

September 27, 2017

SUBJECT: REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL ENGINEERING SERVICES FOR PORT AUTHORITY TRANS-HUDSON SUPERVISORY CONTROL AND DATA ACQUISITION, PROGRAMMABLE LOGIC CONTROLLER AND INTERFACE EQUIPMENT REPLACEMENT STAGE III AND STAGE IV DESIGN SERVICES DURING 2017 THROUGH 2022 (RFP# 50937)

Dear Sir or Madam:

The Port Authority of New York and New Jersey (the “Authority”) is seeking Proposals in response to this Request for Proposals (RFP) for a Consultant to perform expert professional engineering services for Port Authority Trans-Hudson (PATH) Supervisory Control and Data Acquisition (SCADA) Programmable Logic Controllers (PLC) and Interface Equipment Replacement Design Services during 2017 through 2022. The services of the selected consultant shall consist of performance of Engineering Services for the final design, construction cost estimating, and post-award services for the replacement of SCADA interface equipment in nine (9) PATH substations, as provided in Attachment A to the Authority’s standard agreement, included herewith. You should carefully review this Agreement as it is the form of agreement that the Authority intends that you sign in the event of acceptance of your Proposal and forms the basis for the submission of Proposals.

The Authority has determined that performance of said services (by the selected Proposer) might give rise to the existence or appearance of a conflict of interest if the Proposer has performed or is performing any other services for the PATH SCADA project. If the Proposer or any employee, agent or subcontractor of the Proposer may have a possible conflict of interest, or may give the appearance of a possible conflict of interest, the Proposer shall include in its proposal a statement indicating the nature of the conflict, and should include a plan for mitigating said conflict. The Authority reserves the right to preclude the Proposer from further consideration if, in its sole discretion, the Authority determines a conflict exists. The Authority’s determination regarding any questions of conflict of interest shall be final.

I. PROPOSER REQUIREMENTS:

The Authority will consider only those firms able to demonstrate that they meet the following qualification requirements:

- A. A minimum of ten (10) years of firm experience in the design of SCADA and PLC equipment for power substations.
- B. Demonstrated firm experience as the prime consultant on the design of a minimum of three (3) SCADA and PLC projects of similar complexity and scale, with a combined minimum construction value of \$5 million, within the past ten years.
- C. Proposed Senior Engineer designing the SCADA system must have a minimum of five (5) years of experience on SCADA design, including three (3) SCADA projects of similar complexity and scale as the subject project within the past ten (10) years.

- D. Proposed SCADA personnel must have at least one individual with a Global Industrial Cybersecurity Professional (GICSP) and/or the Certified SCADA Security Architect (CSSA) certification.

If a single entity proposer cannot demonstrate that it meets all of the referenced qualifications, then the single entity proposer may, with others, form a joint venture and request that the joint venture be deemed to be the Proposer (i.e. members of the joint venture may meet the qualification requirement collectively).

A determination that a Proposer meets the forgoing requirement(s) is no assurance that the Proposer will be selected for performance of the subject services. Firms that do not meet these requirements shall not be considered.

II. PROPOSAL FORMAT REQUIREMENTS

To respond to this RFP, the Proposer shall submit a concise Proposal complying with the following requirements:

- A. To be acceptable, the Proposal shall be no more than **26** pages-single-sided or 13 pages-double-sided, using 12-point or greater font size. The page limit pertains only to Letters F, G, and H in Section III below. Each resume shall be two-page maximum, single-sided or one-page double-sided, using 12-point or greater font size. The Proposal pages shall be numbered and bound, with “Your Firm Name,” and **RFP Number 50937** clearly indicated on the cover.
- B. Separate each section of the Proposal with a tab divider that is labeled in accordance with the letter of the requirements specified below in Section III.
- C. All proposals must be delivered in sealed envelopes and/or packages. Address the Proposal to: The Port Authority of New York and New Jersey, Attention: RFP Custodian, Procurement Department, 4 World Trade Center, 21st Floor, New York, NY 10007. Do not address your Proposal to any other name. Clearly mark the solicitation number on the outermost package. You are requested to submit one (1) reproducible original and seven (7) copies, along with eight (8) compact discs (CDs), of your Proposal for review. USB Flash drives will not be accepted. In case of conflict, the reproducible original of the Proposal shall take precedence over material on the CD(s).

If your proposal is to be hand-delivered, note that only individuals with proper identification (e.g. photo identification) will be permitted access to the Authority’s offices. Individuals without proper identification will be turned away and their packages not accepted.

There is extensive security at the World Trade Center Site. You must present a valid government-issued photo ID to enter 4 WTC. Individuals without packages or carrying small packages, envelopes or boxes that can be conveyed by hand or on a hand truck may enter through the lobby. All packages, envelopes and boxes may be subject to additional security screening. There is no parking available at 4 WTC/150 Greenwich Street, and parking in the surrounding area is extremely limited. Express carrier deliveries by commercial vehicles will only be made via vendors approved by Silverstein Properties, the WTC Property Manager, through the Vehicle Security Center (VSC). Please note that use of the U.S. Mail does not guarantee delivery to Authority offices by the above listed due

date for submittals. Proposers using the U.S. Mail are advised to allow sufficient delivery time to ensure timely receipt of their proposals. Presently, UPS is the only delivery vendor with approved recurring delivery times. UPS makes deliveries to 4 WTC around 9:30 a.m. each day. Please plan your submission accordingly. As additional express carriers may be approved by Silverstein Properties and scheduled for recurring delivery times with the VSC, this information may be updated. Under certain circumstances, a solicitation may allow for a commercial vehicle to be approved to make a delivery in accordance with the VSC procedures. If applicable, the specific solicitation document will include that information. The Port Authority assumes no responsibility for delays, including, but not limited to, delays caused by any delivery services, building access procedures, or security requirements.

- D. In each submission to the Authority, including any return address label, information on the CDs and information on the reproducible original and copies of the Proposal, the Proposer shall use its **FULL LEGAL NAME WITHOUT ABBREVIATIONS**. Failure to comply with this requirement may lead to delays in contract award and contract payments, which shall be the responsibility of the Proposer.
- E. Your Proposal should be forwarded in sufficient time so that the Authority receives it **no later than 2:00 p.m. on October 19, 2017**. The outermost cover of your submittal must be labeled to include the RFP Number and title as indicated in the “Subject” above. The Authority assumes no responsibility for delays caused by any delivery services.

III. SUBMISSION REQUIREMENTS:

To respond to this RFP, provide the following information:

- A. In the front of your Proposal, a copy of Attachment B (Agreement on Terms of Discussion) signed by an officer of your company. If proposing as a joint venture, each firm in the joint venture must sign a copy of Attachment B.

- B. Transmittal Letter

Submit a transmittal letter, on letterhead, signed by an authorized representative, demonstrating compliance with each of the aforementioned “Proposer Requirements” as identified in Section I above. For all projects referenced, include the name of the company, a contact person and current telephone number for verification purposes. Your transmittal letter shall also include, but not be limited to:

- 1. A statement indicating whether the Consultant is proposing as a single entity, or as a joint venture.

If a joint venture submits a proposal, all participants in the joint venture shall be bound jointly and severally and each participant shall execute the proposal. If a single entity proposer cannot demonstrate that it meets all of the referenced qualifications, then the single entity proposer may, with others, form a joint venture and request that the joint venture be deemed to be the Proposer (i.e. members of the joint venture may meet the qualification requirement collectively). If a joint venture is deemed qualified to receive an invitation to deliver a formal presentation of how it proposes to provide the services outlined herein, the joint venture shall be composed of the same participants as were in

the joint venture when it submitted the Proposal. No substitution of participants will be allowed without the express prior written permission of the Authority.

2. Submit as part of your Proposal a copy of any written agreement or understanding which exists between each party to the joint venture. If no written agreement or understanding exists, the Lead Proposer shall be identified and the joint venture shall include in its Proposal a written statement explaining how the joint venture will fulfill the requirements of the Agreement. Such explanation shall fully discuss and identify the responsibility of each party to the joint venture for performing the Work, and for providing the required insurance.

C. Complete a copy of Attachment C (Company Profile).

D. Provide a breakdown of the multiplier as indicated in the first line of subparagraph 9.A of the accompanying Agreement. Indicate all of its components (e.g. vacation, holiday, sick pay, worker's compensation, office rent, insurance, profit).

If proposing the use of subconsultant(s), provide the terms and conditions for their compensation (including their multiplier, and/or billing rates as appropriate), and their Minority/Women-owned Business Enterprise (MBE/WBE) status.

E. Staff Qualifications and Experience

List the names and titles and provide resumes of personnel (including subconsultants, if any) who will be assigned to perform the required services.

At least one of the proposed staff shall be knowledgeable in NIST SP 800 series of documentation including: NIST SP 800-82R2; Guide to Industrial Control System (ICS) Security.

F. Firm Qualifications and Experience

Submit your firm's qualifications and experience in providing the services contemplated herein. For each project identified, indicate:

1. Description of services provided by your firm;
2. Start and end dates of services performed;
3. Contract value (total value of services performed by you);
4. Indicate whether said projects were completed on schedule and within budget; and
5. Hiring entity and contact person (name, title, phone number, email address).

G. A detailed description of the proposed technical approach to be taken for the performance of the required services for each task in Attachment A, and a schedule for completion of said tasks. Factors addressed in your technical approach shall include, but are not limited to, your proposed methodology and strategy for performing the services described in Attachment A as well as any specific software or other technology you may employ in the performance of these services.

Provide a staffing and cost analysis for each task to be performed as identified in Attachment A using the Excel spreadsheet in the following link: [Attachment D - \(Staffing & Cost Analysis Sheet\)](#). Staff analysis should provide a breakdown for each discipline

identifying hours of work per task, reimbursable direct costs, actual hourly pay rate, and multiplier/billing rate.

- H. A detailed description of the proposed management approach for performance of the required services. Factors addressed in your management approach shall include, but are not limited to: your proposed organizational structure for delivery of the contemplated services; your proposed approach to ensuring the quality and timeliness of the required work products; and your proposed approach to keeping the client apprised of the project status. If the various completion dates contained in Attachment A cannot be adhered to, you may submit revised dates. However, the fact that you were not able to adhere to the original dates and the extent of date revisions will be included among the factors that the Authority will consider in evaluating Proposals.
- I. Your attention is directed to Paragraph 21 of the Agreement in which the Authority has stated the M/WBE goals for participation in this project. Submit details on how you intend to meet these goals. A listing of certified M/WBE firms is available at <http://www.panynj.gov/business-opportunities/sd-mini-profile.html>.

The Consultant shall include its MBE/WBE Participation Plan (Form PA 3760C) with its Proposal, to be reviewed and approved by the Authority's Office of Business Diversity and Civil Rights (OBDCR).

The MBE/WBE Plan submitted by the Consultant to the Authority shall contain, at a minimum, the following:

- Identification of MBE/WBEs: Provide the names and addresses of all MBE/WBEs included in the Plan. If none are identified, describe the process for selecting participant firms in order to achieve the good faith goals under this Contract.
- Level of Participation: Indicate the percentage of MBE/WBE participation expected to be achieved with the arrangement described in the Plan.
- Scope of Work: Describe the specific scope of work the MBE/WBEs will perform.

All MBE/WBE subconsultants listed on the MBE/WBE Participation Plan must be certified by the Authority in order for the Consultant to receive credit toward the MBE/WBE goals set forth in this Agreement. Please go to <http://www.panynj.gov/business-opportunities/supplier-diversity.html> to search for MBE/WBEs by a particular commodity or service. The Authority makes no representation as to the financial responsibility of these firms or their ability to perform work under this Agreement.

Subsequent to Agreement award, all changes to the MBE/WBE Participation Plan must be submitted via a modified MBE/WBE Participation Plan to the Manager for review and approval by OBDCR. For submittal of modifications to the MBE/WBE Plan, Consultants are directed to use form PA3760D. The Consultant shall not make changes to its approved MBE/WBE Participation Plan or substitute MBE/WBE subconsultants or suppliers for those named in their approved plan without the Manager's prior written approval. Unauthorized changes or substitutions, including performing the work designated for a subconsultant with the Consultant's own forces, shall be a violation of this

section. Progress toward attainment of MBE/WBE participation goals set forth herein will be monitored throughout the duration of the Agreement.

The Consultant shall also submit to the Project Manager, along with invoices, the Statement of Subcontractor Payments in the form of the MBE/WBE Participation Report, which may be downloaded at <http://www.panynj.gov/business-opportunities/become-vendor.html>. The Statement must include the name and business address of each MBE/WBE subconsultant and supplier actually involved in the Agreement, a description of the work performed and/or product or service supplied by each such subcontractor or supplier, the date and amount of each expenditure, and such other information that may assist the Project Manager in determining the Consultant's compliance with the foregoing provisions.

MBE/WBE Conditions of Participation

MBE/WBE participation will be counted toward meeting the MBE/WBE agreement goal, subject to all of the following conditions:

1. **Commercially Useful Function:** An MBE/WBE is considered to perform a commercially useful function when it is responsible for the execution of a distinct element of work on a contract and carries out its responsibilities by actually performing, managing, and supervising the work involved in accordance with normal industry practice. Regardless of whether an arrangement between the Consultant and the MBE/WBE represent standard industry practice, if the arrangement erodes the ownership, control or independence of the MBE/WBE or in any other way does not meet the commercially useful function requirement, that firm shall not be included in determining whether the MBE/WBE goal is met and shall not be included in MBE/WBE reports. If this occurs with respect to a firm identified as a MBE/WBE, the Consultant shall receive no credit toward the MBE/WBE goal and may be required to backfill the participation. An MBE/WBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction or contract through which funds are passed in order to obtain the appearance of MBE/WBE participation. An MBE/WBE may rebut a determination by the Authority that the MBE/WBE is not performing a commercially useful function to the Authority.
2. **Work Force:** The MBE/WBE must employ a work force (including administrative and clerical staff) separate and apart from that employed by the Contractor, other Subcontractors on the contract, or their Affiliates. This does not preclude the employment by the MBE/WBE of an individual that has been previously employed by another firm involved in the Contract, provided that the individual was independently recruited by the MBE/WBE in accordance with customary industry practice. The routine transfer of work crews from another employer to the MBE/WBE shall not be allowed.
3. **Supervision:** All Work performed by the MBE/WBE must be controlled and supervised by the MBE/WBE without duplication of supervisory personnel from the Consultant, other subconsultants on the agreement, or their Affiliates. This does not preclude routine communication between the supervisory personnel of the MBE/WBE and other supervisors necessary to coordinate the Work.

Counting MBE/WBE Participation

The value of the Work performed by an MBE/WBE, with its own equipment, with its own forces, and under its own supervision will be counted toward the goal, provided the utilization is a commercially useful function. An MBE/WBE prime contractor shall still provide opportunities for participation by other MBE/WBEs. Work performed by MBE/WBEs will be counted as set forth below. If the Authority determines that some or all of the MBE/WBEs work does not constitute a commercially useful function, only the portion of the work considered to be a commercially useful function will be credited toward the goal.

1. Subconsultants: One hundred percent (100%) of the value of the Work to be performed by an MBE/WBE subconsultant will be counted toward the MBE/WBE goal. The value of such Work includes the cost of materials and supplies purchased by the MBE/WBE, except the cost of supplies or equipment leased from the Consultant, other subconsultants or their affiliates will not be counted. When a MBE/WBE subcontracts part of the work of its contract to another firm, the value of the subconsultant work may be counted toward MBE/WBE goals only if the MBE/WBE subconsultant is itself a MBE/WBE. Work that a MBE/WBE subconsultants to a non-MBE/WBE firm does not count toward MBE/WBE goals.

2. Material Suppliers: Sixty percent (60%) of the expenditure to a MBE/WBE material supplier will be counted toward the MBE/WBE goal. Packagers, brokers, manufacturer's representatives, or other persons who arrange or expedite transactions are not material suppliers within the meaning of this paragraph.

3. Broker's/Manufacturer's Representatives: One hundred percent (100%) of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees for transportation charges for the delivery of materials or supplies provided by an MBE/WBE broker/manufacturer's representative will be counted toward the MBE/WBE goal, provided they are determined by the Authority to be reasonable and not excessive as compared with fees customarily allowed for similar services. The cost of the materials and supplies themselves will not be counted.

4. Services: One hundred percent (100%) of fees or commissions charged by an MBE/WBE for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of the Work will be counted toward the MBE/WBE goal, provided the fee is reasonable and not excessive as compared with fees customarily allowed for similar services.

5. Joint Venture: Joint ventures between MBE/WBEs and non-MBE/WBEs may be counted toward the MBE/WBE goal in proportion to the total dollar value of the Agreement equal to the distinct, clearly defined portion of the work of the contract that the MBE/WBE performs with its own forces. Contact OBDCR at (201) 395-3958 for more information about requirements for such joint ventures.

J. A complete list of your firm's affiliates.

- K. If the Proposer or any employee, agent or subconsultant of the Proposer may have, or may give the appearance of, a possible conflict of interest, the Proposer shall include in its proposal a statement indicating the nature of the conflict. The Authority reserves the right to disqualify the Proposer if, in the Authority's sole discretion, any interest disclosed from any source could create, or give the appearance of, a conflict of interest. The Authority's determination regarding any question(s) of conflict of interest shall be final.

Proposers are advised that, while not currently anticipated, nothing herein shall preclude the Authority from determining at a subsequent point in time during performance of the services contemplated hereunder gives rise to the existence of, or the appearance of, a conflict of interest, and thereby conclude that a firm(s) selected for performance of the subject services, is/are expressly precluded from participation in, or the performance of other procurement opportunities for any project on which the firm has provided such services. Proposers are directed to paragraph 31 of the attached Standard Agreement. Proposers are further advised that under this Agreement, firms must provide, upon receipt of a Task Order issued by the Port Authority, written notice to the Port Authority of any existing or potential conflict of interest the firm(s) may have in the performance of Services under this Agreement.

- L. The selected Consultant(s) shall comply with the requirements of the standard agreement and its terms and conditions. You should therefore not make any changes in this standard agreement, nor restate any of its provisions in your Proposal or supporting material. However, if the Proposer has any specific exceptions, such exceptions should be set forth in a separate letter included with its response to this RFP. The Authority is under no obligation to entertain or accept any such specific exceptions. Exceptions raised at a time subsequent to proposal submission will not be accepted. The scope of the tasks to be performed by you is set forth in Attachment A to the Authority's standard agreement.

IV. SELECTION PROCESS:

The qualifications-based selection shall take into consideration the following technical criteria listed in order of importance, and subsequently cost, as appropriate. After consideration of these factors, the Authority may enter into negotiations with the firm(s) deemed best qualified, in terms of the forgoing technical criteria, to perform the required services.

- A. Technical approach to the performance of the contemplated services;
- B. Qualifications and experience of the staff proposed to perform services hereunder;
- C. Qualifications and experience of the firm, including the quality of similar services provided to others, and the demonstrated ability to complete the services in accordance with the project schedule; and
- D. Management approach to the performance of the contemplated services.

V. ORAL PRESENTATIONS:

After review of all Proposals, an oral presentation to the selection committee and others, as appropriate, may be requested. It should be noted that firms selected to make presentations may be given short advance notice. Presentations will be limited to 60 minutes, and should include material contained in your Proposal. The presentation will be followed by an

approximately 30-minute question and answer session. Proposer's staff making the presentation shall be led by the proposed Project Engineer, who may be supported by no more than two (2) other senior staff members proposed to work on this project. Notification of presentation scheduling will be made by email. Please provide the name, telephone number, and email address of the person who should be contacted for presentation scheduling, as well as an alternate in the event that person is unavailable.

VI. SECURITY REQUIREMENTS FOR ACCESS TO PROTECTED INFORMATION

The Authority has made available certain documents listed in Attachment A, Section VII entitled "**INFORMATION AND MATERIALS PROVIDED BY THE AUTHORITY**" to proposers interested in responding to this RFP (as well as the selected Consultant). Certain documents listed in Attachment A under Section VII are considered Port Authority Protected Information. Protected Information is information belonging to the Port Authority that, if it were subject to unauthorized access, modification, loss or misuse could seriously damage the Port Authority, public safety, or homeland security. Protecting this sensitive information requires the application of uniform safeguarding measures to prevent unauthorized disclosure and to control any authorized disclosure of this information within the Port Authority or when released by the Port Authority to outside entities. These procedures are identified in the Port Authority's "Information Security Handbook". Respondents may obtain a copy of the Security Handbook from the Authority's website:

<http://www.panynj.gov/business-opportunities/pdf/Corporate-Information-Security-Handbook.pdf>

To request access to Protected Information referenced in Section VII of Attachment A, please contact Monika Radkowska, Solicitation Manager, by email at mradkowska@panynj.gov. In your email submit the following:

1. Designated Security Information Manager(s)

Each firm seeking access to Protected Information, and in the event of a joint venture, each participant in a joint venture, shall designate at least one (1) Security Information Manager (a "**SIM**") responsible for each firm's compliance with Information Security Requirements, identifying members of their teams who will need access to documents and for assuring that those members have passed the requisite background checks and have completed the requisite forms. The SIM will be responsible for maintaining his/her firm's access list.

Your firm (or any member firm of a joint venture seeking to be considered) must include the following information for your SIM(s):

- (1) Full legal name
- (2) Title
- (3) Physical address
- (4) Email address
- (5) Phone number and fax number; and
- (6) Proof that the SIM has been issued a SWAC credential

Individuals designated as SIMs are required to attend an Information Security Awareness and Education training session unless, within the last three (3) years, they have attended an Information Security Awareness and Education training session and have proof of same.

To schedule your SIM training, promptly contract Mario Del Sol at mariodelsol@panynj.gov.

2. Proof of SWAC Credential

The Information Security Handbook requires that certain criteria be met prior to being granted access to Protected Information. Generally, an individual must be a U.S. Citizen, or be an alien who has been lawfully admitted for permanent residency or employment (indicated by immigration status), as evidenced by Immigration and Naturalization Service documentation, or be a national of the United States as defined by the Immigration and Nationality Act. This requirement may be waived in exceptional circumstances and firms seeking to be considered should refer to § 3.2 of the Information Security Handbook for details on this policy and the process for waiver. An individual may also be required to undergo background screening prior to being approved for receipt of certain information. As of January 29, 2007, the Secure Worker Access Consortium (S.W.A.C.) is the only Port Authority approved provider to be used to conduct background screening and personal identity verification, except as otherwise required by federal law and/or regulation. Information about S.W.A.C., instructions, corporate enrollment, online applications, and location of processing centers can be found at: <http://www.secureworker.com>. S.W.A.C. may be contacted directly at (877) 522-7922 for more information.

Your firm's designated SIM, and any member of your team that may require access to Protected Information will require a SWAC credential.

Proof of SWAC issuance should be demonstrated by submitting via email a color photocopy of the face of the team member's S.W.A.C. card. The failure to demonstrate that, at a minimum, your firm's SIM has been issued a SWAC credential, will result in your firm not being found qualified to receive the Protected Information.

3. Attachment C, Company Profile

Submit a completed Attachment C, Company Profile.

4. Port Authority Non-Disclosure and Confidentiality Agreement (NDA)

Upon request by the Proposer of Protected Information, you will be required to fill out the Port Authority Non-Disclosure and Confidentiality Agreement (NDA) and submit the NDA via email to mrادkowska@panynj.gov. Once the electronic version has been approved, you will be required to mail original signed hard copies to the following address:

The Port Authority of NY & NJ
Attention: Monika Radkowska
Procurement Department
150 Greenwich Street, 21st Floor
New York, NY 10007

Upon approval of the Proposer's NDA by the Port Authority and completion of the above stated security requirements, the Protected Information will be sent via overnight mail to the designated SIM's attention on a compact disk (CD).

VII. ADDITIONAL INFORMATION:

If your firm is selected for performance of the subject services, the Agreement you will be asked to sign will include clauses entitled "Certification of No Investigation (Criminal Or Civil Anti-Trust), Indictment, Conviction, Debarment, Suspension, Disqualification and Disclosure Of Other Information" And "Non-Collusive Proposing And Code Of Ethics Certification; Certification Of No Solicitation Based On Commission, Percentage, Brokerage, Contingent Or Other Fees." By submitting a Proposal the firm shall be deemed to have made the certifications contained therein unless said firm submits a statement with its Proposal explaining why any such certification(s) cannot be made. Such a submission shall be submitted in a separate envelope along with your Proposal, clearly marked "CERTIFICATION STATEMENT."

It is Authority policy that its consultants, contractors and vendors comply with the legal requirements of the States of New York and New Jersey. Your attention is therefore called to New York State's requirements that certain contractors, affiliates, subcontractors and subcontractors' affiliates register with the New York State Department of Taxation and Finance for the purpose of collection and remittance of sales and use taxes. Similarly, New Jersey requires business organizations to obtain appropriate Business Registration Certificates from the Division of Revenue of the State's Department of the Treasury.

Proposers are advised that additional vendor information, including, but not limited to forms, documents and other related information may be found on the Authority website at: <http://www.panynj.gov/business-opportunities/become-vendor.html>.

After a review of all proposals received, the Authority will forward two (2) copies of the Agreement and Attachment A thereto to the selected firm(s), who shall sign and return both copies. Signature shall be by a corporate officer. The return of one copy executed by the Authority will effectuate the Agreement.

Should you have any questions, or to request access to information and/or materials referenced in Section VII of Attachment A, that are not available on the Authority's website, please contact Monika Radkowska, Solicitation Manager, by email at mradkowska@panynj.gov. All such correspondence must have your name, title, company, mailing address, telephone number and state "RFP 50937" in the subject line. The Authority must receive all questions no later than 4:00 P.M., seven (7) calendar days before the RFP due date. Neither Ms. Radkowska nor any other employee of the Authority is authorized to interpret the provisions of this RFP or accompanying documents or to give additional information as to their requirements. If interpretation or additional information is required, it will be communicated by written addendum issued by the undersigned, and such writing shall form a part of this RFP, or the accompanying documents, as appropriate. Addenda to the RFP, if any, will be posted at <http://www.panynj.gov/business-opportunities/bid-proposal-advertisements.html?tabnum=6>. You should therefore monitor the advertisement on said website, as appropriate, to ensure you are aware of changes, if any.

Proposal preparation costs are not reimbursable by the Authority, and the Authority shall have no obligation to a firm except under a duly authorized agreement executed by the Authority.

No rights accrue to any Proposer except under a duly authorized agreement for performance of the specified services.

The Authority reserves the right, in its sole and absolute discretion, to reject all Proposals, to undertake discussions and modifications with one or more Consultants, to waive defects in Proposals, and to proceed with that Proposal or modified Proposal, if any, which in its judgment will, under all the circumstances, best serve the public interest.

Sincerely,

David Gutiérrez, CPPO
Assistant Director
Procurement Department

Attachments

ATTACHMENT A

PERFORMANCE OF EXPERT PROFESSIONAL ENGINEERING SERVICES FOR PORT AUTHORITY TRANS-HUDSON SUPERVISORY CONTROL AND DATA ACQUISITION, PROGRAMMABLE LOGIC CONTROLLER AND INTERFACE EQUIPMENT REPLACEMENT STAGE III AND STAGE IV DESIGN SERVICES DURING 2017 THROUGH 2022

I. **BACKGROUND**

For background with respect to The Port Authority of New York and New Jersey (the “Authority”) see www.panynj.gov. Additionally, the most recent electronic version of the Authority’s Annual Report is available at <http://www.panynj.gov/corporate-information/annual-reports.html>.

The Port Authority Trans-Hudson Corporation (PATH) is a wholly-owned subsidiary of the Authority. PATH is a heavy rail rapid transit system, operating 24 hours a day, seven days a week, and serves as a critical link in the New York- New Jersey transportation network. Safe and efficient operation of PATH is imperative for the region’s economic development. PATH substations are equipped with Supervisory Control and Data Acquisition (SCADA) and Programmable Logic Controller (PLC), which are connected to the PATH Synchronous Optical Network (SONET). Reliable operation of the PATH system depends upon the SCADA system which provides the Power Director continuous monitoring and control of key emergency ventilation plants and electrical systems.

Most of the SCADA and PLC equipment in the substations mentioned above have reached the end of their useful life and are no longer supported by the manufacturer or distributor. Additionally, critical spare parts are not available for some of the SCADA and PLC equipment.

In 2014 a Conceptual Design (Stage I) was performed for the replacement of SCADA PLC Hardware and interface. The report described the existing condition of the equipment and recommended several equipment replacements.

Replacement of SCADA, PLC and interfacing equipment are sought from this solicitation, which shall be connected to the existing SONET. PATH uses GE Cimplicity for programming the SCADA and PLC. It shall be noted that this solicitation does not involve selection, upgrade or maintenance of the SONET.

Also, while SCADA/PLC system design and related solicitations are standard within the Engineering industry, given recent trends and best practices with respect to cyber security for industrial control systems/operational technology, the Authority has determined it is prudent to augment the traditional Engineering standards, requirements and discussion around cyber security best practices. Respondents are advised to make note of additions with respect to operational control cyber security, information classification and security, audit and technological requirements included within and comply accordingly.

II. **SCOPE OF SERVICES**

The services of the Consultant shall consist of preparing Stage III Contract Documents and Stage IV Post Award Construction Services for the Replacement of SCADA, PLC, and interface equipment for the following 9 (9) facilities:

- A. Substation No. 2 Washington Street
- B. Substation No. 3 World Trade Center
- C. Substation No. 4 Exchange Place
- D. Substation No. 5 Portal (Backus)
- E. Switching Station No. 12 Morton Street
- F. Substation No. 15 Caisson No. 1
- G. Substation No. 18 33rd Street
- H. Substation No. 19 19th Street
- I. Substation No. 21 Pavonia/Newport

The services of the Consultant shall consist of, but are not limited to:

A. General

1. Coordinate with PATH railroad operations personnel to perform constructability evaluations, and to develop Construction Staging Plans and Hours of Work to minimize interferences with the facility operations during construction.
2. Provide list of project cost and participate in two (2) risk assessment sessions. One session is to occur at the 50% mark and the other at the 100% mark of project submission. The Authority will maintain the risk register and perform qualitative risk analyses.
3. Determine other stakeholders' requirements, such as utility owners, neighboring railroads, and permitting agencies. Coordinate, provide support, and incorporate their requirements into the project design, as appropriate.

B. Electrical

1. Investigate the field conditions of the SCADA, PLC, and interfacing equipment. The field investigations shall include, but are not limited to, various field equipment input/output (I/O) points, wire sizes, conduit routing, interfacing cabinet, SCADA, and PLC equipment details.
2. The equipment types and systems to be included but not be limited to are:
 - a. All medium voltage (MV) switchgear and switches
 - b. 480V switchgear/ switchboard
 - c. Auxiliary transformer
 - d. Rectifier transformer
 - e. Rectifier
 - f. DC switchgear
 - g. Generator
 - h. Ventilation System
 - i. Battery system

- j. Transfer switches
 - k. Mechanical systems
 - l. Fire Alarm
3. Propose a new SCADA and PLC architecture which is compatible with the newly installed or designed PATH substations similar to the available document entitled “SCADA Architecture Block Diagram (Typical).”
 4. Design and furnish multiple remote input output (RIO) panels closer to the various field equipment to incorporate the hardwired interfacing with the equipment and to have network connectivity with SCADA system. The number of required RIOs in each facility can vary based on the available spaces and closer proximity to the field equipment.
 5. Design RIO to optimize the available spaces in the existing substations.
 6. Design reliable power source (i.e. UPS) for the RIO, SCADA, PLC and interfacing equipment.

C. Environmental

1. Identify potential regulated and hazardous materials that will be impacted by this project and prepare an environmental sampling plan for testing/verification of these materials. Materials include but are not limited to Asbestos, Lead, Lead paint, Universal Wastes, and polychlorinated biphenyl (PCB).
2. Submit an environmental sampling plan to the Environmental Design Engineer for review and approval. Coordinate with the Environmental Design Engineer for the sampling plan approval.
3. Sampling of materials will be performed by the Environmental Design Engineer after the sampling plan is approved. Test results will be provided to the Consultant for implementation.
4. Based on test results, prepare removal/abatement plans for regulated/hazardous materials impacted by this project.

D. Electronics

Provide plan drawings and system design specifications based on design criteria summary approved by the Authority. Proceed with the performance of design development (Stage III) package including drawings, specifications, and preliminary and final construction cost estimates following Authority’s estimating guidelines.

E. Mechanical- HVAC

Identify and investigate the I/O points of the existing mechanical equipment that interfaces with the SCADA and PLC equipment. The investigation shall include, but not limited to, mechanical equipment I/O points, wire sizes, conduit routing, interfacing cabinet(s) and equipment details.

The field equipment types and systems that shall be included in the scope, but not be limited to are:

- a. Heating, Ventilation, and Air Conditioning equipment
- b. Fans
- c. Compressed Air equipment
- d. Hydrogen Monitoring Systems

F. Mechanical-Plumbing and Fire Protection

Identify and investigate the I/O points of the existing mechanical- Plumbing and Fire Protection equipment that interfaces with the SCADA and PLC equipment. The field investigations shall include, but not be limited to, various field equipment devices and control panels I/O points, wire sizes, conduit routing, interfacing cabinet(s), and equipment details.

G. Structural

Design all structural and foundation components required, including the removal, repair, reinforcing and modification of existing structures and structural supports for all associated mechanical, electrical, and architectural components.

H. Cyber Security

While designing the SCADA and PLC Hardware and Software configuration, interface equipment network connectivity and SONET interface, the Consultant shall be responsible for integrating the Security and Privacy Controls for Federal Information Systems and Organizations - NIST Special Publication 800-53, and the Authority's Cyber Security, Technology, and Audit Control Requirement exhibits listed under Section VI below. The Consultant shall also be responsible to adhere to the Standards and Guidelines for Port Authority Industrial Control System Technology.

III. DESCRIPTION OF THE CONSULTANT'S TASKS FOR STAGE III FINAL DESIGN AND CONTRACT DOCUMENTS

Prior to performance of this task, submit the specific Quality Control/Quality Assurance Program for the professional services to be performed in connection with the final design and the preparation of Contract Drawings and Specifications.

The Consultant's Final Design services shall include, but are not limited to the performance of the following:

TASK A. REVIEW AVAILABLE DOCUMENTS

Review all reference documents provided by the Authority, and research and review all available documents to ensure a complete understanding of the project's objectives and scope of services. Authority staff will assist the Consultant to gain access to available record files, as required. The Consultant shall perform their own record search of available existing information.

TASK B. MEETINGS

Meetings will take place at the Authority's offices located at 4 World Trade Center, 150 Greenwich Street, New York 10007, or at other locations within the Port District as required by the Authority. The Consultant shall lead all multi-disciplinary coordination meetings in accordance with project schedule in Section V Schedule and Submissions.

The Consultant shall assume, for estimating purposes, that all meetings shall be of four (4) hours duration. Meeting, presentations, and design reviews shall include but not be limited to:

1. A kick-off meeting at the beginning of Stage III with the Authority and all key personnel of the Consultant and sub-consultant team(s) to ensure complete understanding of the scope, schedules, and objectives.
2. Monthly progress meetings during the execution of Stage III with the Authority and parties associated with the project, if applicable, to review project progress, performance, project design staffing requirements, and plans for the upcoming month.
3. On board review with the Authority after each milestone submission to resolve review comments.
4. Meetings as needed with various Port Authority/PATH subject-matter experts in the operational arena (i.e. PATH), engineering disciplines, cyber security, technology and/or audit to ensure all requirements, standards and best practices are discussed and incorporated.

Prepare an agenda for all the meetings and submit to the Authority within two (2) working days in advance of the meetings. Submit draft minutes to the Authority of all meetings (both formal and informal) attended by the Consultant during all phases of design within three (3) business days of the meeting. Minutes shall identify items requiring follow-up action. Meeting minutes and follow-up action items are subject to Authority approval. Incorporate Authority comments as directed and resubmit as final within ten (10) business days of receipt of such comments, and implement such follow-up as appropriate. Distribute copies of the meeting minutes as requested by the Authority as final. Authority templates will be provided for the meeting minutes, agenda, and attendance documents. As part of final meeting minutes, submit a compiled record of follow-up items and actions taken.

TASK C. FIELD VERIFICATION AND INSPECTIONS

Perform field surveys and investigations to include but not be limited to obtaining the following information in order to develop the Stage III design package that meets the project objectives. Provide an overall project site visit schedule at the beginning of Stage III as well as a field visit plan to get PATH approval at least two (2) weeks prior to any scheduled site visit. The Authority will coordinate access to locations requested by the Consultant and will schedule required PATH Track Safety training.

Perform all site assessment, data gathering, and site surveys to verify/identify existing conditions of the SCADA, PLC, and interfacing equipment in the substations 2, 3, 4, 5, 8, 12, 15, 18, 19 and 21, including:

1. Take all appropriate field measurements.
2. Photograph and identify any areas of concern and/ or system conflicts.

3. Identify appropriate I/O points for all medium voltage (MV) switchgear, 480V switchgear/switchboard, Auxiliary transformer, Rectifier transformer, Rectifier, DC switchgear, Generator, Ventilation System, Battery system, Transfer switches, Mechanical systems, and other electronics systems, Fire Alarm, interfacing cabinets, PLC, and SCADA cabinets.
4. Identify electrical power source and requirements for existing and new SCADA, PLC, and interfacing equipment.
5. Existing systems to remain should be evaluated to confirm that they are in good working condition, providing sufficient functionality as required to communicate with the new systems to be installed.
6. Survey space dimensions and clearances for locations where new equipment is to be installed.

TASK D. SCADA SYSTEM ARCHITECTURE AND COMPONENT DESIGN CRITERIA

Prepare and submit the design criteria summary to Authority for approval including code and assumptions. In the case of any applicable criteria not defined herein, propose criteria for such SCADA, PLC, and interfacing cabinet based upon PATH's new substation design concept. PLC and interface equipment shall be connected to SCADA equipment via network connection. The SCADA, PLC, and interfacing equipment shall include 20% spare module and 25% spare I/O capacity. Solution presented and designed shall be inclusive of and performed in a manner consistent with all Authority cyber, technology and audit standards and designated best practices (i.e. NIST SP 800-82R2; Guide to Industrial Control System (ICS) Security).

1. SCADA:

The SCADA system shall have completely separate primary and backup systems to provide complete redundancy with hot standby. Every SCADA system shall have redundant network connectivity to communicate between the RIOs, workstations, and PATH Train Control Center (PTCC). SCADA system alarm, monitoring and control points shall be integrated with the head end controllers at PTCC and Hoban for each Substation included in the scope of this project.

2. RIO and PLC:

The RIO shall be designed to have localized, stand alone, wired, redundant connectivity with the substation, mechanical, electronics, security, and ventilation system equipment. RIO shall also have network connectivity with the SCADA system. RIO shall combine the functionality of the existing interfacing cabinets and PLCs. RIO shall have redundant PLC hardwired to the field equipment and have network connectivity to the SCADA system. These connections shall also have monitoring and alerting capabilities.

3. List of typical System I/O Points

The new PLC and interfacing cabinet replacement shall capture all the existing monitoring and control I/O points of the following systems:

a. MV switchgear and switches:

The general I/O points, which shall be monitored and controlled for the MV equipment, include, but are not limited to:

- 1) Breaker/ Switch Open Status
- 2) Breaker/ Switch Close Status
- 3) Breaker/ Switch Open Control
- 4) Breaker/ Switch Close Control
- 5) Breaker Trip Status
- 6) Breaker Disconnected Status
- 7) Breaker Control Power Failure Status
- 8) Breaker Disable Status
- 9) Overcurrent and/ or differential Relay Trip Status
- 10) Overcurrent and/ or differential Relay Failure Status
- 11) Three Phase Voltage Monitoring
- 12) Three Phase Current Monitoring
- 13) Lockout Relay Trip

b. 480V Switchgear/Switchboard and Tie Breakers

The general I/O points shall be monitored and controlled for the 480V switchgears and switchboards main and tie breakers, including, but are not limited to:

- 1) Breaker Open Status
- 2) Breaker Close Status
- 3) Breaker Open Control
- 4) Breaker Close Control
- 5) Breaker Position Status
- 6) Under-voltage Trip
- 7) Three Phase Voltage Monitoring
- 8) Three Phase Current Monitoring
- 9) Lockout Relay Trip

c. Auxiliary and Rectifier Transformers

The general I/O points shall be monitored and controlled for the auxiliary and rectifier transformers, including, but are not limited to:

- 1) Relay Trip Status
- 2) Three phase Winding Temperature Monitoring
- 3) Winding Temperature for Alarm Status and Trip Status

d. Rectifier

The general I/O points shall be monitored and controlled for the rectifier, including, but are not limited to:

- 1) Under-voltage Relay Trip Status
- 2) Overcurrent Relay Trip Status
- 3) Reverse Current Relay Trip Status
- 4) Annunciator Voltage Loss Status
- 5) Diode Failure Alarm and Trip Status
- 6) Surge Protection Failure Status
- 7) Frame Grounded Status
- 8) Frame Hot Status
- 9) Local and Master Lockout Relay Trip Status
- 10) Local and Master Lockout Relay Failure Status
- 11) Control Power Failure Status
- 12) Snubber Blown Fuse Indicator
- 13) Three phase Winding Temperature Monitoring
- 14) Diode Temperature for Alarm Status and Trip Status
- 15) Three Phase Voltage Monitoring
- 16) Three Phase Current Monitoring

e. DC switchgear

The general I/O points shall be monitored and controlled for the DC switchgear, including, but are not limited to:

- 1) Breaker Open Status
- 2) Breaker Close Status
- 3) Breaker Open Control
- 4) Breaker Close Control
- 5) Breaker Trip Status
- 6) Breaker Disconnected Status
- 7) Breaker Control Power Failure Status
- 8) Breaker Disable Status
- 9) Relay Trip Status
- 10) Relay Failure Status
- 11) Three Phase Voltage Monitoring
- 12) Three Phase Current Monitoring

- 13) Lockout Relay Trip
- 14) Annunciator Failure Status
- 15) Trip Coil Failure Status
- 16) Structure Grounded Status
- 17) Structure Hot Status

f. Generator

The general I/O points shall be monitored and controlled for the Generator, including, but are not limited to:

- 1) Breaker Open Status
- 2) Breaker Close Status
- 3) Three Phase Voltage Monitoring
- 4) Three Phase Current Monitoring
- 5) Under-frequency Status
- 6) Fuel Level Status
- 7) Low Oil Pressure Status

g. Ventilation System

The general I/O points shall be monitored and controlled for the Ventilation System, including but are not limited to:

- 1) Overload Status
- 2) Heater Malfunction Status
- 3) Control and Instrument Power Status
- 4) High and Low Vibration Status
- 5) Bearing Over Temperature Status
- 6) Winding Over Temperature Status
- 7) System Failure Status
- 8) Power Failure Status
- 9) Damper Open Status
- 10) Damper Close Status
- 11) RTD Temperature Monitoring
- 12) Three Phase Voltage Monitoring
- 13) Three Phase Current Monitoring
- 14) RPM Monitoring
- 15) Air Flow Monitoring
- 16) Vibration Monitoring

h. Battery System

The general I/O points shall be monitored and controlled for the Battery System including, but are not limited to:

- 1) General Failure Alarm Status
- 2) DC Low Voltage Status
- 3) Positive Grounded Status
- 4) Negative Grounded Status
- 5) AC Failure
- 6) DC Output Low Voltage Status
- 7) DC Output High Voltage Status
- 8) Hydrogen Sensor Alarm
- 9) Exhaust Fan Failure Alarm

i. Transfer Switches

The general I/O points shall be monitored and controlled for the Transfer Switch, including, but are not limited to:

- 1) Three Phase Voltage Monitoring
- 2) Three Phase Current Monitoring
- 3) Transfer Switch Power Available Status
- 4) Transfer Switch Position Status
- 5) Transfer Switch Failure Alarm

j. Mechanical systems- HVAC

The general I/O points will be monitored and controlled for the Mechanical Systems, including, but are not limited to:

- 1) Air Conditioner Status
- 2) Air Conditioning Failure Alarm
- 3) Fan Status
- 4) Fan Failure Alarm
- 5) Control/SCADA Room Temperature
- 6) Control/SCADA Room Temperature High Alarm
- 7) Alarm Status

k. Mechanical systems- Plumbing and Fire Protection

The minimum I/O points, from the fire suppression systems that will be monitored by the Fire Alarm system, including, but are not limited to:

- 1) Alarm Status
- 2) Trouble Status
- 3) Supervisory Status

Specific alarms for Plumbing system metering devices and pumping systems components include but are not limited to: sanitary and storm drainage systems, oil/water/sediment separators, drainage of sump, and ejector pumps.

1. Fire Alarm

The general I/O points shall be monitored and controlled for the Fire Alarm, including, but are not limited to:

- 1) Alarm Status
- 2) Trouble Status
- 3) Supervisory Status

TASK E. FINAL DESIGN AND CONTRACT DOCUMENTS

The Consultant's design shall comply with all codes, ordinances, statutes, rules, regulations and laws, Occupational Safety and Health Administration (OSHA) requirements, as well as the Authority's Engineering Design Guidelines. Ensure that the Contract Documents meet with the objectives and intent of Stage I design documents.

Conform to the Authority's Quality Control/Quality Assurance Program for the professional services to be performed in connection with the performance of your final design duties specified hereunder. Upon completion of the contract documents required hereunder, submit a letter to the Engineer certifying that the Consultant has performed the Quality Control/Quality Assurance Program as defined by the Consultant and approved by the Authority at the start of this Task.

1. Design Calculations and Diagrams

- a. Calculations shall clearly distinguish between new and existing construction. Documents from which existing dimensions and member properties were obtained shall be referenced in the calculations.
- b. Design calculations for design review/audit shall be submitted at the 25%, 50% and 100% completion marks to the Authority for Agency-wide review.
- c. All technical software utilized by the Consultant for analysis, design, or submission as a computer output/deliverable, used for assistance in making any of the project/technical decisions and/or demonstrating compliance with any applicable codes, regulations, specifications, and standards, including those provisions specifically requested by the Authority, shall have been validated by the Consultant and sub-consultants (as appropriate) to ensure that the output results are acceptable to the Authority, correct, and consistent with the input parameters and assumptions and that the software is suitable and sufficient for the specific types of work encountered. This requirement for the validation of technical software applies to all commercial off-the-shelf or in-house developed software (e.g., Excel spreadsheets and MathCAD worksheets).

- d. Submit with calculations, indexed and clearly identified input and output sheets including design constants, equations used, and all references.
- e. All engineering calculation sheets shall be numbered, dated, and indexed and shall include the names of their originator(s) and checker(s). The index sheets shall define the total number of sheets submitted and shall bear the seal and signature of an engineer holding a Professional Engineer's license in the State of New Jersey or New York who is familiar with and responsible for the design.

2. Contract Drawings

The drawings shall be prepared in conformance with the PA – Engineering/Architectural Design (EAD) CADD Standards; and PA – Contract Unit Review Standards (Refer to Section VII Information and Materials provided by the Authority for link). Contract drawings shall be prepared in Autodesk AutoCAD DWG format and published/printed/saved in DWG and DWF format. Refer to the latest version of the Authority CADD Standards for specific procedures and details. The 50% and 100% submissions will be audited for CADD compliance. The Consultant shall make the necessary changes identified in the audit to comply with Authority CADD Standards.

The drawings shall be complete for all design items in sufficient detail and appropriate scale such that equipment layouts, material, size, location, geometry, notes, and details are established and shown. The drawings shall be clear and include all details and information required for the project such that shop drawings can be readily developed.

a. For contract drawings, observe the following signature procedures:

- 1) All Consultant contracts shall have a cover sheet containing the facility name, contract title and contract number. The cover sheet shall have the appropriate places for signature by Authority staff. No other information shall appear on the cover sheet. This will be the only Contract Drawing prepared by the Consultant that will be signed by Authority staff.
- 2) Sign and seal all drawings prepared by the Consultant.
- 3) Any sub-consultant(s) shall sign and seal their own drawings. The Consultant's logo shall appear on each drawing prepared by the sub-consultant(s).
- 4) All drawings prepared for New York contracts shall be signed and sealed by a Principal of the firm with a New York Professional Engineer or New York Registered Architect License.
- 5) All drawings prepared for New Jersey Contracts shall be signed and sealed by the Principal(s) of the firm with a New Jersey Professional Engineer's or New Jersey Registered Architect's License. The original tracing shall be backshaded with carbon paper in the area of the embossed seal so that the seal will print. In addition, following shall be placed below the seal:

ORIGINAL SEALED AND SIGNED BY:

New Jersey Professional Engineer #
& Certificate of Authorization #
OR N.J.R.A #

- 6) When work is to be performed in New York and New Jersey the drawings shall be signed and sealed by a Principal of the firm. Two seals shall be placed on the drawings: a New York seal and a New Jersey seal (backshaded with carbon paper). The New Jersey seal shall have the following beneath the seal:

ORIGINAL SEALED AND SIGNED BY:

New Jersey Professional Engineer #
& Certificate of Authorization #
OR N.J.R.A #

- b. Based upon approval by the Authority of the Consultant's work products developed in performance of the forgoing tasks, prepare a final design and Contract Drawings for work to be performed by a Contractor, which shall include, but not be limited to, the appropriate work items contained in the preceding tasks and the following:
- 1) General
 - a) Title sheet, site location plan, general site plans, areas of work, areas for contractor's use, index of drawings, and general notes for the scope of work.
 - b) Design drawings including equipment schedule, layout plan, installation plan etc.
 - c) Construction removal and Staging drawings, and suggested sequence of construction.
 - 2) Electrical & Electronics:

Electrical and Electronics drawings will include but are not limited to:

 - a) SCADA, PLC and interfacing cabinet block diagram
 - b) Detailed list Interfacing Cabinet with list of I/O points
 - c) Panel Schedule
 - d) Cable Conduit Schedule
 - e) Riser and Control Wiring Diagram
 - f) Field Equipment wiring Diagrams
 - g) Grounding Plan
 - 3) Environmental Engineering

Provide design drawings and specifications as needed for the removal/abatement of regulated/hazardous materials.

4) Mechanical- HVAC

The drawings shall contain all the items mentioned in the General section and also include but not limited to the Control Point/SCADA Interface Schedule.

5) Mechanical – Fire Protection

Contract drawings shall list all applicable codes and standards governing Fire protection documents associated with the coordination of work for the SCADA, PLC, and interfacing cabinet block diagram for the suppression systems.

6) Structural Engineering

a) Contract drawings shall list all applicable codes and standards governing structural analysis and design of concrete and steel structures for this project. For the applicable codes, provide exact title and edition number. The use of the word “latest” in reference to code edition is not acceptable.

b) Contract documents shall define the types of materials to be used for all elements of the structure.

c) Structural contract drawings shall include notes, plans, elevations, sections, and details showing all structural requirements. Drawings shall show sizes, sections, and location of members, and such other information as may be required to indicate clearly all structural elements and special structural engineering features. The design loads and other information pertinent to the structural design shall be clearly indicated on the construction documents for parts of the structure.

7) Cyber Security

Contract documents shall include reference to all appropriate Cyber / NIST / Operational standards and reflect the Authority’s Cyber Security, Technology Audit Control Requirement exhibits listed in the Section VI.

3. Technical Specifications

Comply with the Authority’s PA-Contract Unit Review Standards and Standard Technical Specifications Index (Refer to Section VII Information and Materials provided by the Authority for web address).

a. The Authority has prepared certain standard technical specifications, which will be made available electronically as requested by the Consultant. These standard technical specifications must be used to the maximum extent possible and may not be altered or revised in any way by the Consultant. Since these standard Technical Specifications may contain materials and related procedures, which are not appropriate to the specific Contract being proposed, the Contract Drawings must clearly define the materials and scope of work.

- b. Prepare any technical specifications, which are not available from the Authority. Any custom technical specifications prepared by the Consultant shall be in the same format as the Authority standard technical specifications and the Consultant shall make any changes therein requested to meet requirements as directed by the Authority throughout its various reviews.
 - c. For each specification section, prepare and submit a detailed “Appendix A”, in accordance with Authority Submittal Management System requirements, indicating all required documentation to be submitted to the Engineer of Record for review, including, but not limited to shop drawings, catalog cuts, samples, certificates, test reports, etc.
 - d. Other than hard copies of specifications prepared by the Consultant that are to be submitted to the Authority as noted herein, submit electronic copies of said specifications. The specification files shall be in the Authority format using MS Word, and shall be labeled to clearly indicate the specification title.
4. Other Requirements
- a. Sole Source Documentation
 - 1) In instances where other Procurement methods for any equipment or services deemed necessary are not practical or appropriate, as approved in advance by the Authority, prepare sole source documentation for obtaining approved propriety items, as applicable. Documentation shall include a complete justification for the proprietary item and vendor.
 - 2) Sole Source criteria and scope shall be provided in contract documents based on information provided by the Authority.
 - 3) Provide Sole Source or Sole Brand documentation for any equipment or services deemed necessary to be procured on a sole source basis. Sole source or Sole Brand documents shall include vendor’s formal quotation based on Final Contract Documents clearly identifying the scope of Sole Source and Sole Brand procurement.
 - b. A list of Contract Drawings.
 - c. A list of Reference Drawings and Available Documents including Cyber/Technology/Audit standards and related certifications, if any.
 - d. A list of unit price items, with descriptions and estimate quantities for each item, if any.
 - e. A list of Materials or Services provided by the Authority with detailed description, if any.
5. Deliverables
- Prepare contract documents (drawings/specifications) deliverable for 25%, 50%, 100%, and Final Submissions.
- a. 25% Submission shall include but not limited to:
 - 1) Detailed list of existing SCADA, PLC and interfacing equipment with I/O points based on the field investigation

- 2) Existing equipment layout
 - 3) Finalized design criteria survey as per TASK E, and SCADA architecture
 - 4) Drawings for the SCADA and RIO equipment layout with conduit routing
 - 5) Detailed list of new RIO with various field equipment I/O list
 - 6) SCADA/Control Room cooling capacities and requirements
 - 7) Existing HVAC equipment evaluation and estimated remaining useful life
- b. 50% Submission shall include but not limited to:
- 1) Responses and resolution of 25% Submission review comments
 - 2) Finalize design criteria, code review, and constructability
 - 3) Anticipated list of Contract Drawings, available documents, and reference drawings
 - 4) Preliminary multi-discipline coordinated Contract Drawings documenting the full scope of work
 - 5) Preliminary construction staging plans
 - 6) Detailed interconnection drawings, including all Fiber Optic Cabling, Copper or Other Network Cabling.
 - 7) Drawings and other documentation indicating the location and interconnectivity of all Servers, Workstations, Firewalls, Switches, Routers, UPS and other communication equipment.
 - 8) List of Authority standard specifications and outline of custom technical specifications (if required)
 - 9) List of Sole Source/Sole Brand items (if required)
 - 10) Preliminary design calculations in hard copy and PDF format
 - 11) Construction cost estimate and construction schedule
 - 12) Documents, signed and sealed calculations, and signed and sealed drawings required for obtