include, where design changes are proposed, results of field investigations and surveys, design computations, and field change sheets.

27.2.9 The Proposal shall not be experimental in nature but shall have been proven to the Owner's satisfaction under similar or acceptable conditions at a location acceptable to the Owner.

27.2.10 The Owner will consider only those Proposals that can provide a savings to the Owner without, in the judgment of the Engineer, impairing essential functions and characteristics of the Project or a portion of the Work involved. These include, but are not limited to, safety, service life, staged construction, economy of operation, ease of maintenance, and desired appearance.

27.3 Submittal of Initial Proposal An initial submission is required to use the value engineering process. The initial Proposal shall outline the general technical concepts associated with the Proposal and the estimated savings that will result. The initial Proposal will be reviewed by the Owner and, if found to be conceptually acceptable, approval to submit a final proposal will be granted by the Owner. A finding of conceptual acceptability of the initial Proposal in no way obligates the Owner to approve the final Proposal. The Contractor shall have no claim against the Owner as a result of the rejection of any such final Proposal.

27.4 Submittal of Final Proposal Final Proposals will be considered only after Owner approval of the initial Proposal. Final Proposals will not be considered if submitted after 50 percent (50%) completion of the Work has occurred, based on monthly estimates amounting to more than fifty percent (50%) of the total Contract price (subject to any approved adjustments), unless the remaining Agreement Time is one year or more. As a minimum, the following materials and information shall be submitted with each final proposal plus any additional information requested by the Owner:

27.4.1 A statement that the final Proposal is submitted as a Value Engineering Proposal.

27.4.2 A description of the difference between the existing Contract requirements and the proposed change, and the comparative advantages and disadvantages of each, including considerations of safety, service life, economy of operations, staged

construction, ease of maintenance, and desired appearance.

- 27.4.3 Complete plans, specifications, and calculations showing the proposed revisions relative to the original Contract features and requirements. All plans and engineering calculations shall bear the signature of a professional engineer licensed to practice in the State of New Jersey.
- 27.4.4 A complete cost analysis indicating the final estimated costs and quantities to be replaced by the Proposal, the new costs and quantities generated by the final Proposal, and the cost effects of the proposed changes on operational, maintenance, and other considerations.
- 27.4.5 A specific date by which a change order adopting the final Proposal must be executed so as to obtain the maximum cost reduction during the remainder of the Contract. This date must be selected to allow the Owner ample time, a minimum of 45 days, for review and processing a change order. Should the Owner find that insufficient time is available for review and processing, it may reject the final Proposal solely on such basis.
- 27.4.6 A statement as to the effect the final Proposal has on the Agreement Time.
- 27.4.7 A description of any previous use or testing of the final Proposal on another Owner project or elsewhere and the conditions and results therewith. If the final Proposal was previously submitted on another Owner project, indicate the date, the project, and the action taken by the Owner.

27.5 Approval of Final Proposal

- 27.5.1 The Engineer shall prepare a written report for the Owner that shall evaluate the Proposal, make a recommendation on whether or not it should be accepted, rejected, or modified, and state to the Owner and Contractor the amount of any Project cost savings.
- 27.5.2 The Proposal shall not be approved unless the Engineer reports to the Owner that the Proposal appears consistent with the required performance, quality, reliability, and safety of the Project and does not impair any of the essential functions, or characteristics of the Project, or any portion of the Work.
- 27.5.3 If the Owner fails to respond to the final Proposal by the date specified, the Contractor shall consider the final Proposal rejected and shall make no claim against the Owner as a result thereof.

27.5.6 The Owner shall have the sole discretion to approve or disapprove a Proposal.

27.6 Payment If the Proposal is accepted, the changes will be authorized by change order. Payment will be made as follows:

- 27.6.1 The changes will be incorporated into the Contract by adjustments in the quantities of pay items and agreed upon extra work items, as appropriate, according to the Bid Specifications.
- 27.6.2 Once the Project is completed, the Engineer shall verify the cost savings to reflect the actual cost of the Work, and such verified cost saving shall be the basis for the savings shared equally with the Contractor. The costs of such verification shall be borne equally by both parties.
- 27.6.3 The Owner's and the Engineer's costs for review and processing of the Proposal will be deducted from the savings to be shared by the Owner and the Contractor. The Contractor shall be liable for all reasonable costs incurred by the Owner for the technical evaluation and engineering review of a Proposal presented by the Contractor.
- 27.6.4 The Contractor's costs for development, design, and implementation of the Proposal are not eligible for reimbursement.
- 27.6.5 The Contractor may submit Proposals or an approved Subcontractor, provided that reimbursement is made by the Owner to the Contractor and that the terms of the remuneration to the Subcontractor are satisfactorily negotiated and accepted before the Proposal is submitted to the Owner. Subcontractors may not submit a Proposal except through the Contractor.

The undersigned hereby certifies and acknowledges that he/she has read and understood and agrees with the foregoing.

ACKNOWLEDGED BY:

Signature of Authorized Representative

Name: _____

Title: _____

Date: _____

SECTION 00300 – CONTRACT REQUIREMENTS

SECTION 00301

FORM OF AGREEMENT

CONTRACT NO. []

THIS CONTRACT NO. [] (the “Contract”), entered into as of this ____ day of _____, 2026 (the “Effective Date”), by and between the **JERSEY CITY REDEVELOPMENT AGENCY**, a public body corporate and politic of the State of New Jersey, with offices at 4 Jackson Square, Jersey City, New Jersey 07305 (the “Agency”), and [CONTRACTOR] with offices at [ADDRESS] (“Contractor”) (Contractor and the Agency, collectively, the “Parties”, and each individually, a “Party”).

W I T N E S S E T H :

WHEREAS, the Local Redevelopment and Housing Law, *N.J.S.A. 40A:12A-1 et seq.*, as amended and supplemented (the “**Redevelopment Law**”), provides a process for municipalities to participate in the redevelopment and improvement of areas designated by the municipality as in need of redevelopment; and

WHEREAS, the Agency was established as an instrumentality of the City of Jersey City (the “City”) pursuant to the provisions of the Redevelopment Law, and has the responsibility for implementing redevelopment plans and carrying out redevelopment projects in the City; and

WHEREAS, [DESCRIPTION]

WHEREAS, in connection with [], it is necessary to procure [] in accordance with the Local Public Contracts Law, *N.J.S.A. 40A:11-1 et seq.* (the “**LPCL**”); and

WHEREAS, on [DATE], the Agency issued a Request for Bids for the [PROJECT NAME] (the “**Project**”) (the “**RFB**”) containing all pertinent documents, forms, instructions, plans, and bid specifications for the Project (collectively, the “**Contract Documents**”); and

WHEREAS, on [DATE], Contractor submitted to the Agency a detailed response to the RFB (the “**Bid**”) and a fee schedule with the rates set forth in the Bid, attached hereto as **Exhibit A**, for the Project (the “**Work**”) as outlined in the RFB, the Contract Documents, and the Bid for an amount not to exceed [] Dollars (\$XXXXXX.00), to be paid in accordance with the rates set forth in the Bid; and

WHEREAS, the Agency has reviewed all bids submitted and has determined Contractor to be the lowest responsible bidder, finds Contractor to possess the skills and expertise to perform the Work, and wishes to enter into this Contract for the Work; and

WHEREAS, on [DATE], by Resolution No. [], attached hereto as **Exhibit B**, the

Agency's Board of Commissioners authorized the award of this Contract to Contractor for the Work in accordance with the RFB, the Contract Documents, and the Bid,

NOW, THEREFORE, the Agency and Contractor, for consideration and under the conditions hereinafter set forth, the sufficiency and receipt of which are hereby acknowledged, do agree as follows:

SECTION 1 – PURPOSE OF CONTRACT

The purpose of this Contract is to set forth the respective rights, obligations, conditions and agreements of the Parties in connection with Contractor's performance of the Work, outlined in the Bid, in furtherance of the redevelopment of the Redevelopment Area in accordance with the RFB and the Contract Documents.

SECTION 2 – SCOPE OF WORK; PERFORMANCE

- A. Contractor shall perform the Work in accordance with the Bid.
- B. Performance of the Work shall not be materially different from or more or less extensive than the Work specified in the Bid, and as required by the Contract Documents and the RFB, unless such modifications are reduced to writing and signed by authorized representatives of the Agency and Contractor in accordance with the procedure set forth in Section 3(b) herein.
- C. In performing the Work, Contractor shall operate as and have the status of an independent contractor and shall not act as an agent or employee of the Agency. As an independent contractor, Contractor shall be solely responsible for determining the means and methods of performing the Work.
- D. Contractor shall perform the Work in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.
- E. Contractor shall provide to the Agency a detailed, written schedule for performance of the Work, which schedule shall set forth a timeline identifying tasks, milestones, and deliverables.
- F. Contractor shall provide regular progress reports to the Agency, at least monthly, describing at a minimum the work performed, anticipated upcoming tasks, and any problems encountered in rendering the Work.
- G. All Work shall be performed by licensed individuals, where applicable.
- H. The Agency and Contractor agree to cooperate to provide Contractor with access to the Project area as deemed necessary and/or appropriate for Contractor to perform the Work.

SECTION 3 – COMPENSATION AND PAYMENT

- A. Compensation paid by the Agency to Contractor for the performance of the Work shall not exceed [] Dollars (\$XXXXX.00). Such compensation shall include all labor, overhead costs and basic support services incurred by Contractor. The Agency will not reimburse Contractor for costs deemed by the Agency to be part of Contractor's labor costs, overhead costs and/or basic support services.
- B. Prior to engaging in work that may exceed the scope of the Work, Contractor shall submit to the Agency, in writing, a request to perform such additional services, detailing the nature of the work, the cost of performing such work, and the need for the additional services. Contractor shall not proceed with any work that exceeds the scope of the Work without obtaining the prior, written consent of the Agency and, if required, the adoption of a resolution authorizing an amendment of the scope of this Contract by the Agency's Board of Commissioners. Any modifications of the Work which would result in increasing the compensation owed by the Agency hereunder shall require the prior authorization of the Agency's Board of Commissioners and shall in all cases be conditioned upon the availability of funds.
- C. Contractor shall submit to the Agency any invoices, and any required Agency accounts payable vouchers, showing the Work performed and the charges therefor during the period covered thereby, in proportion to the total Work to be completed hereunder, as described in the Bid attached to this Contract. Contractor understands that said invoices and vouchers must be submitted to the Agency for approval prior to payment. The Agency will make payment to Contractor no later than sixty (60) days after receipt of an acceptable invoice and/or voucher from Contractor.
- D. Before final payment is made under the Contract, Contractor and its subcontractors shall provide written statements to the Agency certifying whether any wages are due and owing to any workers on account of the Work, in accordance with the requirements of *N.J.S.A. 34:11-56.33*.

SECTION 4 - EQUIPMENT

- A. Contractor assumes full responsibility for the equipment and materials employed in the performance of the Work hereunder and agrees to make no claims against the Agency for damages to such equipment and/or materials from any cause whatsoever.
- B. Contractor shall at all times maintain sufficient personnel, supervision, equipment, tools and materials necessary to timely perform the Work in accordance with the requirements of the RFB, the Contract Documents, and this Contract.
- C. Contractor shall maintain in good working order the

equipment necessary to perform the Work. Vehicles used hereunder shall be maintained in compliance with Motor Vehicle Rules and Regulations applicable to such equipment.

SECTION 5 - INSURANCE

A. Contractor shall procure, purchase and maintain the following insurance during the term hereof.

- i. **Commercial General Liability Coverage.** Contractor shall, at its own cost and expense, maintain and keep in force during the term of the Contract, a policy of general liability insurance (“CGL”), including contractual liability insurance for insured contracts pursuant to CG 00 01 04/13 or its equivalent, insuring against liability to the extent caused in whole or in part by Contractor’s performance of the Work for bodily injuries and for loss or damage to the property of third parties. The limits of such insurance must be Two Million Dollars (\$2,000,000.00) per occurrence and in the general aggregate. Same shall cover bodily injury, including personal injury, sickness or disease, or death; and from claims for damages because of injury to or destruction of tangible property (other than the work itself), including loss of use resulting therefrom where allowed by law. Limits required herein may be satisfied through a combination of primary and excess coverages.
- ii. **Professional Liability Insurance.** If applicable, Contractor shall, at its own cost and expense, obtain and keep in force during the term of the Contract, a policy of professional liability insurance with limits of not less than One Million Dollars (\$1,000,000.00) per claim, and Two Million Dollars (\$2,000,000.00) in the aggregate.
- iii. **Workers’ Compensation Insurance.** Contractor shall, at its own cost and expense, obtain and keep in force during the term of the Contract, workers’ compensation insurance at amounts equal to the greater of either (a) those amounts required statutorily in the State of New Jersey; or (b) Employer’s Liability Insurance, Part II, Schedule B, securing a minimum compensation for the benefit of Contractor’s employees with limits not less than:

\$500,000.00 per accident for bodily injury by accident;

\$500,000.00 policy limit for bodily injury by disease; and

\$500,000.00 per employee for bodily injury by disease.

The Agency does not recognize Contractor as its employee and will not be responsible for any workers’ compensation claims filed against Contractor. Contractor shall have no status relative to the Agency other than that of independent contractor.

- iv. **Automobile Liability Coverage.** Contractor shall, at its own cost and expense, obtain and keep in full force during the term of the Contract automobile liability coverage for hired and non-owned autos of not less than One Million Dollars (\$1,000,000.00) combined single limit for bodily and property damage liability.
- B. The following riders shall be made a part of the policies described above:
- i. All certificates shall name the Agency and the City of Jersey City as additional insured, with the exception of the workers' compensation/employer's liability and professional liability policies and shall list the locations and properties by Tax Block, Tax Lot and address where the Work will be performed. Such coverage shall be primary and non-contributory over any other coverage. Further, any such additional insured coverage endorsements shall be procured using ISO Form CG 20 10 04 13 or its equivalent.
 - ii. The presence of employees of Contractor and the Agency on the site where the Work will be performed shall not invalidate the policy of insurance.
 - iii. The policies of insurance required herein must be maintained in full force and effect, and as specified herein, by Contractor without interruption for the entire duration that Contractor provides the Work except the policies of insurance described in Section 5 A(i) and (ii) must be maintained for a period of six (6) years after the completion of the Work.
- C. Before commencing the Work hereunder, Contractor shall furnish the Agency with all certificates of such insurance and any applicable additional insured endorsements thereto reflecting the coverages required pursuant to this Contract, and in the case of Contractor's CGL and Automobile Liability Coverage policies, the additional insured status of the Agency and the City.
- D. Contractor agrees to procure, purchase and maintain insurance of the kinds and in the amounts herein set forth with insurance companies authorized to do business in the State of New Jersey, and rated A or better in the Best Key Rating Guide for Property and Casualty covering all operations under this Contract.

SECTION 6 – TERMINATION

- A. The Agency reserves the right to terminate this Contract in whole or in part, at its sole discretion, in the event all terms and conditions contained in this Contract, the Contract Documents and the RFB are not strictly complied with, upon giving at least five (5) days' written notice to Contractor of such termination and specifying the effective date therefor. The Agency, in its sole discretion, shall have the right to procure another party to perform the Work in the event of the termination of this Contract with Contractor.
- B. If this Contract is terminated by the Agency pursuant to this Section 6, Contractor shall be paid an amount which bears the same ratio to the total compensation as the Work actually

performed bear to the total Work covered by this Contract, less payments of compensation previously made.

- C. If the Agency terminates this Contract due to the fault of Contractor, all finished or unfinished documents, data, studies, and reports prepared by Contractor under this contract shall, at the option of the Agency, become the Agency's property, and Contractor shall be entitled to receive just and equitable compensation for any satisfactory work completed on such documents. Notwithstanding the above, Contractor shall not be relieved of liability to the Agency for damages sustained by the Agency by virtue of any breach of this Contract by Contractor, and the Agency may withhold any payments to Contractor for the purpose of setoff until such time as the exact amount of damages due the Agency from Contractor is determined.

SECTION 7 – CHANGED CONDITION CLAUSES

A. Differing site conditions provisions:

(1) If Contractor encounters differing site conditions during the progress of the Work, the Agency shall be promptly notified in writing of the specific differing site conditions encountered before the site is further disturbed and before any additional Work is performed in the impacted area.

(2) Upon receipt of a differing site conditions notice, or upon the Agency otherwise learning of differing site conditions, the Agency shall promptly undertake an investigation to determine whether differing site conditions are present.

(3) If the Agency determines different site conditions that may result in additional costs or delays exist, the Agency shall provide prompt written notice to Contractor containing directions on how to proceed.

(4) (a) The Agency shall make a fair and equitable adjustment to the Contract price and Contract completion date for increased costs and delays resulting from the agreed upon differing site conditions encountered by Contractor.

(b) If both parties agree that the Agency's investigation and directions decrease Contractor's costs or time of performance, the Agency shall be entitled to a fair and equitable downward adjustment of the Contract price or time of performance.

(c) If the Agency determines that there are no differing site conditions present that would result in additional costs or delays, the Agency shall so advise Contractor, in writing, and Contractor shall resume performance of the contract, and shall be entitled to pursue a differing site conditions claim against the Agency for additional compensation or time attributable to the alleged differing site conditions.

(5) Execution of the Contract by Contractor shall constitute a representation that Contractor has visited the site and has become generally familiar with the local conditions under which

the Work is to be performed.

(6) As used in this subsection, "differing site conditions" mean physical conditions at the Work site that are subsurface or otherwise concealed and which differ materially from those indicated in the RFB or are of such an unusual nature that the conditions differ materially from those ordinarily encountered and generally recognized as inherent in the Work of the character provided for in the Contract.

B. Suspension of Work provisions:

(1) The Agency shall provide written notice to Contractor in advance of any suspension of Work lasting more than 10 calendar days of the performance of all or any portion of the Work.

(2) If the performance of all or any portion of the Work is suspended by the Agency for more than 10 calendar days due to no fault of Contractor or as a consequence of an occurrence beyond the Agency's control, Contractor shall be entitled to compensation for any resultant delay to the project completion or additional expenses, and to an extension of time, provided that, to the extent feasible, Contractor, within 10 calendar days following the conclusion of the suspension, notifies the Agency, in writing, of the nature and extent of the suspension of the Work. The notice shall include available supporting information, which information may thereafter be supplemented by Contractor as needed and as may be reasonably requested by the Agency. Whenever a work suspension exceeds 60 days, upon seven days' written notice, either party shall have the option to terminate the Contract for cause and to be fairly and equitably compensated therefor.

(3) Upon receipt of Contractor's suspension of work notice, the Agency shall promptly evaluate Contractor's notice and promptly advise Contractor of its determination on how to proceed in writing.

(4) (a) If the Agency determines that Contractor is entitled to additional compensation or time, the Agency shall make a fair and equitable upward adjustment to the Contract price and Contract completion date.

(b) If the Agency determines that Contractor is not entitled to additional compensation or time, Contractor shall proceed with the performance of the Work and shall be entitled to pursue a suspension of work claim against the Agency for additional compensation or time attributable to the suspension.

(5) Failure of Contractor to provide timely notice of a suspension of the Work shall result in a waiver of a claim if the Agency can prove by clear and convincing evidence that the lack of notice or delayed notice by Contractor actually prejudiced the Agency's ability to adequately investigate and defend against the claim.

C. Change in character of Work provisions:

(1) If Contractor believes that a change directive by the Agency results in a material change to the Work, Contractor shall so notify the Agency in writing. Contractor shall continue to perform all Work on the project that is not the subject of the notice.

(2) Upon receipt of Contractor's change in character notice, the Agency shall promptly evaluate Contractor's notice and promptly advise Contractor of its determination on how to proceed in writing.

(3) (a) If the Agency determines that a change to Contractor's performance caused or directed by the Agency materially changes the character of any aspect of the Work, the Agency shall make a fair and equitable upward adjustment to the Contract price and Contract completion date. The basis for any such price adjustment shall be the difference between the cost of performance of the Work as planned at the time of contracting and the actual cost of such Work as a result of its change in character, or as otherwise mutually agreed upon by Contractor and the Agency prior to Contractor performing the Work.

(b) If the Agency determines that Contractor is not entitled to additional compensation or time, Contractor shall continue the performance of all Work and shall be entitled to pursue a claim against the Agency for additional compensation or time attributable to the alleged material change.

(4) As used in this subsection, "material change" means a character change which increases or decreases Contractor's cost of performing the Work, increases or decreases the amount of time by which the Contractor completes the Work in relation to the contractually required completion date, or both.

D. Change in quantity provisions:

(1) The Agency may increase or decrease the quantity of the Work to be performed by Contractor.

(2) (a) If the quantity of a pay item is cumulatively increased or decreased by 20 percent or less from the bid proposal quantity, the quantity change shall be considered a minor change in quantity.

(b) If the quantity of a pay item is increased or decreased by more than 20 percent from the bid proposal quantity, the quantity change shall be considered a major change in quantity.

(3) For any minor change in quantity, the Agency shall make payment for the quantity of the pay item performed at the bid price for the pay item.

(4) (a) For a major increase in quantity, the Agency or Contractor may request to renegotiate the price for the quantity in excess of 120 percent of the bid proposal quantity. If a mutual agreement cannot be reached on a negotiated price for a major

quantity increase, the Agency shall pay the actual costs plus an additional 10 percent for overhead and an additional 10 percent for profit, unless otherwise specified in the original bid.

(b) For a major decrease in quantity, the Agency or Contractor may request to renegotiate the price for the quantity of work performed. If a mutual agreement cannot be reached on a negotiated price for a major quantity decrease, the Agency shall pay the actual costs plus an additional 10 percent for overhead and an additional 10 percent for profit, unless otherwise specified in the original bid; provided, however, that the Agency shall not make a payment in an amount that exceeds 80 percent of the value of the bid price multiplied by the bid proposal quantity.

(5) As used in this subsection, the term "bid proposal quantity" means the quantity indicated in the Bid less the quantities designated in the RFB as "if and where directed."

SECTION 8 - DISPUTE RESOLUTION

Disputes arising under this Contract shall be submitted to a process of resolution pursuant to alternative dispute resolution practices, such as mediation, binding arbitration or non-binding arbitration pursuant to industry standards, prior to being submitted to any court for adjudication; the Parties shall discuss and agree on the alternative dispute mechanism to utilize. If the Parties cannot agree on any alternative dispute mechanism, they are left to their respective rights at law or in equity. Engaging in any alternative dispute resolution process shall not prevent any Party from seeking injunctive, equitable or declaratory relief in a court of competent jurisdiction as may be needed under the circumstances. All judicial proceedings pertaining to this Contract shall be brought either in the Superior Court of New Jersey – Hudson Vicinage, or in the federal courts within the State of New Jersey, as the case may be.

SECTION 9 – INDEMNITY

Contractor shall indemnify, defend, save and hold harmless the Agency and the City and their respective employees, officers, commissioners, directors, and officials from any and all damages and from costs and expenses including legal fees and costs, to which the Agency and/or the City and their respective employees, officers, commissioners, directors and officials may be subjected to, or incur by reason of any loss, property damage, bodily injury or death, arising out of and/or to the extent resulting from any negligent acts, omissions or conduct of Contractor or any of its officers, employees, contractors or agents arising out of the performance of this Contract. The requirement applies to all claims, damages, losses, and expenses, arising out of performance of this Contract regardless of whether or not such claims, damages, losses or expenses are caused in part by the acts, omissions or conduct of the Agency and/or the City. Notwithstanding the foregoing, if there is a final judicial determination, consent decree, or binding arbitration award that a claim, damage, loss, bodily injury, death or expense arose solely out of the Agency and/or the City's acts, omissions, criminal acts, willful and wanton misconduct or gross negligence, Contractor shall not be obligated to satisfy any judgments against the Agency and/or the City for such claims.

SECTION 10 – TERM OF CONTRACT

This Contract shall terminate upon Contractor's completion of the Work and all related tasks, or Three Hundred Sixty Five (365) days after the Notice to Proceed is issued, whichever is earlier, unless otherwise terminated by the Agency before such termination date in accordance with Section 6 herein or unless this Contract is reauthorized by the Agency in accordance with applicable law and subject to approval by the Agency's Board of Commissioners.

SECTION 11 – LIQUIDATED DAMAGES

The Agency and Contractor hereby acknowledge, agree, and recognize that TIME IS OF THE ESSENCE for completion of the Work in accordance with the Contract and that the Agency may suffer financial loss and/or penalty if the Work is not performed and/or delivered in accordance with this Contract. As such, and instead of requiring proof of such losses or damages, the Agency and Contractor agree that as and for liquidated damages for delay, but not as a penalty, Contractor shall pay the Agency, \$1,000.00 per working day for each day that expires after the time specified in this Contract until performance of the Work is complete. The Agency may deduct the amount of liquidated damages from any money due to Contractor under the Contract. In addition to the amount provided for liquidated damages, Contractor shall pay the Agency the actual costs reasonably incurred by the Agency as a result of Contractor's failure to meet its obligations set forth in this Contract, which actual costs shall include, but not be limited to, engineering and inspection forces employed on the Work, until the Work is completed in accordance herewith.

SECTION 12 – POLITICAL CONTRIBUTION DISCLOSURE

This Contract has been awarded to Contractor based on its merits and abilities to provide the Work described herein and in accordance with applicable law. Contractor shall comply with the disclosure requirements pursuant to the Elections Transparency Act P.L. 2023, c.30 amending *N.J.S.A. 19:44A-1 et seq.*

SECTION 13 – CONFIDENTIALITY

In the course of performing the Work, Contractor may gain access to nonpublic and confidential information. The Agency requires Contractor to maintain the confidentiality of such information both during and after the course of Contractor's work with the Agency. Contractor shall implement appropriate procedures to ensure the protection of all such information.

SECTION 14 – ENTIRE CONTRACT

This Contract, the RFB with all attachments, the Contract Documents and all exhibits attached hereto constitute the entire agreement between the Agency and Contractor with respect to the subject matter hereof. There have been and are no covenants, representations, restrictions or agreements other than those herein expressed. Any changes or amendments to the Contract must be in writing and signed by Contractor and the Agency.

This Contract shall be construed without any presumptions against the drafter and shall be considered as though it were drafted cooperatively by both Parties.

SECTION 15 – TITLES AND HEADINGS

Any titles of the sections or subsections of this Contract are inserted for convenience of reference only and shall be disregarded in construing or interpreting any of its provisions.

SECTION 16 – COUNTERPARTS

This Contract may be executed in counterparts, each of which shall constitute an original, and all of which together shall constitute one and the same instrument. Facsimile, documents executed, scanned and transmitted electronically shall be deemed original signatures for purposes of this Contract and all matters related thereto, with such facsimile and/or scanned documents having the same legal effect as original signatures.

SECTION 17 – NOTICES

Any written notices required or desired hereunder shall be addressed to the respective Parties at the addresses set forth below:

- (a) In the case of Contractor, addressed to:

Name:
Address:
Attn:
Telephone:
Email:

- (b) In the case of the Agency, addressed to:

Jersey City Redevelopment Agency
4 Jackson Square (a/k/a 39 Kearney Avenue)
Jersey City, New Jersey 07305
Attn:
Telephone:
Email:

SECTION 18 – CONFLICTS

In the event of any conflict, ambiguity or inconsistency between the terms and conditions of this Contract and the terms and conditions of the Bid (including any attachments thereto), the terms and conditions of this Contract shall control.

SECTION 19 – APPLICABLE LAW

This Contract shall be governed and construed under and in accordance with the laws of the State of New Jersey, including without limitation the LPCL. Contractor acknowledges that it has complied and will continue to comply with Affirmative Action/Equal Employment Opportunity and business registration requirements and that all required forms in connection therewith are on file with the Agency.

SECTION 20 – AUDIT AND REVIEW OF CONTRACT RECORDS

Contractor acknowledges that it will comply with *N.J.A.C. 19:70-1.6*, if applicable, and maintain all documentation related to the Work under this Contract for a period of five (5) years from the date of final payment. Such records shall be made available to the Office of the State Comptroller upon request.

SECTION 21 - ASSIGNMENTS

Contractor shall not assign this Contract or any part thereof without the written consent of the Agency, nor shall it assign any money due, or to become due, hereunder without the written consent of the Agency.

SECTION 22 - SEVERABILITY

If any provision of this Contract is subsequently declared by the proper legislative or judicial authority to be unlawful, unenforceable or not in accordance with applicable statutes, all other provisions of this Contract shall remain in full force and effect.

[Signatures appear on the following page]

IN WITNESS WHEREOF, the Agency and Contractor have entered into this Contract as of the Effective Date.

ATTEST:

[CONTRACTOR]

Name:

By: _____
Name:
Title:

Dated: _____

ATTEST:

JERSEY CITY REDEVELOPMENT AGENCY

Name:

By: _____
Executive Director

Dated: _____

EXHIBIT A TO CONTRACT

BID DATED []

TOGETHER WITH CONTRACT DOCUMENTS

EXHIBIT B TO CONTRACT

AGENCY RESOLUTION AUTHORIZING AWARD OF CONTRACT

SECTION 00302

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)
(hereinafter called "Principal")

and

(Name of Surety)

(Address of Surety)

(hereinafter called "Surety")

are held and firmly bound unto the Jersey City Redevelopment Agency ("Owner"), in the penal sum of _____ payment of which sum well and truly to be made, we bind ourselves, successors, and assigners, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into an Agreement with the Owner, dated the _____ day of _____, 20____, a copy of which is hereto attached and made a part hereof.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said Contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety and during the one-year correction period, and if Principal shall satisfy all claims and demands incurred under such Contract, and shall fully indemnify and safe harmless the Owner from all costs and damages that it may suffer by reason of failure to do so, and shall reimburse and repay the Owner all outlays and expenses, which the Owner shall void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to Work to

be performed thereunder of the Contract Documents accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or the Contract Documents.

PROVIDED, FURTHER, that no settlement between the Owner and the Principal shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this the _____ day of _____ 20 ____.

ATTEST:

Witness as to Principal

Principal (Seal)

Signature of Authorized Representative

Name and Title of Authorized Representative

Address

Witness as to Surety

Name of Surety

Signature of Authorized Representative (Seal)

Name and Title of Authorized Representative

Address

NOTE: Date of Bond must not be prior to date of Agreement. If CONTRACTOR is a Partnership, all partners should execute Bond.

SECTION 00303

LABOR AND MATERIALS BOND (PAYMENT BOND)

KNOWN ALL MEN BY THESE PRESENTS, that we, the undersigned,

(Name and address of Contractor)

as Principal (the "Principal"), and _____
(name and address of surety)

a corporation duly organized and existing under the laws of the State of _____
("Surety") are hereby held and firmly bound unto the Jersey City Redevelopment Agency
("Obligee"), a body existing under and by virtue of the laws of the State of New Jersey, as
hereinafter set forth, in the full and just sum of

_____ Dollars (\$ _____)

lawful money of the United States of America, for the payment of which sum well and truly to be
made, the said principal and the said Surety bind ourselves, our heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these presents.

WITNESS THAT:

WHEREAS, The Principal, heretofore has submitted to the Obligee a Bid, dated
_____, 20____ ("Bid"), to perform certain work for the Obligee, in connection
with

**HUDSON AND MANHATTAN POWERHOUSE STABILIZATION PROJECT
JCRA Contract No. 26-11-RN25**

pursuant to Drawings, Specifications and other related documents constituting the Contract
Documents, as prepared by Obligee's Engineer and which are incorporated into the Bid by
reference.

WHEREAS, it also is a condition of the Contract Documents that this Bond shall be furnished by
the Principal to the Obligee; and

WHEREAS, under the Contract Documents, it is provided that, if the Oblige shall make an award to the Principal in accordance with its Bid and the Principal shall furnish this bond to the Oblige, then the Principal and the Oblige shall enter into a contract with respect to performance of such Work, and the form of Agreement as set forth in the Contract Documents.

NOW, THEREFORE, the terms and conditions of this Bond are and shall be that if the Principal and any Subcontractor of the Principal to whom any portion of the Work under the Agreement shall be subcontracted, and if all assignees of the Principal and of any such Subcontractor shall promptly pay or shall cause to be paid, in full, all money that may be due any claimant supplying labor or materials in the prosecution and performance of the Work in accordance with the Agreement and the Contract Documents, as amended, for material furnished or labor performed, then this Bond shall be void; otherwise, this Bond shall be and shall remain in force and effect.

This Bond shall be solely for the protection of claimants supplying labor or materials to the Principal or to any Subcontractor of the Principal in the prosecution of the Work covered by the Agreement and the Contract Documents, as amended. The term "claimant," when used herein shall mean any individual, firm, partnership, association or corporation. The phrase "labor or materials," when used herein shall include public utility services and reasonable rentals of equipment, but only for periods when the equipment rented is actually used at the site of the Work covered by the Agreement. The provisions of this Bond shall be applicable whether or not the material furnished, or labor performed enters into and becomes a component part of the Work contemplated by the Agreement and Contract Documents.

The Principal and the Surety agree that any claimant, who has performed labor or furnished material in the prosecution of the Work in accordance with the Agreement and the Contract Documents, and who has not been paid therefore, in full, before the expiration of ninety (90) days after the day on which such claimant performed the last of such labor or furnished the last of such materials for which payment is claimed, may institute an action upon this Bond, in the name of the claimant, to recover any amount due the claimant for such labor or material, and may prosecute such action to final judgment and may have execution upon the judgment; Provided, however, that: (a) any claimant who has a direct contractual relationship with any Subcontractor of the Principal, but has no contractual relationship, expressed or implied, with the Principal, may institute an action upon this Bond only if such claimant first shall have given written notice to the Principal, within ninety (90) days from the date upon which such claimant performed the last of the labor or furnished the last of the materials for which payment is claimed, stating, with substantial accuracy, the amount claimed and the name of the person for whom the Work was performed or to whom the material was furnished; and (b) no action upon this Bond shall be commenced after the expiration of one year from the day upon which the last of the labor was performed or material was supplied, for payment of which such action is instituted by the claimant; and (c) every action upon this Bond shall be instituted either in the appropriate court of the county where the Agreement is to be performed or such other county as New Jersey statutes shall provide, or in the United States District Court for the district in which the Work to which the Agreement relates is situated, and not elsewhere.

The Principal and the Surety agree that any alterations, changes and/or additions to the Contract Documents, and/or any alterations, changes and/or additions to the work to be performed under the

Agreement in accordance with the Contract Documents, and/or any alterations, changes and/or additions to the Agreement, and/or any giving by the Obligor of any extensions of time for the performance of the Agreement in accordance with the Contract Documents, and/or any act of forbearance of either the Principal or the Obligor toward the other with respect to the Contract Documents and the Agreement, and/or the reduction of any percentage to be retained by the Obligor as permitted by the Contract Documents and by the Agreement, shall not release, in any manner whatsoever, the Principal and the Surety, or either of them, or their heirs, executors, administrators, successors and assigns, from liability and obligations under this Bond; and the Surety, for value received, does waive notice of any such alterations, changes, additions, extensions of time, acts of forbearance and/or reduction of retained percentage.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, on this _____ day of _____ 20____.

Doing business as:

Individual Principal

By: _____
(Individual's signature)

(Printed or typed name of individual)

Partnership Principal

By: _____
(Firm's name)

By: _____
(Partner's Name)

(Printed or typed name of partner)

Corporate Principal

By: _____
(Corporate name)

(State of Incorporation)

By:

(Signature of Officer Authorized to Sign)

(Printed or typed name and title of officer authorized to sign)

CORPORATE SEAL

Attest

(Secretary)

Joint Venture Principal

By: _____
(Signature)

(Printed or Typed Name)

By: _____
(Signature)

(Printed or typed name)

(Each joint venture must sign. The manner of signing for each individual, partnership and corporations that is a party to the joint venture should be in the manner indicated above).

Corporate Surety

By: _____
(Corporate's name)

By: _____
(Signature of officer or attorney-in-fact)

(Printed or typed name and title of officer, or name of attorney-in-fact)

Attest _____
(Secretary)

*Attach certified and effective dated copy of power of attorney showing authority of attorney-in-fact to execute on behalf of corporation.

SECTION 00304

MAINTENANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that we _____,
("Principal"), and _____, a corporation of the State of
_____, ("Surety"), are held and firmly bound unto the Jersey City Redevelopment
Agency ("Obligee") in the sum of _____ DOLLARS, lawful money of the
United States of America, to be paid to the said Obligee, or its successors or assigns, to the payment
of which sum well and truly to be made, we do bind ourselves, our heirs, executors, administrators,
successors and assigns, jointly and severally, firmly by these presents.

SIGNED, sealed and dated this _____ day of _____, 20____.

WHEREAS, the Principal entered into a Contract with the said Obligee, dated

_____ for _____
_____ and

WHEREAS, the Obligee requires that these presents be executed on or before Final Completion
and acceptance of said Contract and

WHEREAS said Contract was completed and accepted on the _____ day of
_____, 20_____.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, that if the Principal
shall remedy, without cost to the Obligee, any defects which may develop during a period of two
(2) years from the date of Final Completion and acceptance of the Work performed under the
Contract, caused by defective or inferior materials or workmanship, then this obligation shall be
void; otherwise it shall be and remain in full force and effect.

Attest:

_____ By: _____
Principal

Attest:

_____ By: _____
Surety**

Attach certified and effective dated copy of power of attorney showing authority of attorney-in-fact
to execute on behalf of corporation. **CONSENT OF SURETY MUST BE SIGNED BY AN

ATTORNEY-IN-FACT OF A SURETY COMPANY AND NOT BY THE INDIVIDUAL OR COMPANY SUBMITTING THE BID AND MUST BE ACCOMPANIED BY A DULY NOTARIZED POWER-OF-ATTORNEY FOR THE ATTORNEY-IN-FACT.

SECTION 00305

NOTICE OF CONTRACT AWARD

TO: _____

Project Description: _____

The Owner has considered the Bid submitted for the above described Work in response to its Advertisement for Bids, dated _____, 20 __, and Contract Documents.

You are required by the Contract Documents to execute the Agreement and furnish the Performance Bond, Certificates of Insurance (with copies of the policies including all endorsements), within twenty-one (21) days, Sundays and holidays excepted, from the date of this Notice of Contract Award.

If you fail to execute the Agreement and to furnish satisfactory bonds, evidences of insurance and other required documents within twenty-one (21) days, Sundays and holidays excepted, from the date of this Notice of Contract Award, or within such further time period as you and Owner may in writing agree, the Owner will be entitled to consider all your rights arising out of the Owner's acceptance of your Bid as abandoned and as a forfeiture of your bid security. The Owner will also be entitled to such other rights as may be provided by law.

You are required to return an acknowledged copy of this NOTICE OF CONTRACT AWARD to the Owner.

Dated this ____ day of _____, 20 ____

OWNER

BY: _____

TITLE: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE OF CONTRACT AWARD is hereby acknowledged by:

_____ this ____ day of _____, 20 __,

By _____ Title _____

SECTION 00306

NOTICE TO PROCEED

TO: _____

DATE: _____

PROJECT:
JERSEY CITY REDEVELOPMENT AGENCY
NAME OF PROJECT
JCRA CONTRACT NO _____

You are hereby notified to commence the performance of the Work in accordance with the Agreement, dated _____, 20 __, on or before _____, 20 __, and you are to complete all Work within Three Hundred Sixty Five (365) consecutive calendar days thereafter. The date of completion of all Work is, therefore, _____, 20 __.

OWNER

BY: _____

TITLE: _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED is hereby acknowledged

by: _____ this the _____ day of _____, 20 __,

By: _____ Title _____

SECTION 00400 – BID SPECIFICATIONS AND DRAWINGS

SECTION 00401

SHORT TERM STABILIZATION SPECIFICATIONS

JERSEY CITY REDEVELOPMENT AGENCY
HUDSON COUNTY, NEW JERSEY
4 Jackson Square, Jersey City, New Jersey 07305

**HUDSON RIVER AND MANHATTAN
RAILROAD POWERHOUSE**

SHORT TERM FACADE STABILIZATION

First and Washington Streets
Jersey City, New Jersey 07302

PROJECT MANUAL

TECHNICAL SPECIFICATIONS - DIVISIONS 01 THROUGH 09

Volume 2 of 2

Bound with, and to be read together with, the Bid Specifications and Project Manual issued by the Jersey City Redevelopment Agency, which contains the Advertisement for Bid, Instructions to Bidders, Bid Forms, Agreement, Bonds, General Conditions, Supplementary Conditions, and Wage Rate requirements.

JCRA CONTRACT NO.

FOR BID

Issued for Bid — Not for Construction

Drawings dated April 7, 2026, Revision "For Bid" dated September 18, 2026
Specifications dated September 18, 2026

PREPARED BY
PORCELLO ENGINEERING, INC.
P.O. Box 7169, Bedminster, New Jersey 07921

TABLE OF CONTENTS

TECHNICAL SPECIFICATIONS - DIVISIONS 01 THROUGH 09

Procurement and Contracting Requirements (Division 00) and the General Conditions are furnished by the Jersey City Redevelopment Agency. Where a provision of Division 01 conflicts with the General Conditions, the General Conditions govern.

DIVISION 01- GENERAL REQUIREMENTS

01 11	00	Summary of Work
01 22	00	Unit Prices
01 23	00	Alternates
01 31	00	Project Management and Coordination
01 32	33	Photographic Documentation
01 33	00	Submittal Procedures
01 35	91	Historic Treatment Procedures
01 40	00	Quality Requirements
01 45	33	Code-Required Special Inspections and Testing
01 50	00	Temporary Facilities and Controls
01 56	00	Temporary Barriers and Enclosures
01 74	19	Construction Waste Management and Disposal
01 77	00	Closeout Procedures
01 91	15	Remote Building Monitoring — Optical, Vibration, and Crack Movement

DIVISION 02 - EXISTING CONDITIONS

02 41	19	Selective Demolition
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DIVISION 03 - CONCRETE

03 01	30	Maintenance of Cast-in-Place Concrete
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DIVISION 04 - MASONRY

04 01	20.63	Unit Masonry Repair
04 01	20.71	Unit Masonry Cleaning
04 01	20.91	Unit Masonry Repointing
04 01	45	Architectural Terra Cotta Restoration
04 05	19.16	Masonry Helical Anchorage

DIVISION 05 - METALS

05 05	19	Post-Installed Anchors in Concrete and Masonry
05 12	00	Structural Steel Framing
05 50	00	Metal Fabrications
05 50	13	Masonry Tie-Back Restraint System
05 50	16	Debris Containment Netting System

DIVISION 06 - WOOD, PLASTICS, AND COMPOSITES

06 10 00 Rough Carpentry

DIVISION 07 - THERMAL AND MOISTURE PROTECTION

07 41 13.16 Standing-Seam Metal Roof Panels

07 62 00 Sheet Metal Flashing and Trim

07 92 00 Joint Sealants

DIVISION 09 - FINISHES

09 91 13 Exterior Painting and Coatings

INDEX OF DRAWINGS

Drawings dated April 7, 2026, Revision "For Bid" dated September 18, 2026

The Drawings listed below constitute an integral part of the Contract Documents. Twelve (12) sheets total.

GENERAL

T-100	Title Sheet	1 of 12
G-100	General Notes.....	2 of 12

CIVIL

C-100	Site Plan	3 of 12
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STRUCTURAL

S-100	Roof Plan	4 of 12
S-101	Tower Demolition and New Roof Construction	5 of 12
S-201	North Elevation	6 of 12
S-202	South Elevation	7 of 12
S-203	East Elevation	8 of 12
S-204	West Elevation	9 of 12
S-500	Masonry Restoration Details	10 of 12
S-501	Steel Framing and Netting Installation Details	11 of 12

BUILDING MONITORING

BM-200	Remote Building Monitoring Elevations	12 of 12
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**SECTION 01 11 00
SUMMARY OF WORK**

PART 1 - GENERAL

1.1 PROJECT IDENTIFICATION

- A. Project: Hudson River and Manhattan Railroad Powerhouse, Short Term Facade Stabilization.
- B. Location: First and Washington Streets, Jersey City, New Jersey.
- C. Owner: Jersey City Redevelopment Agency (JCRA).
- D. Architect/Engineer: Porcello Engineering, Inc., P.O. Box 7169, Bedminster, New Jersey 07921.

1.2 SUMMARY OF THE WORK

- A. The Work comprises short term stabilization of the exterior facade and tower of a historic masonry powerhouse, including:
 - 1. Controlled demolition of the East Tower masonry to 2'-0" above the existing roof level.
 - 2. Construction of a new steel-framed hip roof with standing-seam metal roofing over the demolished tower.
 - 3. Installation of a threaded rod tie-back restraint system at the tower.
 - 4. Installation of a debris containment netting system at the north, south, east, and west parapets.
 - 5. Masonry repair and restoration, including brick replacement, repointing, terra cotta repair, helical anchorage, and cleaning.
 - 6. Installation and operation of a remote building monitoring system.
- B. The Work does not include rehabilitation, reuse, or restoration of the building beyond the stabilization measures described. The measures specified are intended to arrest deterioration and contain falling hazards pending a future long-term rehabilitation.

1.3 CONTRACT DESCRIPTION

- A. Procurement and Contracting Requirements and the General Conditions are furnished by the Owner and are bound separately from these Specifications. Where a provision of Division 01 conflicts with the General Conditions, the General Conditions govern.
- B. Portions of the Work are measured and paid under unit prices established in Section 01 22 00. Alternates, where carried, are specified in Section 01 23 00.
 - C. Short Term Stabilization: The Drawings and Specifications are for short term stabilization only. They do not constitute a rehabilitation or restoration of the building, and no provision of the Contract Documents shall be read to require Work beyond that

necessary to arrest deterioration, eliminate falling hazards, and secure the structure pending a future rehabilitation.

1.4 WORK SEQUENCE

- A. Perform the Work in the general sequence established in Section 02 41 19, Article 1.8, subject to the accepted demolition plan and erection procedure.
- B. No demolition or stabilization activity shall commence until the building monitoring system is installed, baselined, and accepted in accordance with Section 01 91 15.

1.5 CONTRACTOR USE OF PREMISES

- A. Limit use of the premises to the areas shown on Drawing C-100. Maintain the restricted area, exclusion zone, fire department access lane, and pedestrian protection at all times.
- B. The site adjoins active rail operations, occupied properties, an adjacent parking lot, and an adjacent building under construction. Coordinate all activity affecting adjoining properties through the Owner.
- C. Tenant Occupancy: The Port Authority of New York and New Jersey (PATH) leases a portion of the west side of the building. PATH is a tenant and is not an Owner under this Contract.
 - 1. Coordinate all work affecting the leased premises, and all work on and adjacent to the west elevation, through the Owner. Do not contact or direct the tenant except through the Owner.
 - 2. Maintain the tenant's access, egress, and operations without interruption throughout the Contract period.
 - 3. Provide not less than 72 hours' notice through the Owner prior to any activity with the potential to affect the leased premises, including work at the west elevation under Drawing S-204, netting installation at the west parapet, and monitoring device installation on that elevation.
 - 4. Do not stage material, park equipment, or store debris within the leased premises or its access routes.
- D. Do not obstruct existing fire hydrants, hose connections, walkways, gates, entrances, or exits at any time.
- E. Staging, storage, and disposal areas shall be as shown and as accepted by the Owner prior to mobilization.

1.6 OWNER OCCUPANCY

- A. The building is partially occupied on the West side. Adjacent properties and the public way remain in use throughout the Contract period.
- B. The Owner shall have access to the site at all times for observation and for the monitoring Consultant's work.

1.7 WORK RESTRICTIONS

- A. Working Hours: As permitted by the City of Jersey City and the Owner. Submit the proposed schedule of working hours for the Owner's acceptance.

B. Demolition shall be performed by hand using non-powered tools; see Section 02 41 19.

C. Perform masonry work only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.

1.8 SALVAGE

A. Terra cotta units and architectural features removed under the Contract remain the property of the Owner and shall be documented, palletized, and delivered to the storage location designated by the Owner.

B. Sound brick salvaged from the tower demolition shall be sorted, cleaned, and stockpiled for reuse as replacement units under Section 04 01 20.63, and shall not be disposed of without the Engineer's written direction.

1.9 PERMITS AND APPROVALS

A. Obtain and pay for all permits and approvals required for the Work, except those identified in the General Conditions as furnished by the Owner. Comply with all conditions of the historic approvals obtained by the Owner.

END OF SECTION 01 11 00

SECTION 01 22 00 UNIT PRICES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for unit prices.
- B. Related Requirements:
 - 1. Section 01 23 00 - Alternates.
 - 2. Section 01 35 91 - Historic Treatment Procedures.
 - 3. Section 02 41 19 - Selective Demolition.
 - 4. Section 04 01 20.63 - Unit Masonry Repair, for measurement and payment of brick replacement.
 - 5. Section 04 01 45 - Architectural Terra Cotta Restoration, for measurement and payment of terra cotta replacement and patching.
 - 6. Section 04 05 19.16 - Masonry Helical Anchorage, for measurement and payment of helical tie installation.
 - 7. Section 03 01 30 - Maintenance of Cast-in-Place Concrete, for measurement and payment of concrete repair.

1.2 DEFINITIONS

- A. Unit Price: An amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if estimated quantities of Work required by the Contract Documents are increased or decreased.

1.3 PROCEDURES

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, and profit, together with all preparation, protection, curing, cleaning, and disposal required by the referenced Section.
- B. Measurement and Payment: Refer to the individual Specification Sections for Work requiring establishment of unit prices. Methods of measurement and payment for unit prices are specified in those Sections and in Part 3 below.
- C. The Owner reserves the right to reject the Contractor's measurement of work-in-place that involves use of established unit prices, and to have this work measured, at the Owner's expense, by an independent surveyor acceptable to the Contractor.
- D. Quantities indicated on the Drawings are approximate and are shown for the purpose of establishing a basis of bid. Actual quantities will be established in the field by the Engineer.

- E. No unit price Work shall be performed without the Engineer's prior written direction identifying the location and extent. Work performed without such direction will not be measured or paid.
- F. Maintain a running log of unit price Work performed, by location, quantity, and date, and submit with each application for payment.

1.4 SCOPE LIMITATION

- A. This is a short term stabilization Contract. Unit price Work is limited to that required to eliminate falling hazards, to arrest active deterioration, and to permit the stabilization Work. Repairs that are appropriate to the future rehabilitation but not required for stabilization are not included, and shall not be performed under these unit prices without a Change Order.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 LIST OF UNIT PRICES

A. Unit Price No. 1 - Terra Cotta Unit Replacement:

- 1. Description: Unit cost for replacement of each different type of terra cotta unit requiring replacement, in accordance with Section 04 01 45, including removal, salvage and delivery of the removed unit, fabrication or provision of the replacement unit, setting, pointing, and glaze replacement coating.
- 2. Unit of Measurement: Each, by unit type.
- 3. Bidders shall state a separate unit price for each terra cotta unit type identified on the Bid Form.

B. Unit Price No. 2 - Terra Cotta Patching:

- 1. Description: Unit cost for patch repair of a deteriorated terra cotta unit in accordance with Section 04 01 45, including surface preparation, patching compound, profiling, glaze replacement coating, and curing.
- 2. Unit of Measurement: Each unit patched, for patches up to 1 square foot in face area. Patches exceeding 1 square foot in face area shall be measured as multiples thereof.

C. Unit Price No. 3 - Brick Unit Replacement:

- 1. Description: Unit cost for replacement of one brick area requiring replacement, for up to eight (8) brick units, in accordance with Section 04 01 20.63, including saw cutting, removal, salvaged or new replacement units, setting in natural hydraulic lime mortar, stitching into surrounding masonry, and pointing.
- 2. Unit of Measurement: Each area of up to eight (8) brick units.

D. Unit Price No. 4 - Multi-Wythe Brick Replacement:

1. Description: Unit cost for removal and replacement of face brick and back-up wythes at cracked-through multi-wythe conditions, in accordance with Section 04 01 20.63, including staged removal, shoring where required, replacement units, and pointing.

2. Unit of Measurement: Square foot of wall face area.

E. Unit Price No. 5 - Repointing:

1. Description: Unit cost for cutting out and repointing deteriorated mortar joints in accordance with Section 04 01 20.91, including joint preparation, natural hydraulic lime pointing mortar, tooling, curing, and cleaning.

2. Unit of Measurement: Square foot of wall face area repointed.

F. Unit Price No. 6 - Helical Wall Tie:

1. Description: Unit cost for installation of one helical wall tie in accordance with Section 04 05 19.16, including drilling, installation, countersinking, and patching to match the adjacent finish surface.

2. Unit of Measurement: Each.

G. Unit Price No. 7 - Helical Stitching Tie Installation Site:

1. Description: Unit cost for one helical stitching tie installation site in accordance with Section 04 05 19.16, including bed joint preparation for the full required length on either side of the crack, non-shrink repair mortar, tie installation, and concealment of the repair.

2. Unit of Measurement: Each installation site.

H. Unit Price No. 8 - Concrete Repair:

1. Description: Unit cost for repair of deteriorated cast-in-place concrete in accordance with Section 03 01 30, including sounding, removal of unsound material, edge preparation, repair mortar, finishing, and curing.

2. Unit of Measurement: Square foot of face area, stated separately for repairs not exceeding 2 inches in depth and for repairs exceeding 2 inches in depth.

I. Unit Price No. 9 - Exposed Reinforcing Steel Treatment:

1. Description: Unit cost for preparation and treatment of exposed reinforcing steel encountered in concrete repair in accordance with Section 03 01 30 Article 3.3, including concrete removal to provide clear space around the bar, cleaning, and corrosion-inhibiting coating.

2. Unit of Measurement: Linear foot of bar treated.

J. Unit Price No. 10 - Crack Filling:

1. Description: Unit cost for filling of cracks in accordance with Section 04 01 20.63 Article 3.5, including raking, cleaning, soft lime-based mortar and, for cracks 3/4 inch and greater, brick chinking.

2. Unit of Measurement: Linear foot, stated separately for cracks less than 3/4 inch in width and for cracks 3/4 inch in width and greater.

END OF SECTION 01 22 00

SECTION 01 23 00 ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements for alternates.

1.2 DEFINITIONS

- A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain Work defined in the Contract Documents that may be added to, or deducted from, the Base Bid amount if the Owner decides to accept a corresponding change in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
- B. The cost or credit for each alternate is the net addition to, or deduction from, the Contract Sum to incorporate the alternate into the Work. It includes all related adjustments to adjacent Work, coordination, and the Contractor's overhead and profit.

1.3 PROCEDURES

- A. Coordination: Modify or adjust affected adjacent Work as necessary to completely and fully integrate the Work of each accepted alternate into the Project.
- B. Include as part of each alternate all miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation, whether or not specifically mentioned as part of the alternate.
- C. Notification: Immediately following the award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.
- D. Execute accepted alternates under the same conditions as other Work of the Contract.
- E. Schedule: A schedule of alternates is included at the end of this Section. Specification Sections referenced in the schedule contain requirements for materials necessary to achieve the Work described under each alternate.

1.4 SCOPE LIMITATION

- A. This is a short term stabilization Contract. Alternates are limited to variations in the extent or method of the stabilization Work. Alternates shall not be used to introduce rehabilitation scope beyond that required for stabilization.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1 - Extent of Debris Containment Netting:

1. Base Bid: Debris containment netting at the north, south, east, and west parapets, as shown on Drawings S-100 and S-201 through S-204, in accordance with Section 05 50 16.
2. Alternate: State the amount to be added or deducted for extending or reducing the netting at the elevations identified on the Bid Form.

B. Alternate No. 2 - Masonry Cleaning Extent:

1. Base Bid: Cleaning at the areas identified as Repair Note 7 on Drawings S-201 through S204, in accordance with Section 04 01 20.71.
2. Alternate: State the amount to be added for cleaning of the full area of each elevation.

C. Alternate No. 3 - Monitoring Term Renewal:

1. Base Bid: One (1) year initial monitoring term from system activation, in accordance with Section 01 91 15.
2. Alternate: State the annual amount for each of the two (2) additional one-year renewal options, exercisable at the Owner's sole discretion.

END OF SECTION 01 23 00

SECTION 01 31 00
PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Coordination of the Work, project meetings, requests for information, and the notification protocols required by the Contract Documents.

1.2 COORDINATION

- A. The General Contractor or Construction Manager shall coordinate the sequence of the Work with the Engineer and the Owner, and shall coordinate its means, methods, and site safety operations with the building monitoring system in accordance with Section 01 91 15.
- B. Coordinate the Work of all trades so that the Work proceeds without delay or interference, including the interfaces between demolition, masonry restoration, anchorage, steel erection, roofing, and monitoring.
- C. Verify the locations of grid lines, existing construction, and existing utilities before performing any of the Work. Report variances to the Engineer.
- D. The General Contractor or Construction Manager shall make no deviation from the Contract Documents without the prior written approval of the Architect.
- E. The General Contractor or Construction Manager shall report to the Architect, in writing, any discrepancies, ambiguities, or contradictions in the Construction Documents.

1.3 PROJECT MEETINGS

- A. Preconstruction Conference: Convene before the start of the Work. Required attendees: Owner, Engineer, Historic Preservation representative, GC/CM, principal subcontractors, Building Monitoring Consultant, and Special Inspector.
- B. Progress Meetings: Convene not less than every two weeks, or at the frequency directed by the Owner, throughout the Contract period.
- C. Preinstallation Conferences: Convene as required by the individual Specification Sections, including demolition, adhesive anchors, and metal roof panels.
- D. The GC/CM shall record and distribute minutes of all meetings within five (5)

days. **1.4 REQUESTS FOR INFORMATION**

- A. The Request for Information process is strictly a form of communication between the GC/CM and the design team. Its sole purpose is to resolve minor issues, and it shall not be used to pre-prepare shop drawings.
- B. Submit RFIs on a numbered log. Do not use the RFI process in place of a submittal, a substitution request, or a change order request.

- C. Allow the Engineer a reasonable review period. RFIs that are unclear, incomplete, or answerable from the Contract Documents will be returned without response.

1.5 NOTIFICATION PROTOCOLS

- A. The Contract Documents require notice to specific parties in advance of, or upon the occurrence of, particular events. The GC/CM shall maintain a log of all such notices. The principal notifications are:
1. 48 hours' notice to the Building Monitoring Consultant prior to any activity with potential to affect device mounting locations, RMS host sightlines, or the monitoring network.
 2. 72 hours' notice to the special inspection agency prior to commencing helical tie installation, and timely notice for all other work requiring special inspection.
 3. 72 hours' notice to the One Call System prior to any excavation, demolition, or construction activity.
 4. Immediate written notice to the Engineer upon discovery of concealed conditions, deterioration beyond that indicated, or removal of masonry pieces exceeding the thresholds of Section 02 41 19.
 5. Immediate notice to the Building Monitoring Consultant and the Owner of any damage to, or obstruction of, monitoring equipment.
 6. Immediate notice to the Owner and Engineer upon any Action- or Emergency-tier monitoring threshold exceedance, and cessation of work in the affected area.

1.6 SPECIAL INSPECTION COORDINATION

- A. The GC/CM shall be responsible for notifying the engineer responsible for controlled or special inspections, in a timely manner, when work is ready for inspection, and shall provide safe access to the Work.

1.7 SUBCONTRACT DELINEATION

- A. References to specific trades in the Contract Documents are provided to assist in identifying the scope of work and are not intended to define the division of subcontractor responsibility. The GC/CM is solely responsible for the delineation of subcontract scopes and shall not rely on specific trade references for that purpose.

END OF SECTION 01 31 00

SECTION 01 32 33
PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Preconstruction, progress, concealed condition, and final photographic documentation of the Work.
- B. Related Requirements:
 - 1. Section 01 35 91 - Historic Treatment Procedures, for documentation of historic fabric and salvage.
 - 2. Section 01 77 00 - Closeout Procedures.
 - 3. Section 01 91 15 - Building Monitoring, for remote optical monitoring, which is a separate system and does not satisfy the requirements of this Section.
 - 4. Section 02 41 19 - Selective Demolition.

1.2 SUBMITTALS

- A. Preconstruction Photographs: Submit before the start of any Work, and before mobilization of scaffolding or lifts where they would obstruct the view.
- B. Progress Photographs: Submit with each application for payment.
- C. Concealed Condition Photographs: Submit within five (5) days of each discovery, together with the written notice required by Section 02 41 19.
- D. Final Photographs: Submit at Substantial Completion.
- E. Format: Digital files in an unmodified, uncompressed or minimally compressed format, with embedded date, time, and, where available, GPS metadata intact. Provide an index identifying each image by number, date, elevation, floor level or height reference, and subject.
- F. Deliver on portable media, and by file transfer where the Owner directs. Files shall be named in accordance with the index and shall not be renamed or renumbered after submission.

1.3 QUALITY

- A. Photographs shall be sharp, correctly exposed, and taken in adequate light. Provide supplemental lighting where required.
- B. Include a scale, ruler, or dimensioned target in close-range photographs of cracks, spalls, and deteriorated units.
- C. Include an identifying placard giving location and date in photographs of concealed conditions and of Work requiring the Engineer's direction.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PRECONSTRUCTION DOCUMENTATION

- A. Photograph all elevations in overlapping frames sufficient to record the condition of the entire exterior within the area of the Work.
- B. Photograph, at close range, every area identified for repair on Drawings S-201 through S-204, keyed to the repair identification notes.
- C. Photograph all existing conditions of surfaces, equipment, and surrounding property that could be damaged by the Work, including adjacent buildings, the adjacent parking lot, sidewalks, the existing sidewalk shed, and the leased premises identified in Section 01 11 00.
- D. Photograph all existing window closures, existing exterior straps to remain, parapet railings, and existing roofing and drains to remain.
- E. Photograph all monitoring device locations after installation and before

demolition. 3.2 SALVAGE AND HISTORIC FABRIC

DOCUMENTATION

- A. Photograph and catalog all terra cotta units and architectural features before removal, recording original location by elevation, floor level, and bay reference, in accordance with Section 01 35 91.
- B. Photograph each salvaged unit after removal and again as palletized for storage.
- C. Photograph each terra cotta unit proposed for replacement, before removal, in sufficient detail to permit replication of profile, color, and texture under a future contract.

3.3 PROGRESS DOCUMENTATION

- A. Photograph the Work in progress at intervals of not more than two weeks, from consistent vantage points, to record sequence and extent.
- B. Photograph each stage of tower demolition, recording the configuration at the end of each shift.
- C. Photograph each mock-up and sample panel, before and after acceptance.
- D. Photograph representative completed Work of each type, including masonry repairs, repointing, patching, helical tie installations, tie-back assemblies, netting installation, and roof framing and panels.

3.4 CONCEALED AND UNANTICIPATED CONDITIONS

- A. Photograph every concealed condition, unanticipated deterioration, and discovery of historic material before disturbing it, in accordance with Section 02 41 19.
- B. Photograph every location where removed masonry exceeds the notification thresholds of Section 02 41 19, before and after removal.
- C. Photograph all anchor and tie locations where embedded items are

encountered. 3.5 FINAL DOCUMENTATION

- A. Photograph all elevations in overlapping frames on completion, from the same vantage points used for the preconstruction documentation.
- B. Photograph all completed Work at close range, keyed to the repair identification notes.
- C. Photograph all areas of adjacent property and site improvements recorded before construction, to establish their condition at completion.

3.6 OWNERSHIP

- A. All photographs and their metadata are the property of the Owner and may be used without restriction, including in applications to the reviewing preservation authorities and in the future rehabilitation.

END OF SECTION 01 32 33

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Procedures for shop drawings, product data, samples, mock-ups, and informational submittals, including the structural shop drawing requirements of the general notes.

1.2 SUBMITTAL SCHEDULE

- A. Prior to submitting shop drawings, the General Contractor or Construction Manager shall submit a shop drawing submittal schedule for the approval of the Structural Engineer and the Architect. The schedule shall include the dates when drawings are to be submitted to the Architect, and the number of drawings and type of details, such as plans, schedules, beams, and columns, that will be submitted on each submission date.

1.3 SUBMITTAL PROCEDURE

- A. The GC/CM shall submit structural shop drawings to the Architect after the GC or CM has reviewed and noted on the submittals that they are in conformance with Contract requirements. The Structural Engineer, upon receipt of these submittals from the Architect, will review and approve or take other appropriate action upon them, and return them to the Architect for final disposition.
- B. Changes or non-conformance to Contract requirements shall be flagged on submittals.
- C. Submittals shall not be used as a substitute for requests for, or approvals of, substitutions or other changes or procedures required by the construction Contract.
- D. The Structural Engineer will not review submissions that are partially complete.
- E. After initial review of the shop drawings by the Engineer of Record, all resubmissions shall indicate the date of revision and have all changes since the prior review clearly clouded. The review of resubmissions is limited to the clouded areas.

1.4 LIMITS OF REVIEW

- A. The Structural Engineer's review of, approval of, or other action upon the shop drawings is only for the limited purpose of checking for conformance with the design intent and information expressed in the Contract Documents prepared by the Structural Engineer.
- B. The Structural Engineer's reviews shall not include the accuracy or completeness of details such as weights, gauges, fabrication or erection process, construction means or methods, coordination of the Work with other trades, or construction safety precautions, all of which are the sole responsibility of the Construction Manager or General Contractor.
- C. The Structural Engineer's review of a specific item shall not extend to a review of an assembly of which the item is a component.

1.5 SEQUENCE OF STRUCTURAL SUBMITTALS

- A. Structural steel piece drawings shall not be submitted until erection plans and typical connection detail drawings, generally referred to as job standards, have been reviewed and approved by the Structural Engineer and the Architect.
- B. No work may commence until all relevant shop drawings have been reviewed and final approval with no exceptions has been granted by the Architect.

1.6 STRUCTURAL SHOP DRAWING PREPARATION

- A. Structural steel shop drawings shall be prepared under the supervision of a Professional Engineer registered in the State of New Jersey who is experienced in the detailing of structural steel and has a thorough working knowledge of the requirements, suggestions, examples, and commentaries of the AISC Manual of Steel Construction, Allowable Stress Design; the Specification for Structural Joints Using ASTM F3125 Grade A325, or F1852 for TC bolts, or A490, or F2280 for TC bolts; and the American Welding Society Structural Welding Code, Steel.

1.7 DELEGATED DESIGN

- A. There are no delegated design items on this Project. The Contractor shall submit shop drawings and submittals in accordance with the requirements of the Drawings and Specifications.
- B. Temporary shoring, bracing, and means and methods remain the responsibility of the Contractor and are not delegated design items within the meaning of N.J.A.C. 5:23-2.15(f)l.xi.

1.8 MOCK-UPS AND SAMPLE PANELS

- A. Several Sections require mock-ups or sample panels for the Engineer's acceptance before general work proceeds, including masonry repair, repointing, cleaning, terra cotta patching, helical ties, tie-back restraint, debris netting, and sealants.
- B. Schedule mock-ups sufficiently in advance that acceptance does not delay the Work. Accepted mock-ups establish the standard for the Work and, where indicated, may remain as part of the Work.
- C. A consolidated schedule of all mock-ups, sample panels, test panels, testing, and qualifications required by the technical Sections is provided in Section 01 40 00.

1.9 INFORMATIONAL SUBMITTALS

- A. Submit qualifications statements, certifications, calibration certificates, test reports, field reports, and inspection reports as required by the individual Sections.
- B. Submit manufacturers' published installation instructions where a Section requires installation in accordance with them, including adhesive anchors and helical ties. Where the Contract Documents specify procedures differing from the manufacturer's published installation instructions, the Contract Documents govern, and the differences shall be identified in the submittal.

END OF SECTION 01 33 00

SECTION 01 35 91
HISTORIC TREATMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: General requirements governing work on and adjacent to historic fabric, including protection, documentation, salvage, personnel qualifications, and the review and approval process for historic treatment.
- B. The Powerhouse is a historically significant structure. All Work shall be performed so as to retain and preserve historic fabric to the greatest extent consistent with the stabilization objectives of the Contract.

1.2 REGULATORY REQUIREMENTS AND APPROVALS

- A. The building is listed on the National Register of Historic Places. All Work shall conform to the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.
- B. The following approvals apply to this Work and are being obtained by the Owner:
 - 1. City of Jersey City Historic Preservation Commission approval.
 - 2. New Jersey Historic Preservation Office (NJ HPO) review.
 - 3. Determination under Section 106 of the National Historic Preservation Act.
- C. As of the date of these Specifications, all three determinations are pending. The Contractor shall comply with all conditions of each approval as issued.
- D. Where an approval is issued after award and its conditions differ from these Specifications, the Contractor shall not proceed with the affected Work until the Engineer has issued written direction.
- E. Where a condition of a historic approval is more restrictive than a requirement of the Contract Documents, the more restrictive requirement governs.

1.3 DEFINITIONS

- A. Historic Fabric: Original or historically significant materials of the structure, including brick masonry, architectural terra cotta, exterior steel straps, window frames scheduled to remain, ornamental metalwork, and parapet railings.
- B. Historic Treatment: Work performed on historic fabric, including cleaning, repair, repointing, patching, replacement in kind, salvage, and removal.

1.4 STANDARDS

- A. U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties, Standards for Preservation and Rehabilitation.

- B. Applicable NPS Preservation Briefs, including Brief 1, Cleaning and Water-Repellent Treatments; Brief 2, Repointing Mortar Joints; Brief 4, Roofing for Historic Buildings; and Brief 7, The Preservation of Historic Glazed Architectural Terra-Cotta.

1.5 QUALIFICATIONS

- A. Firms performing historic treatment shall meet the experience requirements of the individual Sections, and personnel shall be experienced in work of comparable scale and sensitivity.
- B. The GC/CM shall designate a single individual responsible for historic treatment compliance, who shall attend all project meetings and be present during removal or alteration of historic fabric.

1.6 SUBMITTALS

- A. Existing Conditions Documentation: Photographic documentation of all areas of the Work before commencement, keyed to the elevations, in accordance with Section 01 32 33.
- B. Salvage Inventory: Format for review, and the completed inventory at closeout, in accordance with Article 3.4.
- C. Historic Treatment Program: Narrative describing protection measures, personnel, sequence, and the procedures to be followed on discovery of unanticipated historic material.

1.7 PRECONSTRUCTION MEETING

- A. Convene a historic treatment meeting before commencement of any work on historic fabric, with the Owner, Engineer, Historic Preservation representative, GC/CM, and the subcontractors performing masonry, demolition, and terra cotta work in attendance.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Materials for historic treatment are specified in the individual Sections. Substitutions affecting historic fabric, including cleaners, mortars, patching materials, coatings, and replacement units, require the acceptance of the Engineer and, where required, of the reviewing preservation authority.
- B. Products not accepted in writing for use on historic fabric shall not be brought onto the site.

PART 3 - EXECUTION

3.1 GENERAL REQUIREMENTS

- A. Perform historic treatment using the gentlest effective method. Where a Section permits a range of methods, begin with the least aggressive and escalate only on demonstration that it is inadequate.
- B. Demolition and removal of historic fabric shall be performed by hand using non-powered tools, except where a Section expressly permits otherwise.

- C. Do not remove, alter, or discard any historic fabric without the Engineer's direction, except where an element presents an immediate falling hazard, in which case remove, retain, protect, and notify the Engineer immediately.

3.2 PROTECTION

- A. Protect historic fabric scheduled to remain from physical damage, staining, abrasion, weld spatter, coating overspray, cleaning effluent, and mortar droppings throughout the Work.
- B. Protect the following in place: existing exterior steel straps, existing parapet railings, existing window frames scheduled to remain, existing roofmg and drains scheduled to remain, and ornamental terra cotta.
- C. Instrumentation, cabling, and mounting hardware shall not penetrate or damage historic masonry beyond what is approved by the Engineer of Record and the Historic Preservation Officer. Use adhesive or clamp-on anchors at designated historic fabric where required.
- D. Where anchorage into masonry is required, locate anchors in mortar joints rather than through units wherever the required capacity can be developed, and do not anchor into terra cotta.

3.3 DOCUMENTATION

- A. Photograph and catalog all terra cotta and architectural features before removal, recording original location by elevation, floor level, and bay reference.
- B. Maintain a daily record of historic fabric removed, repaired, or replaced, keyed to the elevations, and submit with the monthly application for payment.

3.4 SALVAGE AND STORAGE

- A. Architectural features removed in complete condition shall be palletized, padded, banded, tagged with original location, wrapped for weather protection, and delivered to the storage location designated by the Owner.
- B. Sound brick salvaged from tower demolition shall be sorted, cleaned by hand, and stockpiled for reuse as replacement units in accordance with Section 04 01 20.63. Cleaning of salvaged brick by acid or mechanical abrasion is prohibited.
- C. Salvaged material remains the property of the Owner.

3.5 UNANTICIPATED DISCOVERIES

- A. Where the Work uncovers historic material, construction, or finishes not indicated, immediately stop work in the affected area, protect the discovery, and notify the Engineer and the Owner in writing. Do not proceed until directed.

3.6 PROHIBITED PRACTICES

- A. The following are prohibited throughout the Work unless expressly accepted in writing:
 - 1. Abrasive cleaning of any kind, including sandblasting.
 - 2. High-pressure water cleaning, and pressures exceeding those specified for the substrate.

3. Metal bristle brushes on historic masonry.
4. Strong acids on glazed architectural terra cotta.
5. Waterproof caulking or waterproof coatings in place of repointing.
6. Portland cement mortars stronger than the adjacent masonry units.
7. Powered demolition equipment, impact tools, and wrecking balls.
8. Cutting masonry units in half to facilitate a repair.
9. Feathered-edge patching of terra cotta.

END OF SECTION 01 35 91

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for quality assurance and quality control, consolidating the mock-up, sample panel, testing, and qualification requirements distributed across the technical Sections.
- B. This Section does not modify the substantive requirements of the technical Sections. Where this Section and a technical Section differ, the technical Section governs.
- C. Related Requirements:
 - 1. Section 01 33 00 - Submittal Procedures.
 - 2. Section 01 35 91 - Historic Treatment Procedures.
 - 3. Section 01 45 33 - Code-Required Special Inspections and Testing.

1.2 DEFINITIONS

- A. Mock-Up: A full-size assembly, constructed in place or at an accepted location, demonstrating materials, workmanship, and appearance for the Engineer's acceptance before general Work of that type proceeds.
- B. Sample Panel: A full-size area of finished Work on the existing masonry, demonstrating preparation, materials, and workmanship for a specific treatment.
- C. Test Panel: A trial area demonstrating a cleaning method and the resulting standard of cleanliness.
- D. Accepted mock-ups, sample panels, and test panels establish the standard by which the corresponding Work will be judged, and shall remain in place and protected for comparison until the Work of that type is complete and accepted.

1.3 SCHEDULE OF MOCK-UPS, SAMPLE PANELS, AND TEST PANELS

- A. Provide the following for the Engineer's acceptance before general Work of that type proceeds:
 - 1. Cleaning test panels, not less than 25 square feet on each substrate type: Section 04 01 20.71.
 - 2. Masonry repair sample panel, not less than 25 square feet or 20 units: Section 04 01 20.63.
 - 3. Repointing sample panel, not less than 25 square feet including head and bed joints and one corner: Section 04 01 20.91.
 - 4. Terra cotta patch repair mock-up on an in-place unit, complete through glaze replacement coating and curing: Section 04 01 45.
 - 5. Helical anchorage mock-up, not fewer than three wall ties and one stitching tie installation site: Section 04 05 19.16.

6. Tie-back restraint mock-up, the first complete assembly: Section 05 50 13.
7. Debris netting mock-up, not less than one full panel bay of approximately 20 feet including one corner and one turnbuckle assembly: Section 05 50 16.
8. Sealant field sample, not less than 10 feet at each typical condition: Section 07 92 00.
9. Metal roof panel mock-up, one full panel run including cave termination and one hip condition, where directed: Section 07 41 13.16.
10. Concrete repair mock-up on an in-place area, complete through curing and finishing: Section 03 01 30.

B. Sequencing: Mock-ups, sample panels, and test panels are interdependent. Complete cleaning test panels before the repointing and masonry repair sample panels, so that mortar color is judged against cleaned masonry rather than soiled masonry.

C. Schedule all mock-ups and panels sufficiently in advance that acceptance does not delay the Work. No extension of time will be granted for failure to do so.

D. Where a reviewing preservation authority identified in Section 01 35 91 requires review of a mock-up or panel, allow for that review period in addition to the Engineer's.

1.4 SCHEDULE OF TESTING

A. The following testing is required by the technical Sections. Coordinate all testing under Section 01 45 33.

1. Mortar analysis, ASTM C1324: Section 04 01 20.91.
2. Preconstruction anchor verification testing: Section 05 05 19 Article 3.2.
3. Post-installed anchor proof testing: Section 05 05 19 Article 3.6.
4. Helical tie field testing: Section 04 05 19.16 Article 3.5.
5. Sealant field adhesion testing, ASTM C1193: Section 07 92 00.
6. Metal roof panel water testing, where directed: Section 07 41 13.16.
7. Concrete repair bond testing, ASTM C1583, where directed: Section 03 01 30.

B. Where the Contract Documents require a proof load or acceptance criterion that is not stated, obtain it from the Engineer in writing before testing. Do not proceed on an assumed value.

1.5 SCHEDULE OF QUALIFICATIONS

A. Submit qualifications for the following before the corresponding Work begins:

1. Demolition subcontractor and superintendent, historic masonry demolition: Section 02 41 19.
2. Masonry restoration firm and masons: Sections 04 01 20.63 and 04 01 20.91.
3. Historic masonry cleaning firm: Section 04 01 20.71.
4. Glazed architectural terra cotta repair firm: Section 04 01 45.

5. Helical tie installer: Section 04 05 19.16.
6. Adhesive anchor installers, including ACI/CRSI certification where required: Section 05 05 19.
7. Structural steel fabricator, erector, and welders: Section 05 12 00.
8. Debris netting installer: Section 05 50 16.
9. Metal roof panel installer, manufacturer-approved: Section 07 41 13.16.
10. Sheet metal installer: Section 07 62 00.
11. Building Monitoring Consultant, including the responsible New Jersey Professional Engineer: Section 01 91 15.
12. Concrete repair installer: Section 03 01 30.

B. Do not substitute personnel or firms whose qualifications have been accepted without the Engineer's written acceptance of the replacement.

1.6 PRECONSTRUCTION AND PREINSTALLATION CONFERENCES

A. Convene the conferences required by the technical Sections, including:

1. Preconstruction conference: Section 01 31 00.
2. Historic treatment meeting: Section 01 35 91.
3. Demolition preconstruction conference: Section 02 41 19.
4. Adhesive anchor preinstallation conference: Section 05 05 19.
5. Metal roof panel preinstallation conference: Section 07 41 13.16.
6. Special inspection coordination: Section 01 45 33.

1.7 CONTRACTOR RESPONSIBILITIES

- A. Quality control is the responsibility of the Contractor. Testing and inspection by others does not relieve the Contractor of that responsibility, nor does it constitute acceptance of nonconforming Work.
- B. Provide safe access, labor, and facilities for all inspection and testing.
- C. Correct Work found nonconforming, and repeat the mock-up, panel, or test at no additional cost to the Owner.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 40 00

SECTION 01 45 33
SPECIAL INSPECTIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Administrative and procedural requirements for code-required special inspections and testing, and the Contractor's obligations in support of them.

1.2 RESPONSIBILITY

- A. The Owner shall retain and pay for the special inspection agency, unless the General Conditions provide otherwise.
- B. The Contractor shall pay for retesting and re-inspection made necessary by work that fails to comply with the Contract Documents.
- C. Special inspection does not relieve the Contractor of responsibility for the quality of the Work, nor does it constitute acceptance of nonconforming work.

1.3 SCHEDULE OF SPECIAL INSPECTIONS

- A. Special inspections are required for the following categories of work:
 - 1. Steel Construction, including welding, details, and high-strength bolting: IBC Table 1705.2. Applies to the new tower roof framing under Section 05 12 00 and to metal fabrications under Section 05 50 00.
 - 2. Masonry: IBC Table 1705.4. Applies to unit masonry repair and replacement under Section 04 01 20.63, repointing under Section 04 01 20.91, and helical anchorage under Section 04 05 19.16.
 - 3. Post-Installed Anchors: IBC Table 1705.3 for anchors in concrete, and IBC Table 1705.4 for anchors in masonry. Applies to all anchors specified in Section 05 05 19, including those at the rim beam, the tie-back restraint system, and the debris netting angle.
 - 4. Concrete, Cast-in-Place: IBC Table 1705.3.

1.4 SPECIAL INSPECTOR QUALIFICATIONS

- A. The special inspection agency shall be qualified and approved by the authority having jurisdiction for each category of inspection performed, and shall employ inspectors certified for the work inspected.

1.5 CONTRACTOR RESPONSIBILITIES

- A. Notify the engineer responsible for controlled or special inspections, in a timely manner, when work is ready for inspection.
- B. Provide not less than 72 hours' advance notice to the special inspection agency of the helical tie installer's intent to commence work.

- C. Provide the special inspector with safe access to the Work. A representative of the Contractor shall accompany the special inspector at all times during special inspection, unless otherwise agreed between the Contractor, Owner, and special inspection agency.
- D. Provide labor, equipment, and facilities to obtain and handle samples and to assist in testing.
- E. Do not cover or conceal work requiring special inspection before it has been inspected.

1.6 TESTING REQUIRED BY THE SPECIFICATIONS

- A. In addition to code-required special inspections, the following testing is required by the technical Sections and shall be coordinated under this Section:
 - 1. Preconstruction anchor verification testing and anchor proof testing, Section 05 05 19.
 - 2. Helical tie field testing, Section 04 05 19.16.
 - 3. Mortar analysis, Section 04 01 20.91.
 - 4. Sealant field adhesion testing, Section 07 92 00.
 - 5. Cleaning test panels and masonry sample panels, Sections 04 01 20.71 and 04 01 20.63.
- B. Where the Contract Documents require a proof load or acceptance criterion that is not stated, obtain it from the Engineer before testing. Do not proceed on an assumed value.
- C. A consolidated schedule of testing required by the technical Sections is provided in Section 01 40 00.

1.7 REPORTS

- A. The special inspection agency shall furnish reports to the Owner, Engineer, Contractor, and authority having jurisdiction, identifying the work inspected, the date, the inspector, and any discrepancies.
- B. Discrepancies shall be brought to the immediate attention of the Contractor for correction. Uncorrected discrepancies shall be reported to the Owner, Engineer, and authority having jurisdiction.
- C. The agency shall furnish a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved Contract Documents.

1.8 NONCONFORMING WORK

- A. Correct work found nonconforming and re-inspect at no additional cost to the Owner.
- B. Where nonconforming work is discovered after being covered, uncover as necessary for inspection and restore at no additional cost.

END OF SECTION 01 45 33

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Temporary utilities, site facilities, staging and storage, utility protection, dust and runoff control, and site cleanliness, as shown on Drawing C-100 and specified herein.

B. Related Requirements:

1. Section 01 56 00 - Temporary Barriers and Enclosures.
2. Section 01 74 19 - Construction Waste Management and Disposal.
3. Section 01 91 15 - Building Monitoring.

1.2 SITE UTILIZATION

- A. Staging and storage areas and dumpsters shall be enclosed with secure, temporary chain-link fencing in accordance with Section 01 56 00. All staging and storage area locations must be submitted to Owner staff for approval prior to mobilization.
- B. Bulk materials shall be stored within the designated contractor storage area.
- C. Utilize a designated area, submitted to the Owner for approval prior to mobilization, for on-ground material storage, utilities, and miscellaneous tools and equipment. The area shall be enclosed in temporary chain-link fencing.
- D. All existing fire hydrants, hose connections, walkways, gates, entrances, and exits shall be kept clear and unobstructed throughout construction.
- E. Maintain the fire department access lane shown on Drawing C-100 clear at all

times. **1.3 TEMPORARY FACILITIES**

- A. The provision of toilet facilities for workers is the Contractor's responsibility. Temporary toilets shall be placed within the contractor storage area only.
- B. Provide a construction trailer, first aid station, and fire extinguishers, minimum three (3) on site, at the locations shown on Drawing C-100.
- C. Provide temporary lighting and power as required for the Work, and for the monitoring system where line power is used at host structures, in coordination with Section 01 91 15.

1.4 UTILITY PROTECTION

- A. The Contractor shall be responsible for contacting the respective utility companies prior to construction activities to determine exact locations as necessary and in accordance with the requirements of the Contract Documents.
- B. Utility locations shown on the Drawings are from above-ground observations and from record information provided by the utility companies. The location and type of existing utilities

shown is not guaranteed to be accurate nor all inclusive. The Contractor must contact the One Call System at 1-800-272-1000 at least 72 hours prior to any excavation, demolition, or construction activities.

- C. The Contractor is responsible for the coordination, scheduling, and all costs required for cap, disconnect, and removal of existing utilities in accordance with the requirements of the utility agency or the authority having jurisdiction. If existing improvements located within the Project are disturbed by the Contractor or the utility companies, the Contractor shall be responsible for the restoration of the improvements.
- D. If any utility facilities, including distribution mains or services for adjacent properties, are disrupted or damaged during the construction work associated with this Project, the Contractor is responsible for restoring the utility facilities by the end of the working day at no additional expense to the Owner.

1.5 PROTECTION OF SITE IMPROVEMENTS

- A. The Contractor is responsible for protecting site improvements from damage during construction. All walkways, driveways, lawns, or plantings damaged by construction activity shall be restored to their pre-construction conditions at Project completion.
- B. Protect adjacent properties, including the adjacent parking lot and the adjacent building under construction, from damage and from falling debris.

1.6 DUST, WATER, AND RUNOFF CONTROL

- A. Control dust continuously during demolition, masonry work, and cleaning.
- B. Do not allow water used for dust suppression or cleaning to saturate historic masonry or to discharge onto adjacent property or the public way.
- C. Contain, collect, and legally dispose of cleaning effluent in accordance with Section 04 01 20.71. Protect storm drains.

1.7 SITE CLEANLINESS

- A. All debris shall be removed from the site on a daily basis. In addition to hand removal of debris, magnets shall be utilized to assure that all nails, screws, or other metal debris are removed.
- B. Maintain the site free of accumulated waste, and maintain access routes

clear. 1.8 COORDINATION WITH THE MONITORING SYSTEM

- A. Temporary facilities, fencing, staging, lighting, and equipment shall not obstruct camera fields of view or device sightlines, and shall not damage installed sensors. Coordinate all locations with Section 01 91 15 before mobilization.

1.9 REMOVAL

- A. Remove temporary facilities, fencing, and utilities at completion of the Work, and restore all affected areas.

B. Do not remove temporary protection, netting, or monitoring equipment that is scheduled to remain in place beyond the Contract period. Coordinate with Sections 05 50 16 and 01 91 15.

END OF SECTION 01 50 00

SECTION 01 56 00
TEMPORARY BARRIERS AND ENCLOSURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Temporary construction fencing enclosing the work site, staging, storage, and disposal areas.
2. New sidewalk shed, and maintenance of the existing sidewalk shed.
3. Exclusion zone and restricted area barriers and signage.
4. Temporary protection at pedestrian and vehicular routes and at adjoining property.

B. Related Requirements:

1. Section 01 50 00 - Temporary Facilities and Controls.
2. Section 01 91 15 - Building Monitoring.
3. Section 02 41 19 - Selective Demolition.
4. Section 05 50 16 - Debris Containment Netting System, which is permanent work and not temporary protection.

1.2 REFERENCE STANDARDS

- A. ANSI/ASSP A10.34 - Protection of the Public on or Adjacent to Construction Sites.
- B.NFPA 241 - Safeguarding Construction, Alteration, and Demolition Operations.
- C.29 CFR 1926 Subpart M and Subpart T.

1.3 SUBMITTALS

- A. Site Safety Plan: Showing fencing, sheds, exclusion zone, gates, signage, pedestrian routing, fire department access, and debris chute locations, coordinated with the monitoring device locations and sightlines shown on Drawing BM-200.
- B.Sidewalk Shed: Product data and engineering, including design calculations and drawings sealed by a Professional Engineer licensed in the State of New Jersey, for the new sidewalk shed.
- C.Permits: Copies of street, sidewalk, and shed permits obtained from the City of Jersey

City. **1.4 EXCLUSION ZONE**

- A. Establish and maintain the restricted area and exclusion zone shown on Drawing C-100 for the duration of the Work.
- B.The exclusion zone shall be maintained at all times during demolition and overhead work, and shall be adjusted only with the written acceptance of the Engineer.

- C. Post signage at all barriers identifying the restricted area, prohibiting unauthorized entry, and identifying emergency contacts.

1.5 CONSTRUCTION FENCING

- A. The Contractor shall install and maintain, throughout the course of the Project, an eight (8) foot minimum height, lockable, chain link temporary construction fence. The fence shall secure the entire work site and all materials staging and disposal areas.
- B. Provide gates at the construction vehicle entrance shown on Drawing C-100, lockable and attended or secured during non-working hours.
- C. Maintain fencing in a plumb, secure, and undamaged condition. Repair damage promptly.

1.6 SIDEWALK SHEDS

- A. Maintain the existing sidewalk shed in service and in safe condition for the duration of the Work.
- B. Install a new sidewalk shed at the location shown on Drawing C-100, designed for the loads imposed by overhead work, debris, and any material staged upon it.
- C. Sheds shall provide continuous protection along the protected frontage, with lighting, and shall not obstruct fire hydrants, hose connections, entrances, exits, or the fire department access lane.
- D. Coordinate shed framing, decking, and lighting with the monitoring device mounting locations and sightlines under Section 01 91 15. Sheds shall not obstruct camera fields of view.

1.7 PROTECTION OF ADJOINING PROPERTY AND THE PUBLIC WAY

- A. Provide barriers, netting, and covered walkways as required to protect the public, adjoining property, the adjacent parking lot, and the adjacent building under construction from falling material.
- B. Maintain safe pedestrian passage at all times where sidewalks are affected, and provide signage and lighting for any temporary route.
- C. Coordinate all barriers with the debris chute and debris container locations shown on Drawing C100.

1.8 MAINTENANCE AND REMOVAL

- A. Inspect all temporary barriers and enclosures weekly, and after any wind event or impact, and repair as required.
- B. Remove temporary barriers and enclosures at the completion of the Work, except those the Owner directs to remain, and restore all affected surfaces and pavements.

END OF SECTION 01 56 00

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Handling, containment, salvage coordination, and legal disposal of construction and demolition debris.
- B. Related Requirements:
 - 1. Section 01 35 91 - Historic Treatment Procedures, for salvage of historic fabric.
 - 2. Section 01 50 00 - Temporary Facilities and Controls.
 - 3. Section 02 41 19 - Selective Demolition.
 - 4. Section 04 01 20.63 - Unit Masonry Repair, for reuse of salvaged brick.

1.2 SUBMITTALS

- A. Waste Disposal Plan: Identification of receiving facilities, hauling routes, and container locations, with evidence of legal disposal capacity for masonry debris.
- B. Disposal Records: Manifests, weight tickets, or receipts for all material removed from the site, submitted monthly.
- C. Salvage Reconciliation: At closeout, a reconciliation of material salvaged, material reused, and material disposed of.

1.3 SALVAGE BEFORE DISPOSAL

- A. Material identified for salvage under Section 01 35 91 shall not be disposed of. This includes all terra cotta units and architectural features, whether intact or broken, and sound brick salvaged from the tower demolition.
- B. Sort sound brick from demolition debris as demolition proceeds. Sorting after material reaches the container is not acceptable.
- C. Where the Contractor believes material identified for salvage is unsuitable for reuse, submit it for the Engineer's inspection and direction. Do not dispose of it on the Contractor's judgment.

1.4 DEBRIS HANDLING

- A. Do not drop or throw debris. Lower all removed material in a controlled manner by chute, hoist, or hand, in accordance with Section 02 41 19.
- B. Use enclosed debris chutes with dust control at the discharge, discharging into covered containers.
- C. Control dust at all points of handling. Do not allow airborne debris to leave the site.
- D. Locate containers only in the areas shown on Drawing C-100 or as accepted by the Owner. Containers shall be enclosed within secure temporary fencing.

1.5 DAILY REMOVAL

- A. All debris shall be cleared from the area in which work is performed at the end of each work day.
- B. All debris shall be removed from the site on a daily basis. In addition to hand removal of debris, magnets shall be utilized to assure that all nails, screws, or other metal debris are removed.

1.6 DISPOSAL

- A. Legally dispose of all demolition materials and debris off the property, in accordance with the requirements of the New Jersey Department of Environmental Protection and all local requirements.
- B. Burning, burial, or on-site disposal of debris is prohibited.
- C. Recycle masonry, metals, and wood where facilities are reasonably available and where recycling does not conflict with the salvage requirements of Section 01 35 91.

1.7 HAZARDOUS MATERIALS

- A. This Section does not address abatement or disposal of hazardous materials.
- B. It is not expected that hazardous materials will be encountered in the Work. Hazardous materials will be removed by the Owner before the start of the Work, and any suspect material encountered shall be handled in accordance with Section 02 41 19, Article 1.7.D. Do not include suspect material in the waste stream of this Section.

END OF SECTION 01 74 19

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Substantial Completion procedures, final cleaning, record documents, warranties, operation and maintenance data, and turnover of the systems that remain in service after the Contract period.

1.2 SUBSTANTIAL COMPLETION

- A. Submit a written request for inspection when the Work is substantially complete, accompanied by a list of items to be completed or corrected.
- B. The Engineer and Owner will inspect and either issue a Certificate of Substantial Completion with a punch list, or notify the Contractor of work remaining before the inspection can be repeated.
- C. Complete or correct punch list items within the period established in the General Conditions, and request final inspection.

1.3 CONDITIONS PRECEDENT TO FINAL ACCEPTANCE

- A. The following shall be submitted and accepted before final acceptance:
 - 1. Final signed special inspection report in accordance with Section 01 45 33.
 - 2. All test reports required by the technical Sections, including anchor verification and proof testing, helical tie testing, mortar analysis, and sealant adhesion testing.
 - 3. Record documents in accordance with Article 1.4.
 - 4. Warranties in accordance with Article 1.5.
 - 5. Operation and maintenance data in accordance with Article 1.6.
 - 6. Salvage inventory and reconciliation, and confirmation of delivery of salvaged material to the Owner's storage location.
 - 7. Disposal manifests and the waste reconciliation required by Section 01 74 19.
 - 8. Final reconciliation of all unit price Work, by location and quantity, in accordance with Section 01 22 00.
 - 9. Certificate of approval or sign-off from the authority having jurisdiction and from each reviewing preservation authority identified in Section 01 35 91.

1.4 RECORD DOCUMENTS

- A. Maintain at the site one record set of Drawings and Specifications, marked to show actual conditions, and submit at completion.
- B. Submit the following record documents:

1. As-built shop drawings for the debris netting system, tie-back restraint system, and roof framing.
2. As-built instrumentation location drawings, plan and elevation, in accordance with Section 01 91 15.
3. Complete photographic documentation and index in accordance with Section 01 32 33.
4. The daily record of historic fabric removed, repaired, or replaced required by Section 01 35 91
5. Location log of all masonry repairs, tie-back assemblies, helical ties, and anchors installed, keyed to the elevations.

1.5 WARRANTIES

A. Submit executed warranties, including:

1. Debris containment netting system, five (5) year Installer and manufacturer warranty in accordance with Section 05 50 16.
2. Metal roof panel finish warranty, minimum 20 years, and Installer weathertightness warranty, minimum two (2) years, in accordance with Section 07 41 13.16.
3. All other warranties required by the technical Sections or the General Conditions.

B. Warranty periods commence at Substantial Completion unless otherwise

stated. 1.6 OPERATION AND MAINTENANCE DATA

A. Because the stabilization measures are intended to remain in service pending a future rehabilitation, submit maintenance data sufficient for the Owner to maintain them after the Contract period, including:

1. Debris netting inspection and re-tensioning procedure, recommended inspection interval, replacement component list with sources, and all inspection and tension records, in accordance with Section 05 50 16.
2. Tie-back restraint system installation records and recommended inspection interval.
3. Monitoring system platform access, training, data export, and the recorded data set in a nonproprietary, machine-readable format, in accordance with Section 01 91 15.
4. Roof and flashing maintenance recommendations, including provisions for keeping the roof and drains clear.

1.7 CONTINUING OBLIGATIONS

A. Certain obligations extend beyond Substantial Completion and shall be identified in the closeout submittal, including:

1. The building monitoring term and renewal options, and the Consultant's 48-hour repair and replacement obligation, under Section 01 91 15.

2. Periodic inspection and re-tensioning of the debris netting during the Contract period, under Section 05 50 16.

1.8 FINAL CLEANING

- A. Remove all temporary facilities, debris, staging, and surplus material from the site.
- B. Clean all surfaces soiled by the Work, including historic masonry, roofing, glazing, and site improvements, using methods accepted for the substrate.
- C. Restore all walkways, driveways, lawns, plantings, and site improvements damaged by construction activity to their pre-construction condition.
- D. Remove all metal filings, fasteners, and debris from roof surfaces, and verify that drains and weeps are clear and functioning.

END OF SECTION 01 77 00

SECTION 01 91 15
REMOTE BUILDING MONITORING - OPTICAL, VIBRATION, AND CRACK MOVEMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: The design, furnishing, installation, calibration, operation, maintenance, and reporting of a performance-based remote building monitoring system for the Hudson and Manhattan Powerhouse, comprising:
1. Remote optical monitoring (OC).
 2. Vibration monitoring (VB).
 3. Crack and displacement monitoring (CM).
 4. Remote weather monitoring (WX).
 5. Remote monitoring stations, data acquisition, and telemetry (RMS).
 6. A software platform providing automated ingestion, threshold alarming, trend graphing, reporting, and a real-time dashboard.
- B. Basis for the System: The structure exhibits documented masonry distress, including full-height vertical cracking at the tower and adjacent bays, attributed in part to differential settlement. Temporary tower strapping was previously installed and its current effectiveness is not confirmed. Monitoring is required through demolition of the upper portion of the tower and all subsequent stabilization work, and continuing as long-term surveillance thereafter.
- C. Performance-Based Section: This is a performance-based Section. No specific equipment, product, or manufacturer is named or implied as a basis of design. The Building Monitoring Consultant shall select compliant equipment and shall identify the specific manufacturer and model in the Monitoring Program submittal required by Article 1.6.B.
- D. This Section supplements, and does not replace, project-specific instrumentation and monitoring plans prepared and sealed by the Engineer of Record prior to procurement.
- E. Related Requirements:
1. Section 01 11 00 - Summary of Work.
 2. Section 01 23 00 - Alternates, for pricing of the renewal options under Article 1.7.
 3. Section 01 32 33 - Photographic Documentation, which is a separate requirement and is not satisfied by the optical monitoring specified in this Section.
 4. Section 01 35 91 - Historic Treatment Procedures.
 5. Section 01 50 00 - Temporary Facilities and Controls.
 6. Section 01 56 00 - Temporary Barriers and Enclosures.
 7. Section 02 41 19 - Selective Demolition.
 8. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.

- 9. Section 05 50 13 - Masonry Tie-Back Restraint System.
- 10. Section 05 50 16 - Debris Containment Netting System.
- 11. Drawing BM-200 - Remote Building Monitoring Elevations.

1.2 RESPONSIBILITY

- A. The Building Monitoring Consultant retained under this Section shall be solely responsible for the design, furnishing, installation, calibration, operation, and reporting of the remote monitoring system shown on the referenced Drawings, in accordance with the performance criteria of this Section.
- B. The General Contractor or Construction Manager shall be responsible for coordinating its means, methods, and site safety operations to avoid damage to, or obstruction of, the monitoring system, and for providing advance notice of activities as required by Article 3.5.
- C. Neither the issuance of the Drawings nor their review by the Owner, Architect, or Engineer relieves the Consultant or the GC/CM of these respective responsibilities.

1.3 DEFINITIONS

- A. RMS: Remote Monitoring Station. A field datalogger, gateway, and telemetry unit aggregating sensor nodes and transmitting to the cloud platform.
- B. Node: An individual sensing device reporting to an RMS.
- C. Baseline Reading: The initial zero reading established for each instrument before any demolition or stabilization activity.
- D. Advisory, Action, and Emergency Thresholds: The three alarm tiers of the threshold matrix established under Article 1.9.
- E. Host Location: A structure, other than the Powerhouse, on which an RMS or device is mounted under a temporary access or rooftop license agreement.
- F. EOR: Engineer of Record.

1.4 REFERENCE STANDARDS

- A. IEC 60529 - Degrees of Protection Provided by Enclosures (**IP Code**).
- B. ISO 4866 - Mechanical Vibration and Shock: Vibration of Fixed Structures.
- C. DIN 4150-3 - Structural Vibration: Effects of Vibration on Structures.
- D. USBM RI 8507 - Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting.
- E. U.S. Secretary of the Interior's Standards for the Treatment of Historic

Properties. 1.5 CONSULTANT QUALIFICATIONS

- A. The Contractor shall engage a specialty Building Monitoring Consultant with a minimum of five (5) years of direct experience in optical, vibration, and crack or displacement monitoring on projects of comparable scale.
- B. The Consultant shall have a New Jersey-licensed Professional Engineer on permanent staff, who shall stamp the Monitoring Program, the instrumentation layout, and the alarm threshold matrix.
- C. The Consultant shall submit a minimum of five (5) references for comparable historic, distressed-masonry, or demolition-adjacent monitoring projects.

1.6 SUBMITTALS

- A. Consultant Qualifications: PE license number, resume of the responsible engineer, and five (5) project references.
- B. Written Monitoring Program: Including manufacturer data sheets, instrumentation layout, alarm threshold matrix, and staffing and alarm-response plan. Stamped by the Consultant's New Jersey-licensed Professional Engineer.
- C. Power and Battery-Life Analysis: Per device type and per RMS, demonstrating the 90-day minimum autonomous runtime required by Article 2.8.
- D. Executed Temporary Access and Rooftop License Agreements: For the RMS-1 and RMS-2 host locations, or approved alternates, in accordance with Article 1.10.
- E. Calibration Certificates: For all vibration and crack instruments.
- F. As-Built Instrumentation Drawings: Plan and elevation, in accordance with Article 3.8.
- G. Software Platform Access and Training: For Owner, EOR, and Contractor personnel.
- H. Field Survey Report: Verified device locations in accordance with Article 3.1, with marked-up elevations, before installation.
- I. Baseline Data Report: In accordance with Article 3.3.
- J. Weekly Summary Reports and Alarm Event Reports: In accordance with Article 3.7.

1.7 MONITORING TERM, RENEWAL, AND MAINTENANCE

- A. Minimum initial monitoring term: one (1) year from system activation, with two (2) additional one-year renewal options at the Owner's sole discretion, for a potential three-year total.
- B. The Consultant shall repair or replace any failed device or component within 48 hours of identification, at no additional cost to the Owner, for the duration of the monitoring agreement.
- C. The Consultant shall maintain calibration, telemetry service, data hosting, and platform access for the full term and any exercised renewal.

1.8 SEQUENCE AND SYSTEM CONTINUITY

- A. Install, baseline, and activate the system before any demolition or stabilization activity, in accordance with Article 3.3.

- B. Maintain uninterrupted monitoring through completion of the stabilization Work and for the balance of the term and any exercised renewal.

1.9 ALARM THRESHOLD MATRIX

- A. The Monitoring Program shall include a three-tier threshold matrix, Advisory, Action, and Emergency, establishing numeric trigger values for each instrument type, together with the required response, responsible party, and notification list for each tier.
- B. Threshold values shall be established by the Engineer of Record and incorporated into the matrix. The Consultant shall not set, revise, or waive threshold values without the written concurrence of the Engineer of Record.
- C. At minimum, the matrix shall address: peak particle velocity and frequency for vibration; incremental and cumulative crack width change, with temperature compensation, for crack and displacement instruments; tilt or out-of-plumb change where measured; and rate-of-change triggers in addition to absolute-value triggers.
- D. Emergency-tier exceedance shall trigger the stop-work provisions of Section 02 41 19 and immediate notification in accordance with Article 3.7.

1.10 HOST LOCATION ACCESS AGREEMENTS

- A. A formal temporary access or rooftop license agreement, including insurance, indemnification, and equipment removal terms, shall be executed by the Owner's representative or the Engineer of Record for each host location prior to installation.
- B. Alternate host locations apply only if a primary host is unacceptable to the property owner, or if an access agreement cannot be obtained on acceptable terms. Suitability shall be confirmed by the Consultant and the Engineer of Record before final selection of any alternate.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Devices and models are selected by the Consultant to satisfy the performance criteria of this Part. Where a value is stated, it is a minimum performance requirement, not a product designation.
- B. Device tags shown on Drawing BM-200 correspond to the schedule in Article 2.2. Quantities and locations shown are schematic and not to scale; final count and location are established by the field survey required by Article 3.1.

2.2 DEVICE SCHEDULE

- A. Provide the following, at the quantities and coverage indicated:
 - 1. OC-1 through OC-3B, Remote Optical: six (6) units. North, Washington Street, two; South, Bay Street, two; East, Greene Street, two.
 - 2. VB-1 through VB-4, Vibration and Seismograph: four (4) units. Tower one; North elevation one; East elevation and transit one; South elevation and tower base one.

3. CM-1 through CM-12, Crack and Displacement: twelve (12) units. Tower two; North two; South three; East three; West two.
 4. WX-1, Remote Weather Station: one (1) unit, at the RMS-1 rooftop or on a Powerhouse parapet mast.
 5. RMS-1 and RMS-2, Remote Monitoring Stations: two (2) units. RMS-1 serves the North and West elevations; RMS-2 serves the South and East elevations.
- B. Add units beyond those scheduled where the field survey identifies additional cracks, excitation sources, or coverage gaps, as directed by the Engineer of Record.

2.3 REMOTE OPTICAL MONITORING (OC)

- A. Fixed or PTZ network cameras, minimum 8 megapixel resolution, minimum IP66-rated enclosure.
- B. Time-lapse capture at intervals not exceeding 15 minutes, with on-demand live view.
- C. Infrared or low-light capability.
- D. Field of view and mounting shall provide unobstructed coverage of the elevations indicated, at an image scale sufficient to identify displacement of masonry units and changes in existing crack patterns.

2.4 VIBRATION MONITORING (VB)

- A. Triaxial seismographs with a measurement range of 0 to 250 mm/s, resolution of 0.01 mm/s, and frequency response of 2 to 250 Hz.
- B. Instruments shall capture and store the full waveform for each triggered event, not peak values alone.
- C. At least one node shall be a certified strong-motion instrument suitable for regional seismic event flagging.

2.5 CRACK AND DISPLACEMENT MONITORING (CM)

- A. Automated electronic crackmeters with resolution of 0.01 mm and range of plus or minus 25 mm, adjusted as required for the anticipated movement at each location, temperature compensated, reporting at the specified interval.
- B. Supplement the automated instruments with manual tell-tales at secondary cracks, to permit independent cross-check.

2.6 REMOTE MONITORING STATIONS (RMS) AND HOST LOCATIONS

- A. Datalogger, gateway, and telemetry unit with cellular telemetry, satellite backup where field-verified signal is inadequate, and dual battery and AC power. Each RMS aggregates the sensor nodes of two adjacent elevations.
- B. Host Locations:

1. RMS-1, serving the North and West elevations: A Condominiums, 389 Washington Street, Jersey City, NJ 07302. Alternate: Washington Commons LLC, 311 Washington Street.
 2. RMS-2, serving the South and East elevations: 65 Bay Street Apartments, 65 Bay Street, Jersey City, NJ 07302. Alternate: Sable Jersey City Apartments, 200 Greene Street.
- C. RMS units at host structures may be interior or exterior; a weatherproof enclosure is required if exterior.

2.7 REMOTE WEATHER MONITORING (WX)

- A. Weather station measuring temperature, relative humidity, barometric pressure, and wind speed and direction, co-located with an RMS or on a Powerhouse parapet mast, for correlation of thermal and wind effects with recorded crack and tilt data.

2.8 POWER

- A. Every device shall be dual-capable: AC with battery backup where line power is available at host structures, or solar-assisted battery where line power is not available, including at tower faces and within the exclusion zone.
- B. Minimum 90-day autonomous, battery-only runtime at the specified reporting interval.

2.9 TELEMETRY

- A. Sensor to RMS: low-power wireless network, mesh, LoRa, or equivalent.
- B. RMS to cloud: carrier-agnostic cellular modem, with satellite backup where field-verified signal is inadequate.

2.10 SOFTWARE PLATFORM

- A. Automated ingestion with not less than 30-day local buffer.
- B. Multi-tier Advisory, Action, and Emergency threshold alarms with automatic notification, target under five (5) minutes.
- C. Trend graphing with temperature and vibration overlay.
- D. Automated seismic-event flagging with full waveform storage.
- E. Construction-activity log for correlation with recorded data.
- F. Manual field-observation input module.

2.11 SYSTEM-STATUS LOGGING

- A. The platform shall log last check-in, signal strength, and battery or solar status for every RMS and node.
- B. The system shall alarm after any node misses twice its normal reporting

interval. **2.12 EXTERIOR ACCESSIBILITY**

- A. All Powerhouse-mounted devices, optical, vibration and tilt, crack, and weather, shall be mounted on, and fully serviceable from, the exterior. No interior access shall be required for installation, calibration, maintenance, or the 48-hour repair and replacement response.
- B. RMS units at host structures are exempt from Paragraph A.

PART 3 - EXECUTION

3.1 FIELD SURVEY AND FINAL DEVICE LOCATIONS

- A. Device locations, quantities, and elevations shown on the Drawings are schematic and not to scale, and are based on published photographs and field reports.
- B. Before installation, the Consultant, with the Engineer of Record, shall verify and finalize exact sensor locations from an in-hand condition and crack survey, and shall record them on marked-up elevations for submittal.
- C. Add devices beyond those scheduled where the survey identifies additional cracks, sources of occlusion, excitation sources, or coverage gaps, as directed by the Engineer of Record.

3.2 INSTALLATION AND HISTORIC PROTECTION

- A. Instrumentation, cabling, and mounting hardware shall not penetrate or damage historic masonry beyond what is approved by the Engineer of Record and the Historic Preservation Officer. Use adhesive or clamp-on anchors at designated historic fabric where required.
- B. Vibration sensors shall be mounted directly to the masonry or structure, not to the temporary tower strapping.
- C. Field-verify cellular signal strength at each RMS location prior to final mounting. Provide satellite backup telemetry where signal is marginal.
- D. Coordinate all mounting into masonry with Section 05 05 19 and with the masonry repair Sections, so that devices are not mounted to unsound masonry or to units scheduled for replacement.

3.3 BASELINE READINGS

- A. Provide baseline, zero-reading, data for all sensors within 48 hours of installation, and prior to any demolition or stabilization activity.
- B. Submit the Baseline Data Report and obtain the Engineer of Record's acceptance before demolition commences under Section 02 41 19.

3.4 CALIBRATION

- A. Vibration and crack instruments shall be calibrated per the manufacturer's recommended interval, typically annual for seismographs, and factory-calibrated or field-zeroed for crackmeters.
- B. Provide calibration certificates in the submittals, and re-submit upon any recalibration during the term.

3.5 COORDINATION WITH SITE SAFETY AND STABILIZATION WORK

- A. The GC/CM shall coordinate fence, staging, netting, and debris-chute locations shown on the Site Safety Plan with the RMS mount points and device sightlines shown on the referenced monitoring Drawings. Site safety elements shall not obstruct camera fields of view or damage installed sensors.
- B. The GC/CM shall provide the Consultant a minimum of 48 hours' notice prior to any activity with potential to affect device mounting locations, RMS host sightlines, or the monitoring network.
- C. The GC/CM shall immediately notify the Consultant and JCRA of any damage to, or obstruction of, monitoring equipment resulting from construction operations.

3.6 CONSTRUCTION-ACTIVITY CORRELATION

- A. The GC/CM shall log demolition, anchor installation, steel erection, and other significant activity daily in the platform's construction-activity log, identifying location, activity, and time, to permit correlation with recorded data.

3.7 REPORTING AND ALARM RESPONSE

- A. Provide automated weekly summary reports and a real-time web and mobile dashboard to the Owner, Engineer of Record, and Contractor.
- B. Provide immediate automated alarm notification, target under five (5) minutes, for any threshold exceedance, to the notification list established in the threshold matrix.
- C. Following any Action- or Emergency-tier exceedance, submit a written event report including the recorded data, the correlated construction activity, the response taken, and the Consultant's assessment, within 24 hours.

3.8 MAINTENANCE, REPAIR, AND AS-BUILT DOCUMENTATION

- A. Repair or replace any failed device or component within 48 hours of identification, in accordance with Article 1.7.B.
- B. Provide as-built instrumentation location drawings, plan and elevation, within 15 days of installation completion, and update them following any device relocation or addition.

3.9 TURNOVER AND DATA OWNERSHIP

- A. At the conclusion of the final term, and where the Owner does not renew, remove devices and repair all mounting locations in accordance with the masonry repair Sections, and turn over all recorded data in a non-proprietary, machine-readable format together with the as-built drawings.

END OF SECTION 01 91 15

SECTION 02 41 19
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Controlled demolition of the existing East Tower masonry walls and tower roof structure down to an elevation 2'-0" above the existing main roof level, as shown on Drawing S101
2. Removal of terra cotta parapet coping stones and other masonry units identified as broken, cracked, spalled, loose, or otherwise unsound, in advance of debris netting installation.
3. Removal of masonry as required for flush installation of tie-back restraint standoff brackets and rim beam bearing.
4. Removal of existing roofing, flashing, and appurtenances within the limits of the new tower roof work.
5. Salvage, documentation, cataloging, and delivery to Owner of terra cotta units and architectural features.
6. Handling, containment, and legal off-site disposal of demolition debris.

B. Related Requirements:

1. Section 01 35 91 - Historic Treatment Procedures.
2. Section 01 45 33 - Code-Required Special Inspections and Testing.
3. Section 01 56 00 - Temporary Barriers and Enclosures.
4. Section 01 91 15 - Building Monitoring.
5. Section 04 01 20.63 - Unit Masonry Repair.
6. Section 04 01 45 - Architectural Terra Cotta Restoration.
7. Section 05 12 00 - Structural Steel Framing.
8. Section 05 50 16 - Debris Containment Netting System.

1.2 REFERENCE STANDARDS

- A. ANSI/ASSP A10.6 - Safety Requirements for Demolition Operations.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
- C. 29 CFR 1926 Subpart T - Demolition.
- D. U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.
- E. New Jersey Uniform Construction Code, Rehabilitation Subcode (N.J.A.C. 5:23-6).

1.3 DEFINITIONS

- A. Selective Demolition: The removal of designated portions of the existing structure and its components while leaving all remaining construction, including adjacent historic fabric, intact and undamaged.
- B. Historic Fabric: Original or historically significant materials of the structure, including but not limited to brick masonry, architectural terra cotta, exterior steel straps, window frames scheduled to remain, and ornamental metalwork.
- C. Salvage: Careful removal, documentation, and storage of historic fabric for potential reuse or replication by the Owner.

1.4 PRECONSTRUCTION MEETINGS

- A. Convene a demolition preconstruction conference at the Project site not less than seven (7) days prior to the start of demolition. Required attendees: Owner (JCRA), Engineer, Historic Preservation representative, General Contractor/Construction Manager, demolition subcontractor superintendent, Building Monitoring Consultant, and Special Inspector.
- B. Agenda shall include, at minimum: demolition sequence and daily work limits; means and methods; protection of historic fabric to remain; salvage and cataloging procedures; debris handling routes; monitoring baseline confirmation and alarm-response protocol; exclusion zone and pedestrian protection; unanticipated-condition notification procedure.

1.5 SUBMITTALS

- A. Demolition Plan: Narrative and drawings describing the proposed sequence of demolition by lift or course, daily work limits, access and rigging, staging on the existing roof, and the configuration in which the work will be left secure at the end of each shift.
- B. Engineering Survey: Written survey and stability evaluation prepared and sealed by a Professional Engineer licensed in the State of New Jersey, in accordance with 29 CFR 1926.850(a), addressing the stability of the tower masonry at each stage of removal.
- C. Means and Methods Statement: Description of all hand tools and non-powered tools proposed; identification of any powered tool for which the Contractor requests the Engineer's consideration, with justification and vibration data.
- D. Debris Handling Plan: Chute product data, containment enclosures, roof loading analysis for staged material, dust suppression measures, and daily removal procedures.
- E. Salvage Inventory Format: Sample inventory sheet and photographic documentation format for review prior to any removal of historic fabric.
- F. Qualifications: Demolition subcontractor experience record and superintendent resume in accordance with Article 1.6.
- G. Waste Disposal Plan: Identification of receiving facilities and evidence of legal disposal; recycling provisions where applicable.
- H. Closeout: Final salvage inventory with photographs and storage locations; disposal manifests.

1.6 QUALITY ASSURANCE

- A. Demolition Subcontractor Qualifications: Not less than five (5) years of documented experience in hand demolition of historic masonry structures, including not less than three (3) projects of comparable height, scale, and historic sensitivity.
- B. Superintendent: A qualified superintendent experienced in historic masonry demolition shall be present on site at all times during demolition operations.
- C. Regulatory Requirements: Obtain and pay for all demolition permits required by the City of Jersey City and the New Jersey Department of Community Affairs. Comply with all conditions of historic approvals obtained by the Owner.

1.7 FIELD CONDITIONS

- A. Existing conditions and dimensions shown on the Drawings are approximate and based on field measurements and remote survey. Verify all conditions in the field prior to bid and prior to commencing work.
- B. Existing conditions not shown may exist. Notify the Engineer in writing upon discovery of conditions differing from those indicated, and await the Engineer's direction before proceeding in the affected area.
- C. Adjacent Operations: The site is adjacent to active rail and roadway operations and occupied properties. Maintain the exclusion zone, pedestrian protection, and fire department access shown on Drawing C-100 at all times.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by the Owner before the start of the Work.
 - 2. If materials suspected of containing hazardous materials are encountered, do not disturb them; immediately notify the Engineer and the Owner. The Owner will remove hazardous materials under a separate contract.
 - 3. Stop work in the affected area upon any such discovery and protect the area until the Owner has directed resumption in writing.
- E. Monitoring: Do not commence demolition until baseline (zero-reading) data has been obtained for all monitoring instruments and accepted, in accordance with Section 01 91 15. Provide the Building Monitoring Consultant not less than 48 hours' notice prior to any activity with potential to affect device mounting locations, sightlines, or the monitoring network.

1.8 SEQUENCING

- A. Perform the Work in the following general sequence unless otherwise accepted by the Engineer:
 - 1. Installation of site protection, exclusion zone, and sidewalk sheds.
 - 2. Installation and baseline reading of the building monitoring system.
 - 3. Inspection and removal of broken, cracked, or spalled terra cotta parapet coping units.

4. Installation of debris containment netting at parapets.
5. Installation of the tie-back restraint system at the tower, proceeding downward from the uppermost tie-back.
6. Demolition of the tower masonry to 2'-0" above the existing roof level.
7. Erection of the new tower roof framing and roofing.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Protection Materials: Plywood, plank, tarpaulins, and cushioning materials as required to protect historic fabric, roofing, drains, monitoring devices, and adjacent property from damage.
- B. Debris Chutes: Manufactured enclosed chute system with intake hoppers, restraining chains, and dust-control enclosure at the discharge; sized and supported per manufacturer's requirements.
- C. Salvage Packaging: Pallets, non-staining foam or padding, banding, weather-resistant wrapping, and durable weatherproof tags.
- D. Dust Control: Water misting equipment and enclosure materials. Do not use methods that will saturate historic masonry or create runoff onto adjacent property.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to the start of demolition, inspect and photographically document existing conditions of surfaces, equipment, monitoring devices, and surrounding property that could be damaged by the Work. Submit documentation in accordance with the Specifications.
- B. Verify that monitoring instruments are installed, functional, and baselined; that debris netting and site protection are in place; and that exclusion zones are established.

3.2 PREPARATION

- A. Protect the following in place: existing exterior steel straps scheduled to remain; existing parapet railings; existing roofing, gutters, and drains scheduled to remain; existing window frames scheduled to remain; all monitoring instrumentation, cabling, and mounts.
- B. Protect existing roof areas receiving demolition traffic or staged material with plank and plywood platforms. Do not exceed the load capacity of the existing roof structure; submit staging loads with the Demolition Plan.
- C. Maintain existing fire hydrants, hose connections, walkways, gates, entrances, and exits clear and unobstructed at all times.

3.3 DEMOLITION - GENERAL

- A. Demolition shall be performed by hand, using non-powered tools. Impact tools, powered demolition equipment, wrecking balls, mechanical shears, and explosive methods are prohibited.
- B. Demolish tower masonry in level, controlled lifts, working uniformly around the tower perimeter. Do not undermine, notch, or remove masonry in a manner that leaves an unstable or unbalanced configuration at any stage.
- C. Demolish existing tower masonry walls and roof to an elevation 2'-0" above the existing roof level as shown on Drawing S-101. Leave the remaining masonry level, sound, and suitable to receive the new rim beam and roof framing; repair masonry as necessary to provide full bearing in accordance with Section 04 01 20.63.
- D. Do not drop or throw masonry units or debris. Lower all removed material in a controlled manner by chute, hoist, or hand.
- E. At the end of each work shift, leave the structure in a stable, weather-secure configuration with all loose material removed.
- F. Control dust continuously. Do not allow water used for dust suppression to saturate historic masonry or to discharge onto adjacent property or the public way.
- G. Cutting and patching in connection with the Work shall be finished to match adjacent surfaces, new or existing to remain.

3.4 SALVAGE AND DOCUMENTATION

- A. Photograph and catalog all terra cotta units and architectural features prior to removal. Record original location by elevation, floor level, and bay reference.
- B. Architectural features removed in complete condition shall be palletized, padded, banded, tagged with original location, wrapped for weather protection, and delivered to the storage location designated by the Owner.
- C. Do not discard any terra cotta or ornamental unit without written direction from the Engineer, whether or not it is broken.

3.5 UNANTICIPATED CONDITIONS

- A. Where removal uncovers other materials, concealed openings, or deterioration beyond that indicated, immediately protect the area, notify the Engineer in writing, and await direction before proceeding in that area.
- B. Where a piece of masonry facade to be removed is greater than 24 square inches in face area, or of greater depth than 2 inches, document the condition, notify the Engineer immediately in writing, and await the Engineer's direction before proceeding with further work in that area.
- C. Notify the Engineer of any exterior envelope damage observed but not shown on the Drawings, and await the Engineer's directive.

3.6 DEBRIS REMOVAL

- A. Remove debris from the area of work at the end of each work day and from the site on a daily basis.
- B. In addition to hand removal of debris, use magnets to assure that all nails, screws, and other metal debris are removed.
- C. Legally dispose of all demolition materials and debris off site. Burning and burial of debris on site are prohibited.

3.7 FIELD QUALITY CONTROL

- A. Demolition operations are subject to continuous correlation with the building monitoring system. Log all demolition activity daily in the monitoring platform's construction-activity log in accordance with Section 01 91 15.
- B. Stop-Work: Upon any Action- or Emergency-level threshold exceedance reported by the monitoring system, immediately cease demolition operations in the affected area, secure the work, and notify the Owner, Engineer, and Building Monitoring Consultant. Do not resume until authorized in writing by the Engineer.
- C. Repair or replace any item damaged during the course of the Work to the satisfaction of the Owner, at no additional cost.

END OF SECTION 02 41 19

SECTION 03 01 30
MAINTENANCE OF CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Repair of deteriorated cast-in-place concrete identified as Repair Identification Note 6 on Drawings S-201 through S-204, in accordance with Detail 11 on Drawing S-500.
2. Removal of unsound and deteriorated concrete, preparation of exposed reinforcing steel where encountered, and placement of repair mortar.
3. Surface preparation, curing, and finishing of repairs to match adjacent surfaces.

B. Scope Limitation: This is a short term stabilization Contract. Repair under this Section is limited to concrete that is unsound, spalling, delaminated, or in danger of being dislodged, and to repairs required to arrest active deterioration. Cosmetic repair and repair appropriate to the future rehabilitation are not included.

C. Related Requirements:

1. Section 01 22 00 - Unit Prices.
2. Section 01 32 33 - Photographic Documentation.
3. Section 01 35 91 - Historic Treatment Procedures.
4. Section 01 45 33 - Code-Required Special Inspections and Testing.
5. Section 02 41 19 - Selective Demolition.
6. Section 04 01 20.63 - Unit Masonry Repair.
7. Section 04 01 45 - Architectural Terra Cotta Restoration, for the patching procedure and surface preparation shown in Detail 11 on Drawing S-500.
8. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.

1.2 REFERENCE STANDARDS

- A. ACI 546R - Guide to Concrete Repair.
- B. ACI 562 - Code Requirements for Assessment, Repair, and Rehabilitation of Existing Concrete Structures.
- C. ICRI 310.2R - Selecting and Specifying Concrete Surface Preparation for Coatings, Sealers, and Polymer Overlays.
- D. ICRI 310.1R - Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion.
- E. ASTM C1583 - Tensile Strength of Concrete Surfaces by Direct Tension (Pull-Off Method).
- F. ASTM C928 - Packaged, Dry, Rapid-Hardening Cementitious Materials for Concrete Repairs.

G. ASTM A775 / ASTM A1055 - Epoxy-Coated Steel Reinforcing Bars.

1.3 SUBMITTALS

- A. Product Data: Repair mortar, bonding agent where proposed, corrosion inhibitor, and reinforcing steel coating, including the manufacturer's published mixing, placing, and curing instructions and the maximum lift thickness.
- B. Samples: Cured repair mortar sample showing color and texture in both damp and dry condition, for the Engineer's acceptance of the match to adjacent concrete.
- C. Condition Survey: Following sounding under Article 3.1, a survey identifying each repair area by location, dimension, and depth, keyed to the elevations, with photographs in accordance with Section 01 32 33. Submit before performing any repair.
- D. Field Reports: Record of each repair performed, by location, area, depth, date, and quantity of exposed reinforcing steel encountered, for reconciliation of unit price Work.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with not less than three (3) years of experience in structural concrete repair, including work on historic structures.
- B. Mock-Up: Prepare a repair mock-up on an in-place area at a location selected by the Engineer, complete through curing and finishing, demonstrating removal limits, edge preparation, mortar placement, profile, color, and texture. Obtain the Engineer's written acceptance before performing general repairs. The accepted mock-up establishes the standard for the Work.

1.5 FIELD CONDITIONS

- A. Perform work only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.
- B. Do not place repair mortar in direct hot sun, during precipitation, or when precipitation is forecast within the initial cure period. Provide protection and shading as required.

1.6 MEASUREMENT AND PAYMENT

- A. Concrete repair is measured and paid under the unit prices established in Section 01 22 00. Repair areas shown on the Drawings are approximate; the extent will be established in the field by the Engineer.
- B. Treatment of exposed reinforcing steel is measured and paid separately under Section 01 22 00 Unit Price No. 9.

PART 2 - PRODUCTS

2.1 REPAIR MORTAR

- A. Repair Mortar: Cementitious, single-component, fiber-reinforced, polymer-modified, silica fume-enhanced structural repair mortar with integral corrosion inhibitor, complying with

ASTM C928, formulated for vertical and overhead application without forming, and having a compressive strength not greater than that of the existing concrete substrate.

- B. Color and Texture: Match the adjacent existing concrete, as established by the accepted mock-up. Where the repair area is visible from the public way, provide custom color matching by the manufacturer.
- C. Where the minimum properties of the non-shrink repair mortar specified in Section 04 05 19.16 Article 2.2.B are applicable to a repair, that mortar may be used with the Engineer's acceptance.

2.2 REINFORCING STEEL TREATMENT

- A. Corrosion-Inhibiting Coating: Cementitious or epoxy zinc-rich coating for exposed reinforcing steel, compatible with the repair mortar and applied per the manufacturer's instructions.
- B. Replacement Reinforcing Steel: ASTM A615 Grade 60 deformed bars, where the Engineer directs supplementary or replacement reinforcement. Do not cut, splice, or replace existing reinforcing steel without the Engineer's written direction.

2.3 ACCESSORIES

- A. Bonding Agent: Only where required by the repair mortar manufacturer. Where the manufacturer's system relies on a saturated surface dry substrate without a bonding agent, do not introduce one.
- B. Water: Potable, free of oil, acid, alkali, salts, and organic matter.
- C. Curing Materials: As required by the repair mortar manufacturer. Curing compounds that leave a residue or film on the finished surface are not acceptable where the repair is visible.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. **Sound** all concrete within and adjacent to each area identified on the Drawings, by hammer or chain drag, to establish the true extent of delamination and unsound material. Mark the sound limits of each repair area.
- B. Report to the Engineer where the sounded extent materially exceeds the area shown, and await direction before proceeding.
- C. Identify and report all locations where reinforcing steel is exposed, corroded, or has caused cracking or spalling.

3.2 PREPARATION

- A. Remove all unsound, loose, spalled, delaminated, and deteriorated concrete by hand, using non-powered tools, in accordance with Section 02 41 19 and Section 01 35 91. Powered demolition equipment and impact tools are prohibited.

- B. Use a chisel or saw to produce square or undercut edges on the area to be patched. Remove additional material so that the patch will not have feathered edges and will be at least 1/4 inch thick. Feathered-edge preparation is not acceptable and will chip out.
- C. Remove loose particles, soil, debris, oil, and other contaminants. Wash prepared surfaces with clean water and a bristle brush.
- D. Do not remove concrete beyond the marked limits without the Engineer's direction. Where removal would interrupt a load path or undermine bearing, erect shoring before proceeding; shoring design is the responsibility of the Contractor.

3.3 REINFORCING STEEL

- A. Where reinforcing steel is exposed, remove concrete to provide a clear space of not less than 3/4 inch fully around the bar, extending not less than 2 inches beyond the corroded length, so that the repair mortar fully encapsulates the bar.
- B. Clean exposed reinforcing steel of rust and scale by hand or by abrasive methods that do not damage the surrounding concrete or the bar, and apply the corrosion-inhibiting coating.
- C. Where section loss of reinforcing steel exceeds 20 percent of the original bar area, notify the Engineer in writing, protect the area, and await direction. Do not cut, splice, or replace reinforcing steel without the Engineer's written direction.
- D. Where post-installed anchors or dowels are directed, install in accordance with Section 05 05

19. 3.4 PLACEMENT

- A. Condition the substrate to a saturated surface dry moisture condition immediately before placement. There shall be no standing water.
- B. Mix repair mortar in strict accordance with the manufacturer's instructions. Do not exceed the published water content or working time. Retempering is prohibited.
- C. Place in lifts not exceeding the manufacturer's maximum lift thickness, working the material firmly into the prepared surface and fully around exposed reinforcing steel to eliminate voids.
- D. Where successive lifts are required, scarify or otherwise prepare the preceding lift as the manufacturer requires, and dampen before continuing.
- E. Finish the final lift to match the profile, plane, and texture of the adjacent concrete, as established by the accepted mock-up.

3.5 CURING

- A. Cure in accordance with the manufacturer's published requirements, and not less than 72 hours. Mist-cure with clean water where the manufacturer permits, more frequently in hot or dry conditions.
- B. Protect completed repairs from rain, freezing, direct sun, and wind during the cure

period. 3.6 FIELD QUALITY CONTROL

- A. Sound all completed repairs after curing. Repairs that sound hollow or drummy shall be removed and replaced at no additional cost.
- B. Where directed by the Engineer, perform bond testing in accordance with ASTM C1583 at a frequency and acceptance criterion established by the Engineer.
- C. Where the Work of this Section is subject to Special Inspection, coordinate in accordance with Section 01 45 33.

3.7 CLEANING AND PROTECTION

- A. Remove mortar residue and smears from adjacent surfaces before they set. Clean adjacent masonry in accordance with Section 04 01 20.71; do not use acid cleaners on new repair work.
- B. Protect completed repairs from damage by subsequent operations.

END OF SECTION 03 01 30

SECTION 04 01 20.63
UNIT MASONRY REPAIR

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removal and replacement in kind of cracked, broken, spalled, and deteriorated face brick, identified as Repair Notes 3B and 4 on Drawings S-201 through S-204.
2. Removal and replacement of cracked-through multi-wythe brick masonry, including backup wythes, identified as Repair Note 3A.
3. Rebuilding of masonry at spandrel conditions, including flashing, weeps, and waterproofing, in accordance with Detail 8 on Drawing S-500.
4. Verification, and removal and replacement where required, of existing relieving angles.
5. Reinstatement of masonry removed for installation of tie-back restraint standoff brackets and for rim beam bearing.
6. Repair of masonry as necessary to provide full support to the new rim beam.

B. Related Requirements:

1. Section 02 41 19 - Selective Demolition.
2. Section 04 01 20.71 - Unit Masonry Cleaning.
3. Section 04 01 20.91 - Unit Masonry Repointing.
4. Section 04 01 45 - Architectural Terra Cotta Restoration.
5. Section 04 05 19.16 - Masonry Helical Anchorage.
6. Section 05 50 00 - Metal Fabrications, for lintels and relieving angles.
7. Section 05 50 13 - Masonry Tie-Back Restraint System.

1.2 REFERENCE STANDARDS

- A. ASTM C216 - Facing Brick (Solid Masonry Units Made from Clay or Shale).
- B. ASTM C270 - Mortar for Unit Masonry.
- C. ASTM C1324 - Examination and Analysis of Hardened Masonry Mortar.
- D. ASTM A240 / A666 - Stainless Steel Sheet, Plate, and Strip.
- E. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.
- F. NPS Preservation Brief 2 - Repointing Mortar Joints in Historic Masonry Buildings.

1.3 DEFINITIONS

- A. Damaged Unit: A masonry unit having one-eighth or more of the face of the surface broken out or spalled.
- B. Severe Crack: A crack in excess of 0.10 inch in width.

1.4 SUBMITTALS

- A. Samples: Not fewer than four (4) replacement brick units for each type required, for the Engineer's selection and acceptance for size, color range, texture, and surface finish. Include units from salvage stock where salvaged brick is proposed.
- B. Product Data: Replacement brick; mortar materials; stainless steel flashing; through-wall waterproofing membrane; weep vents; masonry accessories.
- C. Test Reports: Compression and absorption test data for proposed replacement brick; mortar analysis in accordance with Section 04 01 20.91.
- D. Shop Drawings: Spandrel rebuild details showing flashing laps, end dams, terminations, anchorage of the L-shaped stainless steel rod to the spandrel beam, weep spacing, and membrane extent.
- E. Field Reports: Location, dimension, and photograph of each repair area exceeding the notification thresholds of Article 3.6.
- F. Quantities: Running log of units removed and replaced by elevation, for use in reconciling unit-price work.
- G. Measurement and Payment: Brick replacement and terra cotta patching are measured and paid under the unit prices established in Section 01 22 00. Repair areas shown on the Drawings are approximate; the quantity will be established in the field by the Engineer.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Masonry restoration firm with not less than five (5) years of documented experience in historic brick restoration, including not less than three (3) projects of comparable scale and historic sensitivity. Masons performing the Work shall have not less than three (3) years of restoration experience.
- B. Sample Panel: Before beginning general repair, construct a sample panel of not less than 25 square feet, or 20 units, in an area selected by the Engineer, demonstrating unit removal, replacement, stitching into surrounding masonry, mortar color and texture, joint alignment, and tooling. Obtain the Engineer's written acceptance before proceeding. The accepted panel establishes the standard for the Work and may remain as part of the Work.

1.6 FIELD CONDITIONS

- A. Perform work only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.
- B. Existing conditions and dimensions are approximate and based on field measurements. Verify all conditions in the field. Existing conditions not shown may exist.

- C. Verify by field inspection the condition of all mortar joints, and repair where necessary in accordance with Section 04 01 20.91.

PART 2 - PRODUCTS

2.1 REPLACEMENT BRICK

- A. Salvaged Brick: Sound, full-size brick salvaged from the tower demolition performed under Section 02 41 19 is the preferred source for replacement units at all visible locations. Clean salvaged units of adhered mortar by hand; do not use acid or mechanical abrasion. Store, palletize, and protect salvaged units.
- B. New Brick: Where salvaged units are insufficient in quantity or unsuitable, provide new brick complying with ASTM C216, Grade SW, Type FBS, matching the existing in size, color range, texture, surface finish, and coefficient of absorption, and having a compressive strength not less than that of the existing units. Submit for the Engineer's acceptance.
- C. Back-Up Brick: Provide brick matching the existing back-up units in size and compressive strength at concealed wythes.

2.2 MORTAR

- A. Rebuilding and setting mortar for both brick and terra cotta shall be the natural hydraulic lime (NHL 3.5) pre-mixed mortar specified in Section 04 01 20.91, matching the pointing mortar in materials, color, and texture, and having a compressive strength lower than that of the adjacent masonry units.
- B. Crack Filling Mortar: Soft lime-based mortar as specified in Section 04 01 20.91.
- C. Brick Chinking: Sound brick, salvaged where available, cut to fit as required to fill wide cracks.

2.3 FLASHING AND ACCESSORIES

- A. Flashing: Stainless steel sheet flashing with formed drip edge, ASTM A240 Type 304, minimum 0.015 inch thick, with soldered or fully sealed laps and formed end dams.
- B. Flashing Support Rod: L-shaped stainless steel 1/4 inch diameter threaded rod, anchored to the spandrel beam as detailed.
- C. Waterproofing Membrane: Self-adhered sheet air and water barrier, Grace Perm-A-Barrier or approved equal, installed from the top of the spandrel beam to the lintel.
- D. Weep Vents: Corrosion-resistant, non-staining weep vents or open head joints with cell vents, at 16 inches on center above all flashing.
- E. Mastic: Butyl or polyisobutylene sealant compatible with stainless steel and the membrane, for sealing flashing penetrations.
- F. Masonry Anchors and Ties: As specified in Section 04 05 19.16.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine all surfaces to receive the Work and notify the Engineer of all unsatisfactory conditions that may affect the Work.
- B. Verify dimensions of in-place and subsequent construction.
- C. Sound and probe masonry adjacent to each identified repair area to establish the true extent of deterioration. Report to the Engineer where the sound extent materially exceeds the area shown.

3.2 PREPARATION

- A. Verify that the building monitoring system is active and baselined, and that any required notice to the Building Monitoring Consultant has been given.
- B. Erect required shoring and temporary support prior to removal of units at any location where removal will interrupt the load path, including at lintels, relieving angles, and spandrel conditions. Shoring design is the responsibility of the Contractor.
- C. Protect adjacent surfaces, existing exterior straps to remain, windows, monitoring instrumentation, roofing, drains, and site improvements.

3.3 REMOVAL

- A. Remove all existing spalled, cracked, chipped, or deteriorated brick by saw cutting the masonry from joint to joint on all sides. Do not cut units in half to facilitate a repair.
- B. Remove mortar by hand from the perimeter of broken, severely cracked, or damaged units, and from the adjoining surfaces of existing masonry units to remain. Sweep out all dust and debris.
- C. At cracked-through multi-wythe conditions, remove and replace the face brick and back-up as detailed, in staged, limited-width lifts. Do not remove full-height or full-width sections of wall in a single operation.
- D. Take care to prevent debris from falling into the air space, where it could block weeps and interfere with moisture drainage.
- E. Where removal uncovers other materials, openings, or additional deterioration, immediately notify the Engineer in writing and protect the area in question.

3.4 INSTALLATION

- A. Dampen all brick surfaces before new units are placed. Ensure that masonry has absorbed the moisture to ensure a good bond.
- B. Install each masonry unit with full mortar coverage at all adjoining surfaces. Apply mortar in layers or lifts of not more than 1 inch in depth.
- C. Stitch new replacement brick into surrounding masonry. Mortar color and texture, joint alignment, and plumbness shall match adjacent masonry.
- D. Compact and tool mortar joints to produce an even and consistent concave joint surface. Joint characteristics and placement of masonry units shall blend with adjoining existing work.

- E. Measure and batch materials by volume or weight, accurately controlled and maintained with consistency throughout the Work.
- F. Where helical ties are required in lieu of unit replacement, or in combination with it, install in accordance with Section 04 05 19.16.

3.5 CRACK FILLING

- A. Fill cracks by width, in addition to any helical anchorage required at the same location under Section 04 05 19.16:
 - 1. Cracks less than 3/4 inch in width: fill with soft lime-based mortar as specified in Section 04 01 20.91.
 - 2. Cracks 3/4 inch in width and greater: fill with brick chinking set in soft lime-based mortar, cutting brick to fit and coursing the chinking to align with adjacent masonry.
- B. Rake and clean cracks of all loose material and dust before filling. Dampen to a saturated surface dry condition.
- C. Fill in lifts, compacting each lift, and tool the finished surface to match the adjacent joint profile and the accepted sample panel.
- D. Crack filling is a treatment of the crack opening and is not a substitute for the structural anchorage required by Section 04 05 19.16. Where a crack is scheduled to receive helical ties, install the ties first and fill the crack after.

3.6 SPANDREL REBUILDING

- A. Remove and replace face brick and back-up with brick matching the existing in color, texture, quality, coursing, and tooling.
- B. Install waterproofing membrane from the top of the spandrel beam to the lintel before setting flashing.
- C. Install stainless steel flashing with drip edge, supported by the L-shaped stainless steel threaded rod anchored to the spandrel beam. Lap and seal all joints; form end dams at all terminations. Seal penetrations in flashing with mastic.
- D. Provide weeps at 16 inches on center above flashing. Keep weeps and the air space free of mortar droppings.

3.7 RELIEVING ANGLES AND LINTELS

- A. Verify in the field the condition of all relieving angles. Remove existing and replace with new where necessary, as directed by the Engineer. New and replacement steel is specified in Section 05 50 00.
- B. Clean existing lintels and relieving angles to remain of rust, scale, grease, and foreign matter prior to finishing, and paint in accordance with Section 05 50 00.

3.8 NOTIFICATION THRESHOLDS

- A. Where a piece of masonry facade to be removed is greater than 24 square inches in face area, or of greater depth than 2 inches, document the condition, notify the Engineer immediately in writing, and await the Engineer's direction before proceeding with further work in that area.
- B. Notify the Engineer of any exterior envelope damage observed but not shown on the Drawings, and await the Engineer's directive.

3.9 CURING, CLEANING, AND PROTECTION

- A. Protect completed work from rain, freezing, and rapid drying for not less than 72 hours. Mist-cure as required by ambient conditions.
- B. Remove mortar droppings and smears from the face of the masonry before they set. Clean in accordance with Section 04 01 20.71; do not use acid cleaners on new work.
- C. Protect completed repairs from damage by subsequent operations.

END OF SECTION 04 0120.63

SECTION 04 01 20.71
UNIT MASONRY CLEANING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cleaning of soiling, efflorescence, and biological growth from historic brick masonry, architectural terra cotta, and cast stone at the locations identified as Repair Note 7 on Drawings S-201 through S-204.
2. Test panels and cleaning mock-ups.
3. Protection of adjacent surfaces, containment and disposal of cleaning effluent.

B. Related Requirements:

1. Section 01 35 91 - Historic Treatment Procedures.
2. Section 04 01 20.63 - Unit Masonry Repair.
3. Section 04 01 20.91 - Unit Masonry Repointing.
4. Section 04 01 45 - Architectural Terra Cotta Restoration.

1.2 REFERENCE STANDARDS

- A. ASTM D5107 - Practice for Cleaning Masonry with Chemicals.
- B. ASTM E2260 - Guide for Repointing (Tuckpointing) Historic Masonry.
- C. NPS Preservation Brief 1 - Cleaning and Water-Repellent Treatments for Historic Masonry Buildings.
- D. NPS Preservation Brief 7 - The Preservation of Historic Glazed Architectural Terra-Cotta.
- E. U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's literature, safety data sheets, and written recommendations for each proposed cleaner, biocide, and neutralizing agent, including dilution, dwell time, application method, and substrate limitations.
- B. Cleaning Program: Written procedure identifying the cleaner, dilution, application equipment, water pressure, nozzle type and tip size, standoff distance, dwell time, rinse procedure, and effluent containment for each substrate type.
- C. Test Panel Report: Photographic documentation of each test panel, before and after, with the procedure used for each.
- D. Effluent Management Plan: Containment, collection, and legal disposal of wash water and cleaning residue; protection of storm drains, adjacent property, and the public way.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with not less than five (5) years of experience in the cleaning of historic masonry, including glazed architectural terra cotta.
- B. Test Panels: Before beginning general cleaning, prepare test panels of not less than 25 square feet each on each substrate type - face brick, glazed terra cotta, and cast stone or concrete - at locations selected by the Engineer. Demonstrate the gentlest effective method by beginning with water alone and escalating only as necessary. Obtain the Engineer's written acceptance of the accepted method and standard of cleanliness before general cleaning. Accepted test panels shall remain as the standard of comparison for the Work.
- C. Standard of Cleanliness: The intent is removal of soiling, efflorescence, and biological growth without altering the color, texture, glaze, or patina of the historic material. Uniform removal of all discoloration is not required; removal of glaze, tooling marks, or surface material is cause for rejection.

1.5 FIELD CONDITIONS

- A. Perform cleaning only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.
- B. Do not clean during precipitation, when precipitation is forecast within the drying period, or when wind will carry cleaner or overspray onto adjacent property, pedestrians, or vehicles.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Water: Potable, free of oil, acid, alkali, salts, and organic matter.
- B. General Cleaner: Cathedral Stone Products, Inc. Light Duty Cleaner, or one of the following accepted alternates:
 - 1. Cathedral Stone Products; MasonRe G.
 - 2. PROSOCO; Enviro Klean SafRestorer.
- C. Localized Cleaning of Severe Carbon Crusts: One of the following, permitted only where a cold water soak followed by the general cleaner under Paragraph B has been demonstrated inadequate on the test panel, and only upon the Engineer's written acceptance of the escalation:
 - 1. PROSOCO; Sure Klean 766 Limestone Prewash followed by Sure Klean Limestone and Masonry Afterwash.
 - 2. PROSOCO; Sure Klean Restoration Cleaner.
 - 3. PROSOCO; Sure Klean Heavy Duty Restoration Cleaner.
- D. Biocide for Localized Biological Growth: PROSOCO Sure Klean BioWash, or a quaternary ammonium compound formulated for masonry and accepted by the Engineer.

- E. Cleaners not accepted in writing by the Engineer for the specific substrate shall not be brought onto the site.
- F. Brushes: Natural or nylon bristle brushes only. Metal bristle brushes are prohibited on all substrates.
- G. Protection: Polyethylene sheeting, waterproof masking, and non-staining tapes compatible with historic finishes.

2.2 PROHIBITED METHODS AND MATERIALS

- A. The following are prohibited on all substrates:
 - 1. All abrasive cleaning measures, including sandblasting and any dry or wet abrasive media.
 - 2. Strong acids, and in particular fluoride-based acids, on glazed architectural terra cotta.
 - 3. High-pressure water cleaning.
 - 4. Metal bristle brushes.
 - 5. Water-repellent, waterproof, or film-forming coatings of any kind, unless separately specified and accepted in writing.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect adjacent materials, windows, existing exterior straps to remain, monitoring instrumentation, roofing, and site improvements from cleaner, overspray, and runoff.
- B. Mask and seal openings. Verify that windows and openings scheduled to be enclosed are closed and weathertight before wetting adjacent masonry.
- C. Notify the Building Monitoring Consultant not less than 48 hours prior to cleaning at any elevation carrying monitoring instrumentation. Do not direct water at, or wet, any monitoring device.
- D. Do not clean masonry scheduled for repointing or unit replacement until those repairs are complete and cured, except where the Engineer directs preliminary cleaning to assess the extent of deterioration.

3.2 CLEANING - GENERAL

- A. Employ the gentlest effective method accepted under the test panel program. Escalate in the following order, and only where the preceding step has been demonstrated inadequate on the test panel: water alone; cold water soak; the general cleaner under Article 2.1.B; and, only upon the Engineer's written acceptance, the severe carbon crust cleaners under Article 2.1.C.
- B. Water Pressure: At terra cotta water tables, window sills, and coping stones, water pressure shall not exceed 500 psi. Do not exceed the pressure demonstrated on the accepted test panel for any substrate.

- C. Pre-wet the masonry thoroughly before applying any cleaner, and keep surrounding surfaces wet throughout application to prevent absorption of cleaner into adjacent masonry.
- D. Apply cleaner at the accepted dilution and dwell time. Do not allow cleaner to dry on the surface. Agitate with natural or nylon bristle brushes only.
- E. Rinse thoroughly from the bottom up and top down as required to remove all cleaner residue. Neutralize where recommended by the manufacturer and verify with pH testing.
- F. Work in manageable areas and complete cleaning and rinsing of each area in a continuous operation to avoid streaking and tide lines.

3.3 EFFLORESCENCE

- A. Remove efflorescence by dry brushing with natural or nylon bristle brushes before any wet cleaning. Do not wet efflorescence in place before dry removal.
- B. Report to the Engineer the location and extent of recurring efflorescence, which may indicate an active moisture source requiring correction.

3.4 BIOLOGICAL GROWTH

- A. Remove loose growth by dry brushing or by scraping with wood or plastic tools. Do not use metal scrapers.
- B. Apply the biocide specified in Article 2.1.D at the accepted dilution and dwell time, agitate, and rinse. Repeat treatment where growth persists.
- C. Remove root structures from joints where present; report affected joints for inclusion in repointing under Section 04 01 20.91.

3.5 EFFLUENT AND WASTE

- A. Contain, collect, and legally dispose of all wash water and cleaning residue. Do not discharge effluent to storm drains, adjacent property, or the public way.

3.6 PROTECTION

- A. Protect cleaned surfaces from staining and damage for the remainder of the Work. Re-clean surfaces soiled by subsequent operations at no additional cost.

END OF SECTION 04 0120.71

SECTION 04 01 20.91
UNIT MASONRY REPOINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Cutting out and repointing of deteriorated mortar joints in brick and terra cotta masonry, identified as Repair Note 5 on Drawings S-201 through S-204 and detailed in Detail 1 on Drawing S-500.
2. Mortar analysis and matching of historic mortar.
3. Repointing of joints disturbed by unit replacement, helical tie installation, and anchorage work.

B. Related Requirements:

1. Section 04 01 20.63 - Unit Masonry Repair.
2. Section 04 01 20.71 - Unit Masonry Cleaning.
3. Section 04 01 45 - Architectural Terra Cotta Restoration.
4. Section 04 05 19.16 - Masonry Helical Anchorage.

1.2 REFERENCE STANDARDS

- A. ASTM C270 - Mortar for Unit Masonry.
- B. ASTM C1324 - Examination and Analysis of Hardened Masonry Mortar.
- C. ASTM C144 - Aggregate for Masonry Mortar.
- D. ASTM C207 - Hydrated Lime for Masonry Purposes.
- E. ASTM E2260 - Guide for Repointing (Tuckpointing) Historic Masonry.
- F. NPS Preservation Brief 2 - Repointing Mortar Joints in Historic Masonry Buildings.

1.3 SUBMITTALS

- A. Mortar Analysis Report: Petrographic and chemical analysis of existing mortar in accordance with ASTM C1324, performed by an independent laboratory experienced in historic mortar analysis, from samples taken at not fewer than four (4) locations representing each masonry type and elevation. Report shall state binder type and ratio, aggregate gradation and color, and a recommended replication mix.
- B. Mortar Mix Design: Proposed proportions by volume, materials, and source for each mortar type, with the analysis report as its basis.
- C. Samples: Cured mortar samples, not less than 3 inches by 3 inches, for each proposed mix, showing color and texture in both damp and dry condition.

- D. Product Data: Proprietary natural hydraulic lime pre-mix product, including the manufacturer's published mixing, application, and curing instructions; sand where aggregate adjustment is proposed; and the manufacturer's standard or custom color match documentation.
- E. Test Reports: Manufacturer's published compressive strength for the selected pre-mix and, where available, that of the adjacent masonry units, demonstrating compliance with Article 2.1.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: As specified in Section 04 01 20.63.
- B. Sample Panel: Before beginning general repointing, prepare a sample panel of not less than 25 square feet in an area selected by the Engineer, including both head and bed joints and one corner condition, demonstrating joint preparation depth, mortar color and texture, joint profile, and tooling. Obtain the Engineer's written acceptance before proceeding. The accepted panel establishes the standard for the Work.
- C. Power Tool Use: Power tools shall not be used for joint preparation unless demonstrated on the sample panel, restricted to horizontal bed joints only, operated by masons experienced in their use, and accepted in writing by the Engineer. Power tools are prohibited in head joints and at all terra cotta joints.

1.5 FIELD CONDITIONS

- A. Perform work only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.
- B. Do not repoint in direct hot sun, during precipitation, or when precipitation is forecast within the initial cure period. Provide protection and shading as required.

PART 2 - PRODUCTS

2.1 MORTAR - PERFORMANCE REQUIREMENTS

- A. Repointing shall be carried out with a mortar having a compressive strength, measured in psi, lower than that of the adjacent masonry unit.
- B. Hard portland cement mortars and coarsely screened mortars are prohibited. Such mortars may cause point loading, prevent the outward migration of water through the mortar joints, or both, either of which will ultimately damage the masonry unit.
- C. Repointing with waterproof caulking compounds or similar waterproof materials is prohibited. Like waterproof coatings, such materials impede the normal outward migration of moisture through the masonry joints; moisture may then build sufficient pressure behind the material to cause damage to the unit itself
- D. Mortar shall match the existing historic mortar in color, texture, aggregate gradation, and tooled appearance, as established by the accepted sample panel and the mortar analysis.
- E. Basis of Design: Natural hydraulic lime (NHL 3.5) pre-mixed mortar, for pointing and for rebuilding, at both brick and terra cotta. Portland cement mortars are not acceptable for pointing or rebuilding historic masonry on this Project.

2.2 MATERIALS

- A. Proprietary Natural Hydraulic Lime Pre-Mixed Mortar, NHL 3.5, one of the following or approved equal:
 - 1. Mix and Go Natural Hydraulic Lime Pre-Mixed Mortar, Virginia Limeworks, Madison Heights, VA.
 - 2. Ecologic Natural Hydraulic Lime Pre-Mixed Mortar, DeGruchy's Lime Works, Milford Square, PA.
- B. Color: To match the existing mortar for each mortar type. Both products listed are available in a range of standard colors; where standard colors do not provide an adequate match, provide custom color matching by the manufacturer against a mortar sample.
- C. Sand: Where the selected pre-mix permits or requires aggregate adjustment for color and gradation match, provide sand complying with ASTM C144, matched to the existing mortar aggregate in gradation, color, and particle shape. Blend sands from multiple sources as required.
- D. Water: Potable, free of oil, acid, alkali, salts, and organic matter.
- E. Pigments: Not permitted. Achieve color match through the manufacturer's standard or custom color matching and through aggregate selection.
- F. Admixtures: Air-entraining agents, antifreeze compounds, and accelerators containing chlorides are prohibited.

2.3 MIXING

- A. Prepare in strict accordance with the manufacturer's recommended procedures for the selected proprietary pre-mix product. Do not field-blend binder and aggregate except as the manufacturer permits.
- B. Measure and batch materials accurately, and maintain consistency throughout the Work.
- C. Observe the manufacturer's published working time. Retempering is permitted only to the extent and within the period the manufacturer permits.
- D. Natural hydraulic lime mortar gains strength more slowly than portland cement mortar. Plan the Work, protection, and curing accordingly.

PART 3 - EXECUTION

3.1 JOINT PREPARATION

- A. Cut out deteriorated mortar to a uniform depth of not less than 2-1/2 times the joint width, and not less than 3/4 inch, or until sound mortar is reached, whichever is greater. Where joints are cut deeper, point in successive lifts.
- B. Cut joints square to the face, with square, clean edges. Do not feather, taper, or overcut. Do not widen joints.

- C. Remove mortar by hand tools. Where power tools are accepted for horizontal bed joints, operate them parallel to the joint and complete the cut by hand at the arrises. Damage to masonry unit edges, faces, or arrises is cause for rejection and replacement of the damaged units under Section 04 01 20.63.
- D. Remove all loose material and dust from prepared joints with water or oil-free compressed air.
- E. Report to the Engineer any joint at which the preparation reveals voids, through-cracking, missing back-up, or displaced units.

3.2 POINTING

- A. Dampen prepared joints to a saturated surface dry condition immediately before pointing. There shall be no standing water in the joint.
- B. Point joints in lifts of not more than 1/4 inch, compacting each lift and allowing it to become thumbprint hard before applying the next.
- C. Fill joints completely and tightly against the masonry on both sides. Voids are cause for rejection.
- D. Tool the final lift to match the profile of the adjacent original joints, as established by the accepted sample panel, when the mortar is thumbprint hard. The typical profile is a compacted concave joint unless the sample panel establishes otherwise.
- E. Brush joints with a natural or nylon bristle brush to remove excess mortar and to expose the aggregate to match adjacent work. Do not use acid or metal brushes.

3.3 TERRA COTTA JOINTS

- A. Prepare and point joints in terra cotta by hand only. Observe the requirements of Section 04 01 45 for adjacent glazed surfaces.

3.4 CURING

- A. Protect and mist-cure pointed joints for not less than 72 hours, and for the longer period required by the pre-mix manufacturer, more frequently in hot or dry conditions. Do not saturate.
- B. Protect completed work from rain, freezing, direct sun, and wind during the cure

period. 3.5 CLEANING

- A. Remove mortar smears and droppings from masonry faces before they set. Clean residual mortar in accordance with Section 04 01 20.71. Acid cleaning of newly pointed work is prohibited.

3.6 FIELD QUALITY CONTROL

- A. The Engineer may direct removal and repointing of any joint that does not match the accepted sample panel in depth, fill, color, texture, or profile, at no additional cost.

END OF SECTION 04 0120.91

SECTION 04 01 45
TERRA COTTA RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Inspection of all terra cotta parapet coping stones, and removal of broken, cracked, or spalled units in advance of debris netting installation, identified as Repair Note 1 on Drawings S-201 through S-204.
2. Repair of deteriorated terra cotta sill units with approved patching material to match surrounding stone, identified as Repair Note 2 and Detail 11 on Drawing S-500.
3. Repair of glaze spalling and minor material spalling.
4. Replacement in kind of terra cotta units where directed.
5. Salvage, documentation, and delivery to the Owner of removed terra cotta units.

B. Related Requirements:

1. Section 01 35 91 - Historic Treatment Procedures.
2. Section 02 41 19 - Selective Demolition.
3. Section 04 01 20.71 - Unit Masonry Cleaning.
4. Section 04 01 20.91 - Unit Masonry Repointing.
5. Section 05 50 16 - Debris Containment Netting System.

1.2 REFERENCE STANDARDS

- A. NPS Preservation Brief 7 - The Preservation of Historic Glazed Architectural Terra-Cotta, de Teel Patterson Tiller.
- B. ASTM C1167 - Clay Roof Tiles; ASTM C67 - Sampling and Testing Brick and Structural Clay Tile.
- C. U.S. Secretary of the Interior's Standards for the Treatment of Historic

Properties. **1.3 SUBMITTALS**

- A. Product Data: Patching mortar (Jahn M100 or approved equal), mineral coating and terra coat glaze simulation products, and all associated primers and curing materials, with the manufacturer's complete published application instructions.
- B. Samples: Cured patch samples on a terra cotta substrate for each color and finish required, demonstrating color, texture, and glaze simulation in both wet and dry condition, for the Engineer's acceptance.

- C. Condition Survey: Following close-range inspection, a unit-by-unit survey of all coping stones and sills, keyed to the elevations, identifying each unit as sound, requiring patch repair, or requiring removal. Submit before performing any repair or removal.
- D. Salvage Inventory: Photographic documentation and cataloging of each removed unit, keyed to original location, in accordance with Section 02 41 19.
- E. Replacement Units: Where replacement in kind is directed, submit shop drawings, profiles taken from the original units, clay body and glaze samples, and the fabricator's production schedule and lead time.
- F. Installer Qualifications: In accordance with Article 1.4.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with not less than five (5) years of documented experience in the repair of glazed architectural terra cotta, including not less than three (3) comparable historic projects. Submit references and photographs of completed work.
- B. Mock-Up: Prepare a mock-up patch repair on an in-place unit at a location selected by the Engineer, complete through glaze simulation and curing, demonstrating surface preparation, profile, color, and finish. Obtain the Engineer's written acceptance before performing general repairs. The accepted mock-up establishes the standard for the Work.
- C. Field Inspection: The Engineer will inspect each unit proposed for removal prior to its removal. Do not remove any terra cotta unit without the Engineer's direction, except where a unit presents an immediate falling hazard, in which case remove, retain, and notify the Engineer immediately.

1.5 FIELD CONDITIONS

- A. Perform work only when the exterior temperature remains at 45 degrees F or above for a period of 72 hours from the commencement of work, unless temporary heat is provided.

1.6 SEQUENCING

- A. Complete coping stone inspection and removal before installation of debris containment netting under Section 05 50 16.
- B. Replacement units are measured and paid under the unit prices established in Section 01 22 00. The quantity of replacement is not fixed by the Drawings and will be established in the field by the Engineer.
- C. Scope Limitation: This is a short term stabilization Contract. Replacement in kind is required only where a unit must be removed to eliminate a falling hazard or to permit the stabilization Work, and where leaving the opening unfilled would admit water or destabilize adjacent units. Units removed that do not meet this test shall be salvaged and stored for replication under the future rehabilitation, and shall not be replaced under this Contract.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Terra cotta masonry is to be replaced in kind.
- B. Cementitious patching of units on which material spalling is easily observed, such as at street level, is not appropriate; such units are better replaced. Cementitious repairs never satisfactorily bond to the original material, and the differential expansion coefficients of the repair and the original preclude a safe, effective, and long-term attachment.
- C. Replacement Terra Cotta: New, unglazed terra cotta units matching the existing units in body composition, physical properties, colors, color variation within units, surface texture, unit profile, and dimensions. Glaze shall be simulated with the coating specified in Article 2.2.C.
 - 1. Manufacturers: Boston Valley Terra Cotta; Studio S Pottery; Superior Clay Corporation; or approved equal.
 - 2. For existing terra cotta exhibiting a range of colors or color variation within units, provide terra cotta that proportionally matches that range and variation, rather than matching an individual color within the range.

2.2 PATCHING MATERIAL

- A. Masonry Patching Compound: Factory-mixed cementitious product custom manufactured for patching masonry, one of the following or approved equal:
 - 1. Cathedral Stone Products, Inc.; Jahn M100 Terra Cotta and Brick Repair Mortar.
 - 2. Edison Coatings, Inc.; Custom System 45.
- B. Patching Compound Performance Requirements:
 - 1. Vapor and water permeable, equal to or more permeable than the masonry unit being repaired.
 - 2. Low shrinkage.
 - 3. Lower modulus of elasticity than the masonry units being repaired.
 - 4. Develops high bond strength to all types of masonry present.
 - 5. Working qualities and retardation control sufficient to permit forming and sculpturing where necessary.
 - 6. Formulated in colors and textures to match each masonry unit being patched, with a sufficient number of colors to match the color, texture, and variation of each unit.
- C. Terra Cotta Glaze Replacement Coating: High-solids, non-yellowing, fade-resistant, waterborne polyurethane or epoxy coating intended for exterior use as terra cotta glaze replacement, custom mixed by the manufacturer to match the color and gloss of the existing terra cotta glaze. One of the following or approved equal:
 - 1. Cathedral Stone Products, Inc.; Jahn M100 TerraCoat with SpanCoat primer.
 - 2. Edison Coatings, Inc.; Aquathane UA-210.
- D. Glaze Coating Finish: Flat or matte, to match the sheen of the existing terra cotta units.

E. Coating for Spalled Areas: Masonry paint or acrylic-based proprietary product accepted by the Engineer, for sealing exposed body at glaze and minor material spalls in locations far removed from close scrutiny.

D. Water: Potable, clean, free of contaminants.

2.3 MIXING

A. Mix patching mortar at approximately 4-1/2 to 5 parts powder to 1 part water by volume, depending on temperature and humidity. More water may be required as ambient temperature rises.

B. The mortar shall be the consistency of stiff putty, without lumps.

C. Do not exceed the manufacturer's pot life. Retempering is prohibited.

PART 3 - EXECUTION

3.1 INSPECTION AND REMOVAL

A. Inspect all terra cotta parapet coping stones at close range. Remove any broken, cracked, or spalled units prior to installation of debris netting.

B. Sound each unit. Report drummy, delaminated, or displaced units to the Engineer.

C. Remove units by hand, using non-powered tools, in accordance with Section 02 41 19. Photograph, catalog, palletize, and deliver removed units to the Owner's designated storage location. Do not discard any unit without the Engineer's written direction.

3.2 SURFACE PREPARATION FOR PATCHING

A. Surfaces to receive patching mortar must be sound and free of all dust, dirt, grease, or any other coating or foreign substance that may prevent proper adhesion.

B. Remove all loose and deteriorated masonry from the repair area using hand, non-powered tools. All loose or friable material at blistered glaze areas shall be removed; this may be done easily by hand, with chisels or similar small tools being most effective.

C. Cut areas to be repaired to provide a minimum of 1/2 inch depth. Use a chisel or saw to produce square or undercut edges. Remove additional material so that the patch will not have feathered edges and will be at least 1/4 inch thick. Feathered-edge preparation is not acceptable and will chip out.

D. Wash the prepared surface with clean water and a bristle brush to remove dust from the pores.

E. During removal of selected masonry, if removal uncovers other materials, openings, or additional deterioration, immediately notify the Engineer in writing and protect the area in question.

3.3 APPLICATION

A. Moisten the substrate using clean water. Patching mortar shall be applied to a glistening wet surface on vertical applications and to a well-dampened surface with no pooling on horizontal applications.

- B. Apply a scrub coat to the glistening wet substrate approximately 1/8 inch thick. Do not let the initial coat dry out prior to application of the 4.5:1 mortar mix.
- C. Because the working consistency of the patching mortar is somewhat wet, large repairs may require successive applications to avoid material slump. Where successive lifts are required, remove the shiny cement skin that sometimes forms on the surface by scraping away 1/16 inch of material to open the pores, dampen the surface, and continue application.
- D. After achieving initial set, scrape away excess mortar until the desired profile is reached. Match the profile, anises, and tooling of the adjacent original units.
- E. Apply the glaze replacement coating specified in Article 2.2.C over the primer required by the manufacturer, to simulate the original terra cotta glaze, matching the color, gloss, and sheen of the accepted mock-up.

3.4 REPAIR OF GLAZE SPALLING

- A. Glaze spalling is a highly culpable source of water-related deterioration in glazed architectural terra cotta. Coat or seal blistered areas to prevent further entry of water into the system by this route.
- B. Remove all loose or friable material by hand, then paint the exposed material with the accepted coating.

3.5 REPAIR OF MINOR MATERIAL SPALLING

- A. Treat minor material spalling in a manner similar to glaze spalling damage.
- B. Areas where small portions of the body and glaze have spalled and which are far removed from close scrutiny, such as detailing on entablatures and upper story windows, are best remedied by painting with a masonry paint or an acrylic-based proprietary product.
- C. Units on which material spalling is easily observed, such as at street level, shall be reported to the Engineer for a determination of replacement. Do not patch such units without the Engineer's direction.

3.6 CURING

- A. Periodically mist patch repairs using clean water for at least a 72-hour period. The timing for initial misting will vary with ambient conditions: hot, dry conditions may require misting in 30 to 60 minutes; cooler, damp conditions may require waiting several hours before beginning the curing process. Mist several times a day.
- B. Where access to the repairs is impossible over a period of time, plastic may be used to cover them temporarily. The application of plastic does not remove the need for normal curing techniques.

3.7 CLEAN UP

- A. Remove uncured mortar from the perimeter of the repair before it dries, using clean water and a rubber sponge. Repeat several times with clean water to prevent a halo effect, that is, staining of the adjacent masonry.

B. Clean adjacent masonry in accordance with Section 04 01 20.71. Do not use acids, high-pressure water, abrasive methods, or metal bristle brushes on terra cotta.

3.8 PROTECTION

A. Protect completed repairs from rain, freezing, direct sun, and physical damage until fully cured, and from damage by subsequent operations for the duration of the Work.

END OF SECTION 04 01 45

SECTION 04 05 19.16
MASONRY HELICAL ANCHORAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Post-installed helical wall ties for tying multi-wythe masonry, installed at 16 inches on center vertically and horizontally where indicated, and at tie-back anchor plate locations.
2. Helical stitching ties for crack repair in brick and concrete masonry, including bed joint preparation, non-shrink repair mortar, and concealment of the repair.
3. Field testing of installed ties.

B. Related Requirements:

1. Section 04 01 20.63 - Unit Masonry Repair.
2. Section 04 01 20.91 - Unit Masonry Repointing.
3. Section 05 50 13 - Masonry Tie-Back Restraint System.
4. Section 01 45 33 - Code-Required Special Inspections and Testing.

1.2 REFERENCE STANDARDS

- A. ASTM A276 / A493 - Stainless Steel Bars and Wire.
- B. ASTM C1107 - Packaged Dry, Hydraulic-Cement Grout (Nonshrink).
- C. ANSI B212.15 - Carbide-Tipped Masonry Drill Bits.
- D. IBC 2021 New Jersey Edition, Table 1705.3 - Special Inspection of Post-Installed Anchors.
- E. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.

1.3 SUBMITTALS

- A. Product Data: Helical wall ties and stitching ties, including material grade, diameter, length, and published load capacity; installation tools; non-shrink repair mortar; patching and concealment materials.
- B. Manufacturer's Published Installation Instructions (MPII): Submit the complete MPII for the products proposed. Where the Contract Documents specify procedures differing from the MPII, the Contract Documents govern; identify all such differences in the submittal.
- C. Shop Drawings: Tie layout for each condition, showing spacing, embedment, length, and coordination with crack locations, unit replacement areas, and tie-back anchor plates.
- D. Test Reports: Field test results in accordance with Article 3.5.
- E. Qualifications: Installer experience record and evidence of manufacturer training.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Firm experienced in helical tie installation in historic masonry, with personnel trained in the manufacturer's installation procedures.
- B. Mock-Up: Install a mock-up of not fewer than three (3) wall ties and one (1) stitching tie installation site, complete through patching and concealment, at a location selected by the Engineer. Obtain the Engineer's acceptance of installation, countersinking, patching, and appearance before proceeding.

1.5 EXAMINATION AND FIELD CONDITIONS

- A. Examine supporting base materials and environmental conditions. Do not begin installation until base materials have been properly prepared.
- B. Unless otherwise specified, do not drill holes or commence helical wall tie installations in concrete or masonry until the concrete, mortar, or grout base materials have achieved their full design strength.
- C. Wall ties are required in all locations where cracks run through masonry units rather than through mortar joints. Stitching ties are required in all locations where cracks run through mortar joints.
- D. Crack Filling: Helical anchorage under this Section is the structural treatment of a crack. Filling of the crack opening, by width, is specified in Section 04 01 20.63 Article 3.5, and is required in addition to the anchorage. Install ties before filling the crack.

PART 2 - PRODUCTS

2.1 HELICAL TIES

- A. Post-installed helical ties for use in masonry and concrete base materials shall feature radial fins formed on the steel wire by a cold rolling process, suitable to support and resist structural demand loading by means of tension, compression, or a combination of both.
- B. Material: Type 304 or 316 stainless steel as specified for the project conditions.
- C. Products: Unless noted otherwise, helical ties shall be Heli-Tie products by the Simpson Strong-Tie Company, or approved equal. Use Heli-Tie wall tie for wall tie applications and Heli-Tie stitching tie for crack stitching applications.
- D. Helical ties shall be installed using the manufacturer's accessories.

2.2 NON-SHRINK REPAIR MORTAR

- A. Mortar for use as a system in the stitching tie application shall be cementitious, single-component, fiber-reinforced, polymer-modified, silica fume-enhanced, structural repair mortar with integral corrosion inhibitor.
- B. Minimum properties for non-shrink grout or mortar are as follows. Failure to meet these minimum properties may result in decreased performance.
 - 1. Compressive strength, 7 days: 4,500 psi (31.1 MPa).
 - 2. Compressive strength, 28 days: 6,400 psi (44.2 MPa).

3. Tensile strength, 7 days: 310 psi (2.14 MPa).
4. Flexural strength, 28 days: 680 psi (4.69 MPa).

2.3 REPAIR AND CONCEALMENT MATERIALS

- A. Material used for vertical crack repair in the stitching tie application shall be as specified or approved by the Registered Design Professional.
- B. Material used to conceal the horizontal mortar joint in the stitching tie application shall be as specified or approved by the Registered Design Professional. Match the pointing mortar specified in Section 04 01 20.91 in color, texture, and tooling.
- C. Crack Patching: Exterior silicone sealant or other suitable patching material accepted by the Engineer.

2.4 EQUIPMENT AND TOOLS

- A. Drill Bits: Carbide-tipped, conforming to ANSI B212.15. Diameter shall be as specified in the Contract Documents.
- B. Installation Tool for Wall Ties: As specified by the helical tie manufacturer. Unless noted otherwise, use the Simpson Strong-Tie Heli-Tie installation tool, model HELIT00L37A, or approved equal, set in an SDS-Plus rotohammer.
- C. Equipment for Stitching Ties: Rotary grinding wheel or other suitable tools for safely removing mortar in bed joints to the depth specified in the Contract Documents.

PART 3 - EXECUTION

3.1 GENERAL

- A. Installations shall conform to the manufacturer's published installation instructions or to alternative procedures specified in the Contract Documents. Installation procedures specified in the Contract Documents shall supersede procedures in the MPII.
- B. Where the manufacturer recommends the use of special tools for installation of ties, such tools shall be used, unless otherwise specifically permitted by the Registered Design Professional of Record.

3.2 WALL TIE INSTALLATION

- A. Drill all holes for helical ties using carbide-tipped drill bits of the diameter specified in the Contract Documents or otherwise recommended in the **MPII**. Drill holes with the rotohammer setting as specified in the Contract Documents or otherwise recommended in the MPII. Rotation-only mode is suggested for soft or hollow materials.
- B. Identify the position of bed joint reinforcement, reinforcing steel, and other embedded items prior to drilling holes for ties. Exercise care in drilling to avoid damaging existing reinforcing or embedded items. Notify the Registered Design Professional of Record if reinforcing steel or other embedded items are encountered during hole drilling.

- C. Drill holes accurately and squarely, without excessive drill bit wobble, at the locations and spacing specified. Drill holes perpendicular to the base material unless otherwise specified.
- D. Drill holes continuously and to the specified embedment depth through all facing and back-up base materials to be tied together.
- E. Install helical ties into pre-drilled holes using the manufacturer's recommended installation tool.
- F. Position the correct end of the helical tie into the manufacturer's installation tool set in an SDS-Plus rotohammer, and drive the tie into the pre-drilled hole with the rotohammer set in hammer mode. Drive the tie into the base material until it is countersunk beyond the facing base-material surface as specified, or to the depth permitted by the installation tool.
- G. Install the specified patch or repair material to match the existing finish surface material.
- H. Spacing: Install wall ties at 16 inches on center vertically and horizontally where indicated, and around tie-back anchor plates as detailed, countersunk 3/4 inch minimum.

3.3 STITCHING TIE INSTALLATION

- A. Remove bed joint mortar for a minimum 20 inch length on either side of the affected area, the crack, to a depth of approximately 1-1/4 inches, or as otherwise specified, with a rotary grinding wheel. Unless specified otherwise, vertical spacing of installation sites shall be 12 inches for red brick, or every other course for concrete masonry units.
- B. Clear the bed joint of all loose debris using water or oil-free compressed air, and condition the mortar joint and adjacent units to a saturated surface dry moisture condition.
- C. Mix non-shrink repair grout or mortar per product instructions and place into the prepared bed joint, filling the void to approximately two-thirds of its depth.
- D. Embed the stitching tie at one-half the depth of the void. Trowel displaced grout to fully encapsulate the tie.
- E. Fill and tool any remaining void of the bed joint with mortar to match existing adjacent mortar.
- F. Fill and finish any vertical cracks with approved repair material to conceal the repair site.
- G. Corner Conditions: To accommodate wall corner conditions, the stitching tie may be bent 90 degrees with a minimum bend radius of 1/4 inch.

3.4 SPECIAL INSPECTION

- A. Where special inspection is required under the Contract, notify the Owner's selected special inspection agency of the helical tie installer's intent to commence work, providing at least 72 hours advance notice.
- B. Provide the special inspector with safe access to the Work. A representative from the Contractor shall accompany the special inspector at all times during special inspection, unless otherwise agreed between the Contractor, Owner, and special inspection agency.

3.5 FIELD TESTING

- A. Helical tie installations shall be tested during construction by qualified field technicians acceptable to the Owner and Registered Design Professional of Record, using properly calibrated, manufacturer-recommended, proprietary testing equipment, where such field testing is specified under the Contract.
- B. Test not less than 5 percent of installed wall ties, and not fewer than two (2) ties per elevation, at a proof load acceptable to the Engineer. Where any tie fails, test additional ties as directed and install replacement ties at no additional cost.

3.6 CLEANING AND PROTECTION

- A. Remove grout and mortar residue from masonry faces before it sets. Do not allow staining of historic masonry.
- B. Protect completed installations and cure repair mortar in accordance with Section 04 21 20.91

END OF SECTION 04 0519.16

SECTION 05 05 19
POST INSTALLED ANCHORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Furnishing and installing post-installed adhesive and mechanical anchors in existing masonry and concrete base materials, including hole drilling and cleaning, adhesive installation, preconstruction verification testing, and proof testing, for the following conditions:
1. 1/2 inch diameter threaded rod anchors at continuous L2 x 2 x 1/4 angle for debris containment netting, at 4'-0" on center.
 2. 3/8 inch diameter threaded rod anchors at tie-back restraint base plates and bracket plates.
 3. 5/8 inch diameter anchors at the new roof rim beam, at 4'-0" on center, staggered each side of the beam.
 4. All other post-installed anchors indicated on the Drawings or required to complete the Work.
- B. This Section establishes the common requirements for post-installed anchors. Where a section referencing this Section states an anchor size, embedment, or spacing, that section governs for those values.
- C. Related Requirements:
1. Section 01 45 33 - Code-Required Special Inspections and Testing.
 2. Section 04 01 20.63 - Unit Masonry Repair.
 3. Section 04 05 19.16 - Masonry Helical Anchorage, for helical wall and stitching ties, which are not governed by this Section.
 4. Section 05 12 00 - Structural Steel Framing.
 5. Section 05 50 13 - Masonry Tie-Back Restraint System.
 6. Section 05 50 16 - Debris Containment Netting System.

1.2 REFERENCE STANDARDS

- A. ACI 318, Chapter 17 - Anchoring to Concrete.
- B. ACI 355.4 - Qualification of Post-Installed Adhesive Anchors in Concrete.
- C. ACI/CRSI Adhesive Anchor Installer Certification Program.
- D. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.
- E. ASTM E488 - Strength of Anchors in Concrete Elements.
- F. ASTM E1512 - Testing Bond Performance of Adhesive-Bonded Anchors.
- G. ASTM F1554 - Anchor Bolts, Steel, 36, 55, and 105 ksi Yield Strength.

- H. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- I. IBC 2021 New Jersey Edition, Section 1705.3 and Table 1705.3 - Special Inspections.
- J. ICC-ES AC58 and AC60 - Acceptance Criteria for Adhesive Anchors in Masonry and Concrete Elements.

1.3 PERFORMANCE REQUIREMENTS

- A. Anchors shall develop the design loads indicated, with the embedments, spacings, and edge distances shown on the Drawings, in the base materials actually encountered.
- B. Base Materials: Existing multi-wythe solid and hollow clay brick masonry, architectural terra cotta, and existing concrete, of unverified strength and variable condition. The Contractor shall not assume published anchor capacities apply without the verification testing required by Article 3.2.

1.4 SUBMITTALS

- A. Product Data: Adhesive anchor system, threaded rod, screen tubes, nuts and washers, and mechanical anchors where used, including material, coating, and shelf life.
- B. Evaluation Reports: Current ICC-ES evaluation report, or equivalent, for each anchor system, covering the specific base materials encountered, including hollow and multi-wythe masonry conditions. Reports shall be current at the time of installation; expired or superseded reports are not acceptable.
- C. Manufacturer's Published Installation Instructions (MPII): Complete MPII for each system, including hole cleaning procedures, drilling methods, base material and adhesive temperature limits, gel and cure times, and hole condition requirements for dry, damp, and water-filled holes.
- D. Installer Qualifications and Certifications: In accordance with Article 1.5.
- E. Preconstruction Test Program: Proposed locations, procedure, equipment, and reporting format for the verification testing required by Article 3.2, for the Engineer's acceptance prior to testing.
- F. Test Reports: Preconstruction verification test results and proof test results, each identifying anchor location, base material, embedment, applied load, displacement, and result.
- G. Field Reports: Daily installation records identifying location, quantity, base material condition, hole condition, adhesive lot number, ambient and base material temperature, and cure time observed.

1.5 QUALITY ASSURANCE

- A. Adhesive Anchor Installers: Personnel installing adhesive anchors shall be certified under the ACI/CRSI Adhesive Anchor Installer Certification Program where required by IBC Section 1705.3, and shall in all cases have completed the anchor manufacturer's training for the specific system and base material within the preceding 24 months.

- B. Manufacturer's Field Representative: Provide the anchor manufacturer's technical representative on site at the start of anchor installation for each condition, to verify drilling, hole cleaning, and injection procedures, and to train installation personnel. Submit the representative's report.
- C. Preinstallation Conference: Convene prior to the start of anchor installation, with the Engineer, Special Inspector, manufacturer's representative, and installing personnel in attendance.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver adhesive in the manufacturer's unopened, labeled packaging. Verify the expiration date on each cartridge; do not use expired adhesive.
- B. Store adhesive within the temperature range published by the manufacturer. Protect from freezing and from direct sunlight.
- C. Condition adhesive to the manufacturer's required dispensing temperature range before use.

PART 2 - PRODUCTS

2.1 ADHESIVE ANCHOR SYSTEM

- A. Adhesive: Hilti HIT-HY 270 injection adhesive, or approved equal, with a current evaluation report for the base materials encountered, including solid and hollow masonry.
- B. Screen Tubes: Manufacturer's screen tubes or sleeves where required by the evaluation report for hollow or multi-wythe base materials.
- C. Dispensing and Mixing: Manufacturer's dispenser and static mixing nozzles only. Hand-mixed or field-blended adhesives are prohibited.

2.2 ANCHOR ELEMENTS

- A. Threaded Rod: ASTM F1554 Grade 36, or ASTM A36, hot-dip galvanized in accordance with ASTM A153, in the diameters shown.
- B. Nuts and Washers: ASTM A563 heavy hex nuts and ASTM F436 hardened washers, hot-dip galvanized.
- C. Stainless Steel: Where indicated, or where anchors are in direct contact with terra cotta, provide Type 316 stainless steel anchor elements and hardware.
- D. Dissimilar Metals: Isolate dissimilar metals in contact with gaskets, washers, or

coatings. **2.3 SUBSTITUTIONS**

- A. Proposed equal systems shall be submitted with a current evaluation report demonstrating qualification in the same base materials, at equal or greater embedment, with published capacities not less than those of the specified system. Substitutions without a current evaluation report for masonry base materials will not be accepted.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that base material at each anchor location is sound. Do not install anchors in cracked, spalled, delaminated, or deteriorated masonry, in terra cotta units, in mortar joints scheduled for repointing, or in units scheduled for replacement, until the associated repairs are complete and cured.
- B. Locate embedded steel, existing anchors, reinforcing, and other embedded items prior to drilling. Notify the Engineer if embedded items are encountered.
- C. Report to the Engineer any location where the base material encountered differs from that assumed on the Drawings, and await direction.

3.2 PRECONSTRUCTION VERIFICATION TESTING

- A. Before establishing the general anchor layout, install and test sacrificial anchors to verify that the specified embedment develops the required capacity in the base materials actually present.
- B. Test not fewer than five (5) anchors per building elevation, and not fewer than three (3) anchors for each distinct anchor condition and base material type, at locations selected by the Engineer.
- C. Test in accordance with ASTM E488, using calibrated equipment and a continuous confining-free arrangement where required by the Engineer. Load each anchor to the proof load established under Article 1.3, or to failure where directed, and record load and displacement.
- D. Submit results to the Engineer before proceeding. Where the specified embedment does not develop the required capacity, the Engineer will direct an increased embedment, a revised spacing, or an alternative anchorage. Do not proceed with general installation until the Engineer's written direction is issued.
- E. Fill and patch all test anchor holes to match the adjacent finish surface in accordance with Section 04 01 20.63 or 04 01 45, as applicable.

3.3 DRILLING

- A. Drill holes with carbide-tipped bits of the diameter required by the MPII for the specified rod diameter and system. Do not oversize holes.
- B. Drill perpendicular to the base material, accurately and squarely, without excessive bit wobble, to the embedment shown on the Drawings for the specific detail being constructed.
- C. Use rotation-only mode in soft or hollow base materials where recommended by the manufacturer, to avoid fracturing historic masonry.
- D. Where a hole intersects a void, an unsound wythe, or an existing embedded item, stop, do not install the anchor, and notify the Engineer. Fill the abandoned hole with non-shrink repair mortar and patch to match.
- E. Minimize damage to historic fabric. Drill in mortar joints rather than through units where the Drawings permit a choice and the required capacity can be developed.

3.4 HOLE CLEANING

- A. Clean holes in strict accordance with the **MPH**, using the manufacturer's brushes and oil-free compressed air, for the number of cycles published for the hole diameter and depth. Hole cleaning is the single most common cause of adhesive anchor failure; abbreviated cleaning is cause for rejection of the anchor.
- B. Holes shall be free of dust, drilling slurry, standing water, ice, oil, and other contaminants at the time of injection. Where the MPH establishes different procedures for dry, damp, or water-filled holes, follow the procedure for the condition present.
- C. Do not clean holes more than the interval before injection permitted by the **MPH**. Re-clean holes left open beyond that interval or exposed to weather.

3.5 ADHESIVE INSTALLATION

- A. Observe the manufacturer's base material and ambient temperature limits. Do not install adhesive anchors when the base material temperature is below the minimum published temperature.
- B. Discard the initial adhesive dispensed from each new cartridge or nozzle until uniform color is achieved.
- C. Inject adhesive from the bottom of the hole outward, withdrawing the nozzle to avoid entrapping air, filling the hole to the volume required by the **MPH**. Where screen tubes are required, install per the **MPH**.
- D. Insert the anchor element with a slow twisting motion, within the published gel time, until it contacts the bottom of the hole. Excess adhesive shall be visible at the mouth of the hole.
- E. Do not disturb, load, or torque the anchor until the full cure time published for the base material temperature has elapsed. Do not accelerate cure with applied heat unless permitted by the **MPH**.
- F. Remove excess adhesive from the masonry face before it cures. Do not allow adhesive to stain historic masonry.

3.6 FIELD QUALITY CONTROL - PROOF TESTING

- A. Post-installed anchor installation is subject to continuous or periodic Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.3.
- B. Proof test not less than 5 percent of installed anchors, and not fewer than two (2) anchors per elevation for each anchor condition, at the proof load established under Article 1.3, using calibrated equipment. Anchors shall exhibit no measurable displacement at the proof load.
- C. Where any anchor fails, test twice the original number of anchors in the adjacent area as directed by the Engineer. Where failures continue, cease installation of that condition and notify the Engineer.
- D. Remove and replace all failed anchors at no additional cost. Fill and patch abandoned holes as specified in Article 3.2.E.
- E. Log anchor installation activity in the monitoring platform's construction-activity log in accordance with Section 01 91 15.

3.7 PROTECTION

- A. Protect adjacent masonry from drilling slurry, adhesive, and metallic residue. Clean surfaces promptly.
- B. Touch up coating damage on galvanized anchor elements in accordance with ASTM A780 prior to enclosing or completing the assembly.

END OF SECTION 05 05 19

SECTION 05 12 00
STRUCTURAL STEEL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. New tower roof framing, consisting of HSS 8" x 4" x 1/4" hip rafters, HSS 4" x 2" x 3/16" common and jack rafters at 24 inches on center, and a W8 x 31 rim beam, as shown on Drawing S-101, in the Hipped Roof Component Schedule, and in Details 4 through 8 on Drawing S-501.
2. Apex cap plate and rafter seat angles at the apex.
3. Connection material, including custom-fit rafter seats, L4 x 3 x 3/8 seat angles at the rim beam and apex cap, anchor washer plates, bolts, and welds.
4. L2 x 2 x 1/4 steel angles bolted to the rim beam and to pressure-treated blocking at the eave.
5. Anchorage of the rim beam to the existing masonry wall.
6. Shop and field surface preparation and coating of structural steel.

B. Related Requirements:

1. Section 01 45 33 - Code-Required Special Inspections and Testing.
2. Section 02 41 19 - Selective Demolition.
3. Section 04 01 20.63 - Unit Masonry Repair, for repair of masonry to provide full support to the rim beam.
4. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.
5. Section 05 50 00 - Metal Fabrications.
6. Section 06 10 00 - Rough Carpentry, for blocking and sheathing.
7. Section 07 41 13.16 - Standing-Seam Metal Roof Panels.

1.2 REFERENCE STANDARDS

- A. AISC 360 - Specification for Structural Steel Buildings.
- B. AISC 303 - Code of Standard Practice for Steel Buildings and Bridges.
- C. AISC Manual of Steel Construction, Allowable Stress Design.
- D. RCSC - Specification for Structural Joints Using High-Strength Bolts.
- E. AWS D1.1/D1.1M - Structural Welding Code, Steel.
- F. ASTM A500, Grade B or C - Cold-Formed Welded and Seamless Carbon Steel Structural Tubing.
- G. ASTM A992 - Structural Steel Shapes.

- H. ASTM A36 - Carbon Structural Steel.
- I. ASTM A283 - Low and Intermediate Tensile Strength Carbon Steel Plates.
- J. ASTM F3125, Grade A325 (or F1852 for tension-control bolts) and Grade A490 (or F2280 for tension-control bolts).
- K. ASTM A563 - Carbon and Alloy Steel Nuts; ASTM F436 - Hardened Steel Washers.
- L. ASTM A123 / A153 / A780 - Zinc coatings and repair of zinc coatings.
- M. ASTM A385 - Providing High-Quality Zinc Coatings (Hot-Dip).
- N. ASTM F1554, Grade 36 - Anchor Bolts, Steel.
- O. SSPC-SP2 - Hand Tool Cleaning; SSPC-SP6 - Commercial Blast Cleaning; SSPC-Paint 15 Shop Primer.

1.3 SUBMITTALS

- A. Shop Drawing Submittal Schedule: Prior to submitting shop drawings, submit a shop drawing submittal schedule for the approval of the Structural Engineer and the Architect. The schedule shall include the dates when drawings are to be submitted and the number of drawings and type of details that will be submitted on each submission date.
- B. Shop Drawings: Structural steel shop drawings shall be prepared under the supervision of a Professional Engineer registered in the State of New Jersey who is experienced in the detailing of structural steel and has a thorough working knowledge of the requirements, suggestions, examples, and commentaries of the AISC Manual of Steel Construction, Allowable Stress Design; the Specification for Structural Joints Using ASTM F3125 Grade A325 (or F1852 for TC bolts) or A490 (or F2280 for TC bolts); and AWS D1.1.
- C. Erection Plans and Job Standards: Structural steel piece drawings shall not be submitted until erection plans and typical connection detail drawings, generally referred to as job standards, have been reviewed and approved by the Structural Engineer and the Architect.
- D. Welders' Certificates: Submit certification for welders employed on the Project, verifying AWS qualification within the previous 12 months.
- E. Mill Certificates: For each structural shape, HSS, and plate.
- F. Fastener Certification: Manufacturer's certification for bolts, nuts, and washers, including rotational capacity testing where required by RCSC.
- G. Coating System: Product data and application procedure for the shop primer and finish coat system, or galvanizing certification, in accordance with Article 2.4.
- H. Erection Procedure: Sequence of erection and temporary bracing, indicating how stability is maintained at each stage. Temporary shoring and bracing design is the responsibility of the Contractor.
- I. Field Measurement Report: Certified survey of the post-demolition masonry bearing elevations and plan dimensions, taken before fabrication.

1.4 QUALITY ASSURANCE

- A. Fabricator Qualifications: AISC Certified Fabricator, Building Structures, or a fabricator with not less than five (5) years of comparable experience acceptable to the Engineer.
- B. Erector Qualifications: Firm with not less than five (5) years of experience erecting structural steel on occupied or historically sensitive sites.
- C. Welder Qualifications: AWS-qualified within the previous 12 months for the positions and processes used.
- D. Special Inspection: Steel construction, including welding, details, and high-strength bolting, is subject to Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.2.

1.5 FIELD CONDITIONS

- A. Existing conditions and dimensions shown are approximate, based on measurements taken in the field. Field-verify all dimensions, elevations, and the plan configuration of the existing tower walls after demolition and before fabrication. Do not fabricate from Drawing dimensions alone.
- B. Coordinate with Section 02 41 19 so that the masonry is demolished to a level, sound bearing surface at 2'-0" above the existing roof level before survey.
- C. Provide the Building Monitoring Consultant not less than 48 hours' notice prior to erection activity, and log erection activity in accordance with Section 01 91 15.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. HSS Sections: Hip rafters HSS 8" x 4" x 1/4"; common and jack rafters HSS 4" x 2" x 3/16"; all ASTM A500 Grade B.
- B. Wide-Flange Shapes: Rim beam W8 x 31, ASTM A992.
- C. Apex Cap Plate: 1/2" x 12" x 12" plate, ASTM A36, with four (4) L4 x 3 x 3/8 seat angles shop welded at 90 degrees.
- D. Rafter Seat Angles and Rafter Seats: 1/2" x 3 x 3/8 angles, ASTM A36, at the rim beam and at the apex cap; custom-fit rafter seats at hip and jack rafter intersections, ASTM A36.
- E. Anchor Washer Plates: 4" x 4" x 3/8" plate, ASTM A36, galvanized, installed under the anchor nut at the W8 x 31 flange.
- F. Angles, Plates, and Miscellaneous Shapes: ASTM A36; plates ASTM A283 where specified in the general notes.
- G. High-Strength Bolts: ASTM F3125 Grade A325, or F1852 tension-control bolts, with ASTM A563 heavy hex nuts and ASTM F436 hardened washers. Provide plate washers where indicated.

- H. Masonry Anchors: 5/8 inch diameter threaded rod, ASTM F1554 Grade 36, hot-dip galvanized, minimum 3-1/2 inch embedment, at 4'-0" on center staggered each side of the rim beam; 32 anchors total. Install with the adhesive anchor system specified in Section 05 05 19.
- F. Welding Materials: AWS D1.1/D1.1M, of the type required for the materials being welded.
- G. Leveling Grout: High-strength, non-shrink, non-metallic grout complying with ASTM C1107.

2.2 FABRICATION

- A. Fabricate in accordance with AISC 303 and the approved shop drawings.
- B. Fit and shop assemble items in the largest practical sections for delivery to the site.
- C. Shop fabricate jack rafter beam seats for welding and through-bolting into the hip rafters as detailed. Shop weld L4 x 3 x 3/8 angles to the rim beam where shown; through-bolt to jack rafters in the field.
- D. Grind exposed joints flush and smooth with the adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to a small uniform radius.
- E. Fabrication Tolerances:
 - 1. Squareness: 1/8 inch maximum difference in diagonal measurements.
 - 2. Maximum offset between faces: 1/16 inch.
 - 3. Maximum misalignment of adjacent members: 1/16 inch.
 - 4. Maximum bow: 1/8 inch in 48 inches.

2.3 SHOP WELDING

- A. Weld in accordance with AWS D1.1, using E70XX electrodes. Fillet welds shall be 3/16 inch minimum, and of the size and type shown where the Details indicate a larger weld.
- B. Complete all welding before galvanizing. Field welding of galvanized members shall be limited to the connections indicated.
- C. Seal-weld or otherwise close all HSS ends and openings to prevent water entry and internal corrosion, except where vent and drain openings are required for galvanizing under Article 2.4.

2.4 SHOP FINISH

- A. Hot-Dip Galvanizing: All structural steel, rafter seats, seat angles, apex cap plate, and washer plates shall be hot-dip galvanized after fabrication and after all shop welding is complete.
- B. Coating Standard: Galvanize structural shapes, HSS, plates, and fabricated assemblies in accordance with ASTM A123. Galvanize threaded fasteners, anchor rods, nuts, and washers in accordance with ASTM A153, Class C as applicable to the item.
- C. Venting and Draining: Provide vent and drain holes in all HSS members and closed assemblies as required by the galvanizer for safe processing and complete coating of interior surfaces, in accordance with ASTM A385. Submit proposed hole locations and sizes on the shop drawings

for the Engineer's acceptance; do not locate holes in a manner that admits water into a member in the completed installation, and seal or otherwise close holes that would do so after galvanizing.

- D. Do not coat surfaces to be field welded, or faying surfaces of slip-critical connections where such connections are used, within 2 inches of the weld or faying area.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that the existing masonry wall has been demolished to the elevation shown, and that the bearing surface is level, sound, and free of loose material.
- B. Verify that masonry has been repaired as necessary to provide full support to the rim beam, in accordance with Section 04 01 20.63. Report unsound bearing conditions to the Engineer and await direction before proceeding.

3.2 PREPARATION

- A. Level the existing wall as necessary with high-strength non-shrink grout to provide uniform, full bearing for the rim beam. Do not shim with steel plate or wedges alone.
- B. Install anchors for the rim beam in accordance with Section 05 05 19. Allow the full published adhesive cure time before applying any load to the anchors.

3.3 ERECTION

- A. Erect in accordance with AISC 303 and the approved erection procedure.
- B. Install items plumb and level, accurately fitted, and free from distortion or defects.
- C. Provide for erection loads, and provide sufficient temporary shoring and bracing to maintain true alignment until the completion of erection and the installation of permanent attachments. Do not release temporary bracing until all permanent connections are complete.
- D. Set the rim beam on the prepared bearing, secure to the anchors, and verify level before setting hip and jack rafters.
- E. Set hip rafters, then jack rafters at 24 inches on center, maintaining the 3:12 slope shown on the new roof plan.
- F. Do not exceed the load capacity of the existing tower walls or the existing main roof with staged material or equipment. Submit staging loads with the erection procedure.

3.4 CONNECTIONS

- A. Install high-strength bolts in accordance with the RCSC Specification. Joints shall be snug-tight bearing connections unless otherwise indicated.
- B. Install plate washers with nuts at all locations indicated.
- C. Field weld in accordance with AWS D1.1 by AWS-qualified welders. Clean and prepare surfaces before welding; remove all coating from within 2 inches of the weld area.

- D. Through-bolt jack rafters to hip rafter beam seats and to rim beam angles as detailed, with (2) 1/2 inch diameter A325 bolts at each connection unless otherwise shown.

3.5 ERECTION TOLERANCES

- A. Erect within the tolerances of AISC 303, except as more stringently required to accommodate the roofing assembly. Verify that the completed framing provides a plane surface suitable to receive sheathing, membrane, and standing-seam panels without deviation exceeding 1/4 inch in 10 feet.

3.6 FIELD QUALITY CONTROL

- A. Welding, connection details, and high-strength bolting are subject to Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.2. Notify the Special Inspector, in a timely manner, when work is ready for inspection.
- B. All field welds are subject to visual inspection in accordance with AWS D1.1. Repair or replace rejected welds and re-inspect at no additional cost.

3.7 TOUCH-UP AND PROTECTION

- A. Repair damage to galvanized coatings in accordance with ASTM A780 immediately after erection, welding, or field cutting. Where a painted system is used, touch up with the shop primer and apply finish coats after erection.
- B. Protect adjacent historic masonry from weld spatter, grinding debris, and coating overspray.

END OF SECTION 05 12 00

SECTION 05 50 00
METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. New steel lintels, and replacement of existing lintels where directed.
2. Verification, and removal and replacement where necessary, of existing relieving angles.
3. Cleaning, priming, and painting of new lintels and of existing lintels and relieving angles scheduled to remain.
4. Miscellaneous steel angles, plates, and supports required to complete the Work and not specified in another Section.

B. Related Requirements:

1. Section 04 01 20.63 - Unit Masonry Repair, for masonry removal and rebuilding at lintels and relieving angles.
2. Section 04 01 20.91 - Unit Masonry Repointing.
3. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.
4. Section 05 12 00 - Structural Steel Framing, for the new tower roof framing.
5. Section 05 50 13 - Masonry Tie-Back Restraint System.
6. Section 05 50 16 - Debris Containment Netting System.
7. Section 07 92 00 - Joint Sealants, for expansion and soft joints.

1.2 REFERENCE STANDARDS

- A. ASTM A36/A36M - Standard Specification for Carbon Structural Steel; 2012.
- B. ASTM A283/A283M - Standard Specification for Low and Intermediate Tensile Strength Carbon Steel Plates; 2013.
- C. AWS D1.1/D1.1M - Structural Welding Code, Steel; American Welding Society; 2010 with Errata.
- D. SSPC-Paint 15 - Steel Joist Shop Primer; Society for Protective Coatings; 1999 (Ed. 2004).
- E. SSPC-SP2 - Hand Tool Cleaning; Society for Protective Coatings; 1982 (Ed. 2004).
- F. ASTM A123 / A153 / A780 - Zinc coatings and repair of zinc coatings.
- G. ASTM D6386 - Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product Surfaces for Painting.

1.3 SUBMITTALS

- A. Shop Drawings: Fabrication and installation drawings for each lintel and relieving angle, including dimensions, end bearing, anchorage, and coordination with masonry coursing and flashing.
- B. Welders' Certificates: Submit certification for welders employed on the Project, verifying AWS qualification within the previous 12 months.
- C. Product Data: Primer, finish paint, and any galvanizing repair materials.
- D. Samples: The General Contractor shall provide a sample color of the finish paint coat, matching the adjacent brick color, for the Engineer's approval prior to painting.
- E. Schedule of Existing Lintels and Relieving Angles: Following field verification, a schedule identifying each existing lintel and relieving angle by location, its condition, and the recommended disposition, for the Engineer's direction.

1.4 QUALITY ASSURANCE

- A. Welding: Perform in accordance with AWS D1.1 by AWS-qualified welders.
- B. Special Inspection: Welding, details, and high-strength bolting are subject to Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.2.

1.5 FIELD CONDITIONS

- A. The Contractor shall verify in the field the condition of all relieving angles, and shall remove existing and replace with new where necessary, as directed by the Engineer.
- B. Verify all dimensions in the field before fabrication.

PART 2 - PRODUCTS

2.1 STEEL

- A. Steel Sections: ASTM A36/A36M.
- B. Plates: ASTM A283.
- C. Welding Materials: AWS D1.1/D1.1M; type required for the materials being welded.
- D. Fasteners and Anchors: Hot-dip galvanized; post-installed anchors in accordance with Section 05 05 19.

2.2 FABRICATION

- A. Fit and shop assemble items in the largest practical sections for delivery to the site.
- B. Grind exposed joints flush and smooth with the adjacent finish surface. Make exposed joints butt tight, flush, and hairline. Ease exposed edges to a small uniform radius.

2.3 FABRICATION TOLERANCES

- A. Squareness: 1/8 inch maximum difference in diagonal measurements.
- B. Maximum offset between faces: 1/16 inch.

- C. Maximum misalignment of adjacent members: 1/16 inch.
- D. Maximum bow: 1/8 inch in 48 inches.

2.4 FINISHES

- A. New steel lintels shall be galvanized and painted with two (2) coats of rust-inhibitive primer paint.
- B. Existing lintels to remain: surfaces shall be cleaned of rust, scale, grease, and foreign matter prior to finishing, in accordance with SSPC-SP2.
- C. New and existing lintels are to be painted with two (2) coats of inhibitor and one (1) finish coat of paint, in the color accepted under Article 1.3.D.
- D. Surface preparation and coating application are specified in Section 09 91 13.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine all surfaces to receive the Work and notify the Engineer of unsatisfactory conditions that may affect the Work.
- B. Verify dimensions of in-place and subsequent construction.

3.2 INSTALLATION

- A. Install items plumb and level, accurately fitted, and free from distortion or defects.
- B. Provide for erection loads, and provide sufficient temporary shoring to maintain true alignment until the completion of erection and the installation of permanent attachments.
- C. Shoring at Lintels: The lintel must be shored until the masonry has attained sufficient strength to carry its own weight. This shoring period shall not be less than 24 hours. In cold weather construction conditions, the length of the cure shall be increased.
- D. Provide full and uniform end bearing at all lintels and relieving angles. Level bearing surfaces with high-strength non-shrink grout where required.
- E. Coordinate installation with flashing, weeps, and membrane specified in Section 04 01 20.63, so that flashing is continuous over lintels and terminates with end dams.

3.3 EXPANSION JOINTS

- A. Vertical: Where vertical expansion joints are interrupted by lintels, the expansion joint shall go around the end of the lintel and then continue down the wall.
- B. Horizontal: Provide a soft joint below the shelf angle where a horizontal expansion joint

occurs. **3.4 FINISHING**

- A. Clean existing lintels and relieving angles scheduled to remain of rust, scale, grease, and foreign matter prior to finishing.

- B. Apply primer and finish coats in accordance with Article 2.4 and the paint manufacturer's published instructions, observing temperature, humidity, and recoat window limitations.
- C. Do not apply coatings in damp or freezing conditions, or when precipitation is forecast within the drying period.
- D. Protect adjacent masonry from overspray, drips, and runs. Remove coating from masonry immediately; do not allow staining of historic material.

3.5 TOUCH-UP

- A. Repair damage to galvanized coatings in accordance with ASTM A780 following field cutting, drilling, or welding.

END OF SECTION 05 50 00

SECTION 05 50 13
TIE BACK RESTRAINT SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. A through-wall threaded rod tie-back restraint system at the tower, installed at 4'-0" on center, consisting of galvanized threaded rods, base plates, standoff plates, coupler nuts, plate washers, nuts, bearing pads, and post-installed adhesive anchors, as shown on Drawings S-202, S-203, and Details 1 through 4 on Drawing S-501 and Detail 11 on Drawing S-500.
2. Localized removal and reinstatement of masonry as required for flush installation of standoff bracket plates.
3. Helical tie installation around anchor plates, as detailed.

B. Related Requirements:

1. Section 02 41 19 - Selective Demolition.
2. Section 04 01 20.63 - Unit Masonry Repair.
3. Section 04 05 19.16 - Masonry Helical Anchorage.
4. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.
5. Section 01 45 33 - Code-Required Special Inspections and Testing.
6. Section 01 91 15 - Building Monitoring.

1.2 REFERENCE STANDARDS

- A. ASTM A36 - Carbon Structural Steel.
- B. ASTM F1554, Grade 36 - Anchor Bolts, Steel, 36, 55, and 105 ksi Yield Strength.
- C. ASTM A563 - Carbon and Alloy Steel Nuts; ASTM F436 - Hardened Steel Washers.
- D. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- E. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- F. ASTM A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.
- G. AWS D1.1 - Structural Welding Code, Steel.
- H. TMS 402/602 - Building Code Requirements and Specification for Masonry Structures.

1.3 SUBMITTALS

- A. Shop Drawings: Elevation layout of all tie-back locations for each face, dimensioned to masonry coursing, showing rod lengths, plate orientation, coupler locations, and the location of the uppermost tie-back relative to the post-demolition roof level. Indicate all interferences with

existing exterior straps to remain, monitoring instruments, window openings, and areas of masonry repair.

- B. Product Data: Threaded rod, plates, coupler nuts, nuts and washers, neoprene bearing pads, adhesive anchor system with current evaluation report for masonry base materials, and helical ties.
- C. Certificates: Mill certificates for rod and plate material; certification of hot-dip galvanizing in accordance with ASTM A123 and A153.
- D. Installation Procedure: Written sequence describing hole drilling and cleaning, adhesive installation, plate seating, rod installation, and the specified degree of tightening, including the means by which over-tensioning will be prevented.
- E. Field Reports: Anchor installation records and proof-test results; record of each tie-back installed by location and date.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Finn experienced in structural anchorage into historic masonry, with personnel trained in the adhesive anchor manufacturer's published installation instructions. Adhesive anchor installers shall be certified where required by Section 01 45 33.
- B. Mock-Up: Install the first tie-back assembly, complete, at a location selected by the Engineer and obtain the Engineer's acceptance of masonry preparation, plate bearing, flushness, appearance, and reinstatement of removed masonry before installing additional assemblies.

1.5 FIELD CONDITIONS

- A. The condition of existing masonry varies. Verify soundness of masonry at each proposed anchor location prior to drilling. Where masonry is cracked, delaminated, or unsound, notify the Engineer and await direction; do not relocate anchors without the Engineer's written acceptance.
- B. Provide the Building Monitoring Consultant not less than 48 hours' notice prior to work at any elevation carrying monitoring instrumentation.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Threaded Rod, Tie-Backs: 3/4" diameter threaded rod, ASTM F1554 Grade 36 or ASTM A36, hot-dip galvanized in accordance with ASTM A153.
- B. Threaded Rod, Anchors: 3/8" diameter threaded rod, hot-dip galvanized, installed with adhesive anchors as specified below.
- C. Base Plates: 1" x 8" x 12" plate, ASTM A36, hot-dip galvanized in accordance with ASTM A123.
- D. Standoff Plates: 3/4" x 4" x 4" plate, ASTM A36, hot-dip galvanized, welded to base plates in accordance with AWS D1.1.

- E. Bearing Plates at Wall Brackets: 8" x 8" x 1/2" plate, ASTM A36, hot-dip galvanized, with 1/2" neoprene bearing pad behind.
- F. Nuts, Coupler Nuts, and Washers: ASTM A563 heavy hex nuts and coupler nuts; ASTM F436 plate washers; all hot-dip galvanized in accordance with ASTM A153. Provide plate washers at all rod terminations, with a maximum hole diameter of 13/16".
- G. Adhesive Anchor System: Hilti HIT-HY 270 or approved equal, with a current evaluation report for the masonry base materials encountered, including hollow and multi-wythe brick conditions; provide manufacturer's screen tubes where required by the evaluation report.
- H. Helical Ties: As specified in Section 04 05 19.16, installed around anchor plates as detailed, countersunk 3/4" minimum below the masonry face.
- I. Neoprene Pads: 1/2" thick, 60 to 70 Durometer, non-staining.

2.2 FABRICATION

- A. Shop fabricate and shop weld plate assemblies in the largest practical sections. Grind exposed welds smooth.
- B. Galvanize after fabrication. Repair coating damage from field cutting, drilling, or welding in accordance with ASTM A780.

PART 3 - EXECUTION

3.1 LAYOUT

- A. Install tie-back assemblies at 4'-0" on center vertically and horizontally as shown, unless otherwise directed by the Engineer to avoid unsound masonry, existing straps to remain, or monitoring instrumentation.
- B. Install the uppermost tie-back a minimum of 2'-0" below the post-demolition roof level, as shown on Drawings S-202 and S-203.
- C. Submit all proposed field adjustments to the layout to the Engineer for written acceptance before drilling.

3.2 MASONRY PREPARATION

- A. Where required for flush installation of standoff bracket plates, remove masonry by hand, using non-powered tools, to the minimum extent necessary. Cut units from joint to joint; do not cut units in half.
- B. Reinstall removed masonry in accordance with Section 04 01 20.63 after plate installation, matching color, texture, coursing, and tooling of adjacent work.

3.3 ANCHOR INSTALLATION

- A. Locate embedded steel, existing anchors, and other embedded items prior to drilling. Exercise care to avoid damaging embedded items; notify the Engineer if embedded items are encountered.

- B. Drill holes perpendicular to the base material, accurately and squarely, without excessive bit wobble, to the diameter and embedment specified.
- C. Clean holes in strict accordance with the adhesive manufacturer's published installation instructions. Observe base-material and ambient temperature limits, gel times, and full cure times before applying any load to the anchor.
- D. Embedment: Install anchors to the embedment shown on the Drawings for the specific detail being constructed.

3.4 ASSEMBLY INSTALLATION

- A. Seat base plates fully and uniformly on the prepared masonry surface. Where the surface is irregular, level with high-strength non-shrink grout; do not shim with steel plate or wedges alone.
- B. Install neoprene pads behind bearing plates as detailed.
- C. Install tie-back rods with nuts and plate washers at each end. Where couplers are used, engage each rod fully into the coupler nut; verify engagement through the coupler inspection port or by marking rods prior to assembly.
- D. Tightening: Tighten nuts to a snug-tight condition only, defined as the tightness attained by the full effort of a worker using an ordinary spud wrench, sufficient to bring all plies of the assembly into firm contact. Do not post-tension. Do not use the tie-back system to close cracks, draw masonry into alignment, or apply corrective force to the wall.
- E. Peen threads or install jam nuts at exposed terminations to prevent back-off.
- F. Install helical ties around anchor plates as detailed and in accordance with Section 04 05 19.16, countersunk and patched to match the adjacent finish surface.

3.5 FIELD QUALITY CONTROL

- A. Post-installed anchor installation is subject to Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.3.
- B. Proof-Testing: Tension test not less than 5 percent of installed adhesive anchors, and not fewer than two (2) anchors per elevation, at a proof load and by a method acceptable to the Engineer. Where any anchor fails, test additional anchors as directed and replace all failed anchors at no additional cost.
- C. Monitoring Correlation: Log the location and date of each tie-back assembly installed in the monitoring platform's construction-activity log in accordance with Section 01 91 15. Upon any Action- or Emergency-level threshold exceedance, cease work in the affected area and notify the Owner, Engineer, and Building Monitoring Consultant.

3.6 PROTECTION AND CLEANING

- A. Protect adjacent masonry from drilling slurry, adhesive, and metallic residue. Clean all surfaces promptly; do not allow staining of historic masonry.

B. Touch up all coating damage in accordance with ASTM A780 before demobilizing from each elevation.

END OF SECTION 05 50 13

SECTION 05 50 16
DEBRIS CONTAINMENT NETTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. A permanently anchored, long-duration debris containment netting system at the north, south, east, and west parapets, consisting of welded wire mesh netting, galvanized steel cable, turnbuckles, cable clamps, eye bolts, continuous galvanized angle, post-installed anchors, and corner protection, as shown on Drawings S-100, S-201 through S-204, and Details 9 and 10 on Drawing S-501.
2. Preparation of masonry surfaces to receive netting anchorage, including removal of unsound coping and masonry units in advance of installation.
3. Periodic inspection, re-tensioning, and maintenance of the installed system for the duration of the Contract.

B. Design Intent: The netting system is intended to remain in service for an extended and presently undetermined period, potentially several years, pending long-term rehabilitation of the structure. Materials, coatings, anchorage, and hardware are specified for durable exterior exposure and periodic re-tensioning, not for temporary construction protection. Products intended or marketed for temporary use are not acceptable.

C. Related Requirements:

1. Section 01 35 91 - Historic Treatment Procedures.
2. Section 01 45 33 - Code-Required Special Inspections and Testing.
3. Section 01 91 15 - Building Monitoring.
4. Section 02 41 19 - Selective Demolition.
5. Section 04 01 45 - Architectural Terra Cotta Restoration.
6. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.

1.2 REFERENCE STANDARDS

- A. ASTM A123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- B. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- C. ASTM A641 - Zinc-Coated (Galvanized) Carbon Steel Wire.
- D. ASTM A1023 - Stranded Carbon Steel Wire Ropes for General Purposes.
- E. ASTM A603 - Zinc-Coated Steel Structural Wire Rope.
- F. ASTM A36 - Carbon Structural Steel.
- G. ASTM F1145 - Turnbuckles, Swivels, Eye Bolts, and Eye Nuts.

- H. ASTM A276 / A320 - Stainless Steel Bars and Shapes; Alloy Steel Bolting for Low-Temperature Service.
- I. ASCE/SEI 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
- J. AWS D1.1 - Structural Welding Code, Steel.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's literature for mesh, cable, turnbuckles, cable clamps, thimbles, eye bolts, corner guards, and adhesive anchor system, including coating designation and coating weight for each component.
- B. Shop Drawings: Layout of netting panels for each elevation showing cable runs, splice locations, turnbuckle locations, anchor spacing, angle segment lengths, panel laps, corner treatment, terminations at building corners and setbacks, and clearances to monitoring instruments and their sightlines. Indicate every anchor location relative to masonry coursing and to terra cotta units.
- C. Certificates: Mill certificates or manufacturer's certification of coating compliance for mesh, cable, and hardware; adhesive anchor current evaluation report (ICC-ES or equivalent) for masonry base material.
- D. Installer Qualifications: In accordance with Article 1.5.
- E. Maintenance Data: Written inspection and re-tensioning procedure, recommended inspection interval, and replacement part list, for inclusion in the Owner's closeout documents.
- F. Field Reports: Anchor installation and proof-test records; cable tension records; inspection reports required under Article 3.6.

1.4 COORDINATION

- A. Coordinate netting layout with the remote building monitoring system shown on Drawing BM-200. Netting, cable, and hardware shall not obstruct optical monitoring device fields of view or sightlines, and shall not be mounted to, or bear on, any monitoring instrument or its mounting.
- B. Coordinate netting installation with terra cotta coping inspection and removal under Section 02 41 19. Do not install netting over coping units that have not been inspected and, where required, removed or repaired.
- C. Coordinate anchor locations with the tie-back restraint system and with masonry repair areas so that anchors are not installed into unsound masonry or into units scheduled for replacement.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Firm with not less than three (3) years of experience installing cable-supported facade protection or debris containment systems on masonry buildings, including not less than two (2) projects on historic structures. Installation personnel shall be trained in

the adhesive anchor manufacturer's installation procedures; adhesive anchor installers shall be certified where required by Section 01 45 33.

- B. Mock-Up: Prior to general installation, install a mock-up of not less than one (1) full panel bay, approximately 20 feet in length, including one corner condition and one turnbuckle assembly, at a location selected by the Engineer. Obtain the Engineer's and Owner's acceptance of anchorage, tension, appearance, and clearance to the facade before proceeding. Accepted mock-up may remain as part of the Work.

1.6 WARRANTY

- A. Provide the manufacturer's standard materials warranty and the Installer's written warranty against defective materials and workmanship, including loss of tension, coating failure, corrosion staining of adjacent masonry, and anchor loosening, for a period of five (5) years from Substantial Completion.

PART 2 - PRODUCTS

2.1 NETTING

- A. Welded Wire Mesh: 2" x 2" mesh, 16 gauge steel wire, welded fabric, hot-dip galvanized after weaving in accordance with ASTM A123, Class 3 minimum zinc coating. Mesh galvanized before weaving, electro-galvanized mesh, and vinyl-coated mesh are not acceptable.
- B. Furnish mesh in the longest practical panel lengths to minimize

splices. **2.2 CABLE AND HARDWARE**

- A. Cable: 1/4" diameter galvanized steel wire rope, 7 x 19 construction, in accordance with ASTM A1023; minimum nominal breaking strength 7,000 pounds. Zinc coating in accordance with ASTM A641 Class 3 or ASTM A603.
- B. Turnbuckles: Galvanized drop-forged eye-to-eye turnbuckles in accordance with ASTM F1145, with a minimum take-up of 6 inches and a working load limit not less than 1/5 of the cable breaking strength. Provide jam nuts or lock wire at all turnbuckles.
- C. Cable Clamps: Galvanized drop-forged wire rope clips, sized for 1/4" cable; provide not fewer than three (3) clips at each termination, spaced per manufacturer's requirements, with thimbles at all eyes.
- D. Eye Bolts: Galvanized forged eye bolts in accordance with ASTM F1145, spaced at 4'-0" on center as shown.
- E. Continuous Angle: L2" x 2" x 1/4" steel angle, ASTM A36, hot-dip galvanized in accordance with ASTM A123 after fabrication, including all field-drilled holes touched up in accordance with ASTM A780.
- F. Anchors: 1/2" diameter threaded rod, hot-dip galvanized, installed with Hilti HIT-HY 270 adhesive anchor system or approved equal, minimum 3-1/2" embedment into masonry, at 4'-0" on center. Adhesive shall have a current evaluation report for the masonry base materials encountered.

- G. Corner Guards: Molded rubber or EPDM corner guards at all cable bends over masonry coping and terra cotta, sized to distribute cable load and to prevent point contact with historic units.
- H. Fasteners and Miscellaneous Hardware: Hot-dip galvanized in accordance with ASTM A153, except provide Type 316 stainless steel hardware where in direct contact with terra cotta units or where indicated.

2.3 FABRICATION AND FINISH

- A. Weld in accordance with AWS D1.1. Grind welds smooth and touch up all welds, cuts, and field-drilled holes with a zinc-rich repair coating in accordance with ASTM A780.
- B. Do not combine dissimilar metals in direct contact without an isolating gasket, washer, or coating.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that masonry to receive anchorage is sound. Do not install anchors into cracked, spalled, delaminated, or deteriorated masonry, into terra cotta coping units, or into mortar joints scheduled for repointing until repairs are complete and cured.
- B. Verify that all broken, cracked, or spalled terra cotta parapet coping stones have been inspected and removed in accordance with Drawing Note 1 and Section 02 41 19 prior to netting installation.

3.2 PREPARATION

- A. Set out anchor locations to avoid terra cotta units, existing embedded steel, and existing exterior straps to remain. Locate embedded items prior to drilling.
- B. Drill holes perpendicular to the base material, without excessive bit wobble; clean holes in strict accordance with the adhesive manufacturer's published installation instructions. Observe the manufacturer's base-material and ambient temperature limits and cure times.

3.3 INSTALLATION

- A. Install the system as shown on Details 9 and 10 on Drawing S-501, and in accordance with the accepted Shop Drawings.
- B. Install continuous L2 x 2 x 1/4 galvanized angle anchored at 4'-0" on center with 1/2" diameter threaded rod and adhesive anchors, minimum 3-1/2" embedment. Lap and splice angle segments as detailed; do not cantilever angle beyond the last anchor by more than 12 inches.
- C. Install eye bolts at 4'-0" on center, with eye-to-eye turnbuckles and cable clamps as detailed. Orient turnbuckles for access from the roof or from suspended access equipment for future adjustment.
- D. Provide a minimum outer drop of 6'-0" from the top of the parapet wall to the bottom anchors, as detailed.

- E. Attach mesh to cable continuously with galvanized hog rings or tie wire at not more than 12 inches on center. Lap adjacent mesh panels not less than 6 inches and tie at not more than 6 inches on center along the lap.
- F. Install rubber corner guards at all locations where cable bears on coping, corners, or terra cotta.
- G. Tension cables uniformly by turnbuckle so that the netting is taut and free of slack, sag, or flutter, without inducing lateral load on parapet masonry. Do not use tension to close gaps caused by improper layout.
- H. Maintain clearance between netting and the facade as detailed. Do not allow mesh, cable, or hardware to bear against, chafe, or abrade terra cotta ornament, existing straps to remain, or window units.
- I. Terminate netting at building corners and setbacks so that no unprotected gap remains in the containment envelope.

3.4 REPAIR OF COATINGS

- A. Immediately after installation, touch up all cut ends, field welds, drilled holes, and coating damage with a zinc-rich repair coating in accordance with ASTM A780. Remove all zinc or metallic residue from masonry surfaces before it can cause staining.

3.5 FIELD QUALITY CONTROL

- A. Adhesive anchor installation is subject to Special Inspection in accordance with Section 01 45 33 and IBC Table 1705.3.
- B. Proof-Testing: Tension test not less than 5 percent of installed anchors, and not fewer than two (2) anchors per elevation, at a proof load and by a method acceptable to the Engineer. Where any anchor fails, test additional anchors as directed and replace all failed anchors.
- C. Cable Tension: Record the installed tension or turnbuckle take-up at each cable run and submit with the field reports.

3.6 MAINTENANCE DURING THE CONTRACT PERIOD

- A. Inspect the entire installed system not less than quarterly, and additionally within 48 hours following any wind event with recorded gusts exceeding 50 miles per hour, any seismic event flagged by the monitoring system, and any demolition activity in the adjacent area.
- B. At each inspection, verify cable tension, turnbuckle engagement and locking, mesh attachment and laps, coating condition, corner guard position, and anchor tightness. Re-tension, re-tie, and repair as required. Submit a written inspection report to the Owner and Engineer within five (5) days of each inspection.
- C. Repair or replace damaged mesh, cable, or hardware within 48 hours of

identification. 3.7 CLOSEOUT

- A. Furnish the Owner with as-built shop drawings, the maintenance and re-tensioning procedure, anchor and tension records, all inspection reports, and a list of replacement components with

sources, to allow the Owner to continue the inspection regimen described in Article 3.6 beyond the Contract period.

END OF SECTION 05 50 16

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof sheathing at the new tower roof: 1/2 inch APA Rated Sheathing, Exposure 1, Span Rating 24/0.
2. Pressure-treated blocking at the eave, fastened to the L2 x 2 x 1/4 steel angle at the rim beam.
3. Fasteners, blocking, and incidental carpentry required to complete the roof Work.

B. Work Not Included: New window opening closures are not part of this Contract. Window enclosure work at this building was performed under the 2009 stabilization contract. Protect the existing closures in place in accordance with Article 3.3.

C. Related Requirements:

1. Section 05 05 19 - Post-Installed Anchors in Concrete and Masonry.
2. Section 05 12 00 - Structural Steel Framing.
3. Section 07 41 13.16 - Standing-Seam Metal Roof Panels, for underlayment and panels over the sheathing.
4. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.2 REFERENCE STANDARDS

- A. DOC PS 1 - Structural Plywood.
- B. PS 1-19 / PS 2 - Performance Standard for Wood-Based Structural-Use Panels.
- C. APA - Engineered Wood Construction Guide.
- D. AWPA U1 - Use Category System: User Specification for Treated Wood.
- E. ASTM A153 - Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- F. AWC NDS - National Design Specification for Wood Construction.

1.3 SUBMITTALS

- A. Product Data: Sheathing, pressure-treated lumber including preservative type and retention, fasteners, and paint.
- B. Treatment Certification: Certification of preservative treatment for each item, indicating the use category, preservative, and retention.

- C. Condition Report: Following inspection of the existing window closures under Article 3.3, a report identifying any closure found damaged, loose, or open to weather, keyed to the elevations, for the Engineer's direction.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials dry and store off the ground, under cover, with air circulation. Do not deliver sheathing to the roof until it can be covered by underlayment in the same work period.
- B. Protect treated lumber from prolonged wetting and from direct contact with adjacent historic masonry during storage.

PART 2 - PRODUCTS

2.1 SHEATHING

- A. Roof Sheathing: 1/2 inch APA Rated Sheathing, Exposure 1, Span Rating 24/0, complying with PS 1-19.

2.2 LUMBER

- A. Pressure-Treated Lumber: Nominal 2x4, 4x4, and 4x6 members as detailed, pressure-preservative treated in accordance with AWPA U1 for the applicable use category for exterior above-ground use. Preservative shall be free of chromated arsenicals.
- B. Where treated members are cut or drilled in the field, apply an end-cut preservative accepted for the treatment used.

2.3 FASTENERS AND HARDWARE

- A. Fasteners in contact with pressure-treated lumber shall be hot-dip galvanized in accordance with ASTM A153, or Type 304 or 316 stainless steel. Electroplated fasteners are not acceptable.
- B. Sheathing Fasteners: Self-drilling, corrosion-resistant screws suitable for fastening plywood to steel framing, of a length providing not less than three exposed threads beyond the steel, at the spacing indicated on the Details.
- C. Nails: Hot-dip galvanized, of the size and type required for the connection.
- D. Materials for Incidental Repair of Existing Closures: Where the Engineer directs repair of an existing closure under Article 3.3, match the existing materials, fasteners, and finish. Paint to match the existing closures; do not introduce a new color.

PART 3 - EXECUTION

3.1 ROOF SHEATHING

- A. Install sheathing perpendicular to the rafters, with panel ends over supports and end joints staggered.
- B. Provide a 1/8 inch gap at all panel edges and ends.

- C. Fasten to steel rafters with self-drilling screws at the spacing shown on the Details. Set screw heads flush; do not overdrive and break the panel face.
- D. Install sheathing only over completed and accepted framing. Do not install over frost, ice, or standing water.
- E. Cover installed sheathing with self-adhering underlayment under Section 07 41 13.16 in the same work period. Do not leave sheathing exposed to precipitation.

3.2 EAVE BLOCKING

- A. Install pressure-treated 2x blocking at the eave, secured to the 2 x 2 x 1/4 steel angle bolted to the rim beam with 3/8 inch diameter bolts, countersunk flush with the blocking, as detailed.
- B. Align blocking to provide a true, continuous line for the fascia extension, cleat, and eave flashing.

3.3 EXISTING WINDOW CLOSURES

- A. Existing window opening closures installed under the 2009 stabilization contract shall remain. Do not remove, alter, or fasten through them except as directed by the Engineer.
- B. Inspect all existing closures within the area of the Work at the start of the Contract, and report any closure found damaged, loose, or open to weather. Do not repair without the Engineer's direction.
- C. Protect existing closures from damage by demolition, masonry, anchorage, and roofing operations. Repair damage caused by the Work at no additional cost, matching existing materials and finish.
- D. Existing window frames scheduled to remain shall be protected and shall not be removed or altered.

3.4 PROTECTION

- A. Protect adjacent historic masonry from staining by treated lumber, from fastener corrosion runoff, and from paint overspray.

END OF SECTION 06 10 00

SECTION 07 41 13.16
STANDING SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. 26 gauge standing-seam metal roof panels with concealed clips at the new tower hip roof, as shown on Drawing S-101, in the Hipped Roof Component Schedule, and in Details 4 through 8 on Drawing S-501.
2. 40-mil self-adhering underlayment membrane, full coverage.
3. Concealed clips, closures, sealants, and panel fasteners.
4. Ridge, hip, and cave flashings integral to the roof panel system.

B. Related Requirements:

1. Section 05 12 00 - Structural Steel Framing.
2. Section 06 10 00 - Rough Carpentry, for sheathing.
3. Section 07 62 00 - Sheet Metal Flashing and Trim, for counterflashing, cleats, fascia extensions, and terminations at the masonry wall.
4. Section 07 92 00 - Joint Sealants.

1.2 REFERENCE STANDARDS

- A. ASTM A792 - Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- B. ASTM D1970 - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- C. ASTM E1592 - Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference.
- D. ASTM E1680 / E1 646 - Rate of Air Leakage and Water Penetration of Metal Roof Panel Systems.
- E. UL 580 - Tests for Uplift Resistance of Roof Assemblies; UL 790 - Standard Test Methods for Fire Tests of Roof Coverings.
- F. SMACNA - Architectural Sheet Metal Manual.
- G. ASCE/SEI 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures.

1.3 PERFORMANCE REQUIREMENTS

- A. Wind Uplift: The panel system, including clips, fasteners, and attachment to the sheathing and framing, shall resist the components and cladding wind uplift pressures determined in

accordance with ASCE/SEI 7 for the Project location, exposure, and roof height, including increased pressures at hips, ridges, corners, and eaves.

B. Thermal Movement: The system shall accommodate thermal movement of panels without buckling, failure of joint seals, fastener fatigue, or other detrimental effects. Provide floating clips permitting panel movement.

C. Water Penetration: No water penetration when tested in accordance with ASTM E1646, and no uncontrolled water penetration in the installed assembly.

1.4 SUBMITTALS

A. Product Data: Panels, clips, fasteners, closures, sealants, and underlayment.

B. Shop Drawings: Panel layout for each roof plane, showing panel widths and lengths, seam locations, clip spacing, hip and ridge conditions, eave and rake terminations, penetrations, flashing interfaces, and the sequence of installation on the hip configuration.

C. Samples: 12 inch long panel sample in the proposed profile and finish; clip, closure, and fastener samples.

D. Test Reports: ASTM E1592 uplift test data, or a tested uplift classification, for the specified panel, clip, spacing, and substrate combination; ASTM E1646 and E1680 test data.

E. Manufacturer's Installation Instructions.

F. Warranty: Sample of the manufacturer's finish warranty and the Installer's weathertightness warranty.

G. Installer Qualifications and Manufacturer Approval: In accordance with

Article 1.5. 1.5 QUALITY ASSURANCE

A. Installer Qualifications: Firm approved or certified by the panel manufacturer for the specified system, with not less than five (5) years of experience installing standing-seam roofing, including hip roofs of comparable slope and complexity.

B. Preinstallation Conference: Convene at the site before installation, with the Engineer, roofing installer, sheet metal installer, steel erector, and carpentry installer in attendance. Review substrate tolerances, underlayment sequencing, hip panel layout, flashing interfaces, and the protection of historic masonry.

C. Mock-Up: Where directed by the Engineer, install a mock-up of one full panel run including the eave termination and one hip condition, for acceptance before general installation.

1.6 FIELD CONDITIONS

A. Install underlayment and panels only on dry, clean substrates and when weather permits work to proceed to a weathertight condition.

B. Observe the underlayment manufacturer's minimum application

temperature. **1.7 WARRANTY**

- A. Manufacturer's Finish Warranty: Standard warranty against chalking, fading, cracking, peeling, and film failure for a period of not less than 20 years.
- B. Installer's Weathertightness Warranty: Written warranty against leaks in the installed system for a period of not less than two (2) years from Substantial Completion.

PART 2 - PRODUCTS

2.1 ROOF PANELS

- A. Panels: 26 gauge standing-seam metal roof panels, ASTM A792 Galvalume AZ50, factory Galvalume finish.
- B. Panel Width: 12 to 18 inches.
- C. Attachment: Concealed clip system. Exposed fasteners are not permitted in the field of the roof.
- D. Color: Submit color samples for review and approval by the Owner and the Engineer prior to ordering panels. Where a coated finish is approved in lieu of the factory Galvalume finish, provide a factory-applied fluoropolymer coating in the approved color.
- E. Historic Approval: Panel color may require approval by the reviewing preservation authorities identified in Section 01 35 91 Article 1.2.B before construction. Do not order panels until the Engineer has confirmed in writing that all required approvals of the color have been obtained.
- F. Include the review and approval period, and any resulting fabrication lead time for a coated finish, in the construction schedule. No extension of time will be granted for failure to submit the color sufficiently in advance of ordering.

2.2 UNDERLAYMENT

- A. 40-mil self-adhering membrane complying with ASTM D1970, full coverage over the entire roof area, with a surface suitable for the temperatures and foot traffic associated with metal panel installation.

2.3 ACCESSORIES

- A. Clips: Manufacturer's standard concealed clips, of the type and spacing required to meet the uplift requirements of Article 1.3.A, of stainless steel or coated steel compatible with the panel.
- B. Fasteners: Corrosion-resistant, self-drilling fasteners of the type and length recommended by the panel manufacturer for the sheathing and steel framing substrate. Fasteners shall be compatible with Galvalume; do not use fasteners that will cause galvanic corrosion of the panel.
- C. Closures, Ridge and Hip Flashings, Eave Flashings: Factory-formed, 26 gauge, matching the roofing panel specification and finish. Eave flashing shall be a 4 inch formed drip edge with a hemmed edge, continuous at eaves.
- D. Sealants: As recommended by the panel manufacturer and compatible with Galvalume; see also Section 07 92 00.

- E. Separation: Provide a slip sheet or coating to isolate Galvalume from incompatible materials, including copper, lead, uncoated steel, treated lumber, and mortar or concrete runoff.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that the sheathing is complete, dry, securely fastened, and within the plane tolerance specified in Section 05 12 00, and that the 1/8 inch panel gaps are present and free of obstruction.
- B. Verify that all fastener heads are set flush and that no projections will telegraph through the panels.
- C. Verify that eave blocking, angles, and rim beam are complete and correctly

aligned. 3.2 UNDERLAYMENT INSTALLATION

- A. Install self-adhering underlayment in full coverage over the entire sheathed area, working from the eave upward, lapping in shingle fashion in accordance with the manufacturer's instructions, with side and end laps not less than those published.
- B. Roll the membrane to achieve full adhesion. Seal all laps, penetrations, and terminations.
- C. Extend the underlayment over the eave and hip conditions as detailed. Do not leave underlayment permanently exposed beyond the manufacturer's published exposure limit.

3.3 PANEL INSTALLATION

- A. Install panels in accordance with the approved shop drawings and the manufacturer's instructions, beginning at the location established on the shop drawings for the hip configuration so that panel modules resolve symmetrically at the ridge and hips.
- B. Set panels true to line, with seams straight and plumb to the slope. Engage seams fully and seam mechanically where required by the manufacturer.
- C. Install concealed clips at the spacing required by the uplift requirements of Article 1.3.A, and not exceeding the manufacturer's maximum spacing. Allow clips to float where required for thermal movement.
- D. Cut panels with tools that will not damage the coating. Field cutting with abrasive saws that produce hot swarf is prohibited on the roof surface; remove all metal filings from panels at the end of each work period to prevent rust staining.
- E. Install closures at eaves, hips, and ridge to prevent water and wind-driven rain entry.
- F. Install factory-formed ridge and hip flashings at the apex and at all four hip lines, and continuous 4 inch formed drip edge with hemmed edge at eaves.
- G. Coordinate terminations at the existing masonry wall with the counterflashing, cleats, and fascia extension specified in Section 07 62 00.

3.4 FIELD QUALITY CONTROL

- A. The Engineer may require water testing of representative eave, hip, and ridge conditions before completion. Correct all leaks and retest at no additional cost.

3i CLEANING AND PROTECTION

- A. Protect installed panels from traffic, dropped tools, and mortar or masonry debris. Do not stage material on completed panels.
- B. Remove all metal filings, fasteners, and debris from the roof daily. Clean panel surfaces of adhesives, sealant residue, and construction soiling.
- C. Protect adjacent historic masonry from panel cutting debris and

runoff. **END OF SECTION 07 41 13.16**

SECTION 07 62 00
SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Counterflashing and counterflashing cleats at the existing masonry wall.
2. Fascia extensions and fascia cleats at the eave.
3. Formed sheet metal trim, closures, and terminations not furnished as part of the roof panel system.
4. Reglets, sealant joints, and terminations into historic masonry.

B. Related Requirements:

1. Section 04 01 20.91 - Unit Masonry Repointing, for reglet cutting and repointing of joints receiving flashing.
2. Section 05 12 00 - Structural Steel Framing.
3. Section 06 10 00 - Rough Carpentry, for blocking supporting fascia and cleats.
4. Section 07 41 13.16 - Standing-Seam Metal Roof Panels, for ridge, hip, and eave flashings furnished with the panel system.
5. Section 07 92 00 - Joint Sealants.

1.2 REFERENCE STANDARDS

- A. SMACNA - Architectural Sheet Metal Manual.
- B. ASTM A792 - Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- C. ASTM A653 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- D. NRCA Roofing Manual.
- E. NPS Preservation Brief 4 - Roofing for Historic Buildings.

1.3 SUBMITTALS

- A. Product Data: Sheet metal, cleats, fasteners, sealants, and reglet systems.
- B. Shop Drawings: Fabrication and installation drawings for each flashing condition, at not less than 3 inches equal to 1 foot, showing profiles, gauges, cleat spacing, seam and lap types, expansion joint locations and spacing, and the method of termination into the existing masonry at every condition.
- C. Samples: 8 inch long samples of each formed profile and finish.
- D. Installer Qualifications: Firm with not less than five (5) years of architectural sheet metal experience, including work on historic masonry buildings.

1.4 COORDINATION

- A. Coordinate with Section 07 41 13.16 so that counterflashing laps over panel-system flashings in the correct sequence, and with Section 06 10 00 so that blocking is in place and true before fascia and cleats are set.
- B. Coordinate all attachment into historic masonry with the Engineer. Attachment locations shall favor mortar joints over masonry units.

PART 2 - PRODUCTS

2.1 SHEET METAL

- A. Sheet Metal: 26 gauge, ASTM A792 Galvalume AZ50, matching the roof panel material and finish.
- B. Do not combine dissimilar metals. Copper, lead, and uncoated steel shall not contact Galvalume components.

2.2 ACCESSORIES

- A. Cleats: Continuous or individual cleats of the same material and not less than the same gauge as the flashing being secured, formed to interlock with the flashing hem.
- B. Fasteners: Stainless steel or hot-dip galvanized, compatible with Galvalume, of the type and length suited to the substrate. Exposed fasteners shall be gasketed and are permitted only where indicated.
- C. Reglet Sealant and Backer: As specified in Section 07 92 00, compatible with masonry and with Galvalume.
- D. Underlayment and Separator Sheet: Rosin-sized building paper or manufacturer's approved slip sheet where flashing bears on treated wood or on membrane.

2.3 FABRICATION

- A. Fabricate in accordance with the SMACNA Architectural Sheet Metal Manual and the approved shop drawings.
- B. Form sections true to shape, accurate in size, square, and free of distortion or defects. Hem exposed edges on the underside not less than 1/2 inch.
- C. Form and fabricate to allow for thermal expansion, with expansion joints at the spacing published by SMACNA for the material and run length, and at all changes in direction where required.
- D. Fabricate corners and terminations from one piece with minimum 18 inch legs; solder, seam, or seal joints as required to be watertight.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that substrates, blocking, and masonry surfaces are complete, sound, dry, and free of defects that would prevent proper installation.
- B. Verify that masonry to receive reglets or fasteners has been repaired and repointed, and that repairs have cured.

3.2 INSTALLATION - GENERAL

- A. Install in accordance with SMACNA, the approved shop drawings, and the Details on Drawing S-501.
- B. Secure with continuous cleats where possible. Space individual cleats at not more than 12 inches on center. Fasten cleats with two fasteners each, with the fastener heads covered by the cleat hem.
- C. Lap joints in the direction of water flow. Seal laps with sealant compatible with the metal and with the substrate.
- D. Set flashing to shed water positively at all conditions. Do not create reverse laps, ponding conditions, or open joints facing upward.

3.3 COUNTERFLASHING AT MASONRY

- A. Install counterflashing and counterflashing cleats at the existing masonry wall as detailed, lapping the roof panel system flashing not less than 4 inches.
- B. Where flashing is set into masonry, cut the reglet into a mortar joint, not into a masonry unit or terra cotta. Cut to a uniform depth by hand tools; power cutting is subject to the restrictions of Section 04 01 20.91.
- C. Insert the flashing into the reglet, wedge or lock in place at not more than 12 inches on center, and point the joint with mortar matching the adjacent work in accordance with Section 04 01 20.91. Seal the exposed joint in accordance with Section 07 92 00.
- D. Do not fasten flashing into terra cotta units. Where fastening into masonry is required, install anchors in mortar joints in accordance with Section 05 05 19.
- E. Repair, repoint, and clean all masonry disturbed by flashing

installation. **3.4 FASCIA AND EAVE**

- A. Install fascia extensions and fascia cleats at the eave, secured to the pressure-treated blocking and to the 2 x 2 x 1/4 steel angle as detailed.
- B. Maintain a true, continuous, straight fascia line. Correct deviations in blocking before installing metal; do not force metal to conform.
- C. Coordinate with the continuous 4 inch formed drip edge furnished under Section 07 41 13.16 so that the drip edge laps correctly over the fascia and discharges clear of the wall face.

3.5 PROTECTION AND CLEANING

- A. Protect installed flashing from damage by subsequent operations and from contact with mortar, masonry cleaners, and treated lumber.

- B.Remove metal filings and debris daily to prevent rust staining of the roof and the historic masonry below.
- C.Replace flashing that is dented, creased, scratched through the coating, or otherwise damaged. Field touch-up of coating damage on exposed surfaces is not acceptable.

END OF SECTION 07 62 00

SECTION 07 92 00 JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Sealants at sheet metal flashing terminations, reglets, and laps.
2. Sealants at expansion joints and soft joints below shelf angles.
3. Exterior silicone sealant or other accepted patching material used to patch cracks in connection with helical stitching tie installation.
4. Sealant at penetrations through flashing, and at window closure perimeters where indicated.

B. Related Requirements:

1. Section 04 01 20.63 - Unit Masonry Repair.
2. Section 04 01 20.91 - Unit Masonry Repointing.
3. Section 04 05 19.16 - Masonry Helical Anchorage.
4. Section 05 50 00 - Metal Fabrications, for expansion joint locations at lintels and shelf angles.
5. Section 07 41 13.16 - Standing-Seam Metal Roof Panels.
6. Section 07 62 00 - Sheet Metal Flashing and Trim.

1.2 SEALANT LIMITATIONS AT HISTORIC MASONRY

- A. Sealant shall not be used as a substitute for repointing. Repointing with waterproof caulking compounds or similar waterproof materials is prohibited, because such materials impede the normal outward migration of moisture through the masonry joints; moisture may then build sufficient pressure behind the material to cause damage to the masonry unit itself.
- B. Sealant is permitted only at the locations listed in Article 1.1.A, at joints between dissimilar materials, and where specifically indicated on the Drawings or directed by the Engineer.

1.3 REFERENCE STANDARDS

- A. ASTM C920 - Elastomeric Joint Sealants.
- B. ASTM C1193 - Use of Joint Sealants.
- C. ASTM C1330 - Cylindrical Sealant Backing for Use with Cold Liquid-Applied Sealants.
- D. ASTM C1087 - Compatibility of Liquid-Applied Sealants with Accessories Used in Structural Glazing Systems.
- E. ASTM C1248 - Staining of Porous Substrate by Joint Sealants.

1.4 SUBMITTALS

- A. Product Data: Each sealant, primer, backer rod, and bond breaker, with the manufacturer's published substrate and joint design requirements.
- B. Compatibility and Adhesion Testing: Manufacturer's written statement of compatibility with each substrate, and results of field adhesion testing in accordance with Article 3.4.
- C. Stain Testing: Test results in accordance with ASTM C1248, or the manufacturer's written certification of non-staining performance, for every sealant proposed for contact with historic masonry or terra cotta.
- D. Samples: Cured color samples for each sealant type, for the Engineer's selection and acceptance.

1.5 QUALITY ASSURANCE

- A. Field Sample: Apply a sample sealant joint of not less than 10 feet at each typical condition for the Engineer's acceptance of workmanship, joint profile, and color before general application.

1.6 FIELD CONDITIONS

- A. Apply sealant only within the temperature and humidity ranges published by the manufacturer, on dry, frost-free substrates.

PART 2 - PRODUCTS

2.1 SEALANTS

- A. Sealant at Masonry and Terra Cotta: Single- or multi-component, non-sag, low-modulus silicone complying with ASTM C920, Type S or M, Grade NS, Class 50 or higher, formulated for use on porous substrates and certified non-staining in accordance with ASTM C1248.
- B. Sealant at Sheet Metal and Roof Panel Conditions: Sealant recommended in writing by the roof panel manufacturer, compatible with Galvalume and with the adjacent substrate.
- C. Sealant at Crack Patching for Stitching Tie Installation: Exterior silicone sealant or other suitable patching material accepted by the Engineer, color-matched to the adjacent masonry.
- D. Colors: As selected by the Engineer from the manufacturer's full range, matched to the adjacent material.

2.2 ACCESSORIES

- A. Backer Rod: Closed-cell or bi-cellular polyethylene complying with ASTM C1330, of a diameter 25 to 33 percent greater than the joint width. Do not use open-cell backer rod at exterior joints.
- B. Bond Breaker Tape: Polyethylene tape, where joint depth does not permit backer rod.
- C. Primer: As recommended in writing by the sealant manufacturer for each substrate, and certified non-staining on masonry.
- D. Cleaners: As recommended by the sealant manufacturer, and accepted for use on historic masonry.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean joints of dust, laitance, oils, old sealant, and loose material. Do not use abrasive methods, acids, or wire brushes on historic masonry.
- B. Verify that masonry repairs and repointing adjacent to the joint are complete and cured.
- C. Mask adjacent surfaces where necessary to prevent staining and to produce clean joint lines. Remove masking immediately after tooling.
- D. Prime substrates where required by the manufacturer.

3.2 INSTALLATION

- A. Install backer rod to establish the joint depth. Do not twist, stretch, or puncture the backer rod.
- B. Sealant joint width-to-depth ratio shall be approximately 2:1, with a minimum depth of 1/4 inch and a maximum depth of 1/2 inch, unless otherwise required by the manufacturer.
- C. Apply sealant in a continuous operation, filling the joint completely without voids or entrapped air, in accordance with ASTM C1193.
- D. Tool joints immediately to form a smooth, slightly concave profile in full contact with both joint faces.
- E. Do not apply sealant over, or in place of, mortar joints requiring

repointing. 3.3 EXPANSION AND SOFT JOINTS

- A. Provide soft joints below shelf angles where horizontal expansion joints occur, in accordance with Section 05 50 00.
- B. Where vertical expansion joints are interrupted by lintels, carry the joint around the end of the lintel and continue down the wall, in accordance with Section 05 50 00.
- C. Keep expansion and soft joints free of mortar and debris. Do not bridge expansion joints with mortar, sealant backing, or rigid material.

3.4 FIELD QUALITY CONTROL

- A. Perform field adhesion testing in accordance with ASTM C1193, Method A, at a frequency of not less than one test per 100 linear feet of joint, and not fewer than two tests per substrate type. Repair all test locations.
- B. Where adhesion failure occurs, remove the sealant in the affected run, correct the preparation or primer, and reinstall at no additional cost.

3.5 CLEANING AND PROTECTION

- A. Remove excess sealant and smears from adjacent surfaces immediately, using methods and cleaners accepted for the substrate. Do not allow sealant residue or primer to stain historic masonry.
- B. Protect sealant joints from contamination and damage until fully cured.

END OF SECTION 07 92 00

SECTION 09 91 13
EXTERIOR PAINTING AND COATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Surface preparation and field application of coatings to exposed exterior ferrous metal, including:
1. New steel lintels and relieving angles.
 2. Existing lintels and relieving angles scheduled to remain.
 3. Touch-up and repair of shop-applied coatings and galvanized surfaces damaged during the Work.
- B. Work Not Included:
1. Factory finishes on metal roof panels and flashing, specified in Sections 07 41 13.16 and 07 62 00.
 2. Hot-dip galvanizing of structural steel and fabrications, specified in Sections 05 12 00 and 05 50 00.
 3. Painting of window closures. New window closures are not part of this Contract; see Section 06 10 00.
 4. Coating of historic masonry. Painting, sealing, or coating of brick and terra cotta is prohibited except as expressly specified in Section 04 01 45 for glaze replacement and spall sealing.
- C. Related Requirements:
1. Section 01 35 91 - Historic Treatment Procedures.
 2. Section 04 01 45 - Architectural Terra Cotta Restoration.
 3. Section 05 12 00 - Structural Steel Framing.
 4. Section 05 50 00 - Metal Fabrications.

1.2 REFERENCE STANDARDS

- A. SSPC-SP 2 - Hand Tool Cleaning.
- B. SSPC-SP 3 - Power Tool Cleaning.
- C. SSPC-SP 6 - Commercial Blast Cleaning.
- D. SSPC-Paint 15 - Steel Joist Shop Primer.
- E. ASTM D6386 - Preparation of Zinc (Hot-Dip Galvanized) Coated Iron and Steel Product Surfaces for Painting.
- F. ASTM A780 - Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings.

1.3 SUBMITTALS

- A. Product Data: For each coating, including the manufacturer's published surface preparation requirements, recoat windows, temperature and humidity limits, and dry film thickness per coat.
- B. Samples: Sample color of the finish coat, matching the adjacent brick color, for the Engineer's approval prior to painting.
- C. Compatibility Statement: The coating manufacturer's written confirmation that the specified primer and finish system is formulated for application over the substrate present, including hot-dip galvanized surfaces where applicable.
- D. Applicator Qualifications: Firm with not less than three (3) years of experience in exterior industrial coating application.

1.4 FIELD CONDITIONS

- A. Apply coatings only within the temperature and humidity ranges published by the manufacturer, on dry, frost-free substrates.
- B. Do not apply coatings in damp or freezing conditions, when precipitation is forecast within the drying period, or when wind will carry overspray onto adjacent property, pedestrians, or vehicles.

PART 2 - PRODUCTS

2.1 COATING SYSTEM FOR FERROUS METAL

- A. Antirust Primer: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer, requiring no better than SSPC-SP 3 power tool cleaning for surface preparation, suitable for application over both cleaned existing steel and new steel.
- B. Finish Coat: Exterior alkyd or acrylic enamel compatible with the primer, in the color approved under Article 1.3.B.
- C. Coating over Galvanized Surfaces: Where the finish system is applied over hot-dip galvanized steel, provide a wash primer or tie coat specifically formulated for application over zinc, and prepare the galvanized surface in accordance with ASTM D6386.
- D. Galvanizing Repair: Zinc-rich repair coating complying with ASTM A780, for touch-up of galvanized surfaces damaged by field cutting, drilling, welding, or handling.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Existing Lintels and Relieving Angles to Remain: Clean of rust, scale, grease, and foreign matter in accordance with SSPC-SP 2 hand tool cleaning, or SSPC-SP 3 power tool cleaning where accepted by the Engineer.

- B. Power tool cleaning shall not be used where it would damage adjacent historic masonry. Protect masonry, and mask adjacent surfaces, before preparation begins.
- C. New Steel: Prepare in accordance with the coating manufacturer's requirements for the substrate and the shop finish present.
- D. Galvanized Surfaces to be Painted: Prepare in accordance with ASTM D6386.
- E. Remove all loose material, dust, and residue immediately before coating. Do not allow preparation residue to remain on masonry.

3.2 APPLICATION

- A. Apply the number of coats specified in Section 05 50 00 Article 2.4 and in accordance with the manufacturer's published instructions, at the manufacturer's required dry film thickness per coat.
- B. Observe recoat windows. Where a recoat window is exceeded, prepare the surface as the manufacturer requires before applying the next coat.
- C. Apply by brush or roller at all locations adjacent to historic masonry. Spray application is permitted only with the Engineer's written acceptance and full containment.
- D. Coat all surfaces of new and existing lintels and relieving angles that will remain exposed, including edges, ends, and the underside.
- E. Do not coat surfaces to be field welded, faying surfaces of slip-critical connections, or surfaces scheduled to be embedded in masonry.

3.3 TOUCH-UP

- A. Touch up damage to shop coatings and galvanized surfaces in accordance with ASTM A780 immediately after erection, welding, or field cutting, and before enclosing or completing the assembly.

3.4 PROTECTION AND CLEANING

- A. Protect adjacent historic masonry from overspray, drips, and runs at all times. Remove coating from masonry immediately; do not allow staining of historic material.
- B. Remove masking promptly and repair any coating damage caused by its removal.
- C. Protect completed coatings from damage by subsequent operations until Substantial Completion.

END OF SECTION 09 91 13

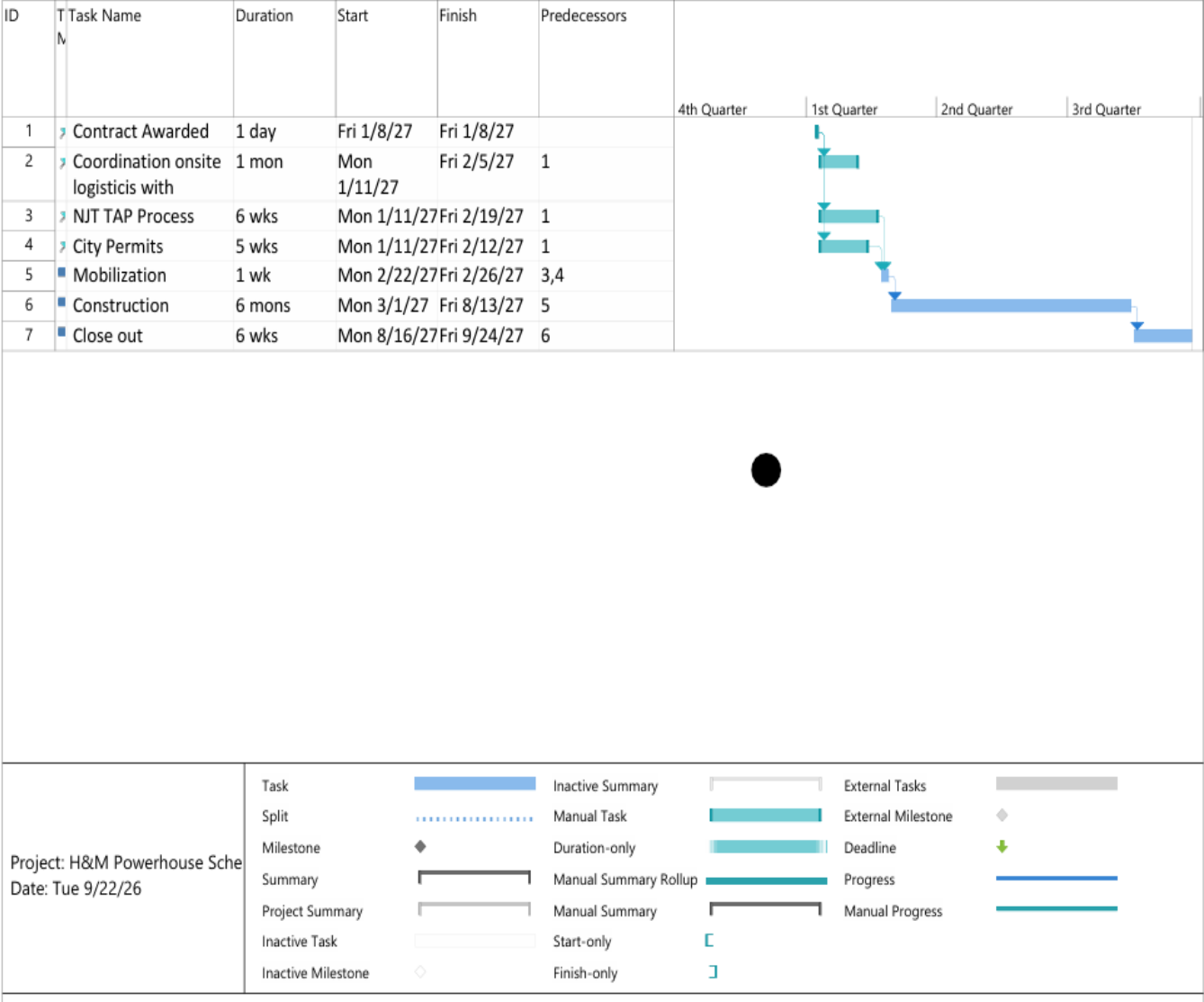
SECTION 00402

STABILIZATION DRAWINGS

(provided in separate file)

SECTION 00403

SCHEDULE



SECTION 00404

NJ TRANSIT'S TEMPORARY ACCESS PERMITS REQUIREMENTS (TAP)

NJ TRANSIT's Temporary Access Permit (TAP) Information

The Temporary Access Permit (TAP) system is designed to support external entities that need access to NJ Transit's Light Rail properties for various projects. TAP ensures that all vendors adhere to NJ Transit's operational and safety standards, coordinating essential support personnel, such as flagging staff, supervisors, and/or contractors, to facilitate efficient and compliant work on these properties.

This TAP hub is dedicated to providing vendors with essential information and is designed to streamline and assist understanding, while providing easy engagement with our TAP process. This enables vendors to explore opportunities for collaboration by providing a clear roadmap of requirements, steps, and guidelines for applying. Whether you are a new applicant or an existing permit holder seeking updated guidance, all the details you need are right here.

How the TAP Process Works

The Temporary Access Permit (TAP) is obtained via a streamlined, step-by-step process designed to help vendors understand and meet the criteria for working on NJ Transit's Light Rail properties.

Each phase, from the initial application to final approval, is guided by specific standards to ensure safety, compliance, and transparency.

To assist you through each step, we've provided the following resources:

1. Initial Application Requirements -

Before beginning the application process, please be prepared to provide the following information which includes detailed eligibility requirements, submission criteria, and key deadlines to get started with your TAP application:

- a. Scope of work – Shall include location, a detailed description and purpose of the request, work duration including estimated start and completion dates, and type of equipment that will be used.
- b. Aerial photos with work location(s) highlighted and drawings showing the subject work area, possible impacted surroundings and appropriate details.
- c. Applicant company's legal name, billing address, phone number, fax number and Federal Tax ID#.
- d. Applicant's W-9 Form.
- e. Designated company representative's name, title, email address, phone number and role in project (i.e. contractor, engineer, property owner)

2. Reference Materials –

To simplify the application process, please follow this link to the Light Rail Line templates for each system, forms, and examples, which will help you meet all requirements effectively. [Welcome to NJ TRANSIT's Temporary Access Permit \(TAP\) Information Hub | New Jersey Public Transportation Corporation](#)

3. Procedure:

Upon review and approval of the Initial Application Requirements NJ TRANSIT will require:

- a. An application and use fee of \$500
- b. A deposit for the required prepaid escrow account. The amount will be determined by NJ TRANSIT and/or its contracted operator(s), based upon the proposed scope and necessary services to accommodate the work that will be performed. This will include flagging and safety related services.
- c. A Certificate of Insurance (COI) with designated threshold limits, naming NJ TRANSIT as an additional insured.
 1. If the work is to be performed within 50 feet of the NJT ROW, Railroad Protection Insurance coverage will also be required.
- d. Payments can be made by wire transfer or check made payable to NJ TRANSIT.

4. Executed TAP Document:

Following NJ TRANSIT's approval of the required submittals and payments, a Temporary Access Agreement representing the TAP will be sent to the Applicant for review and signature. Applicants will receive an email alert and directions to access and sign the permit agreement. NJ Transit will route the permit agreement internally for final execution, then distribution to all stakeholders.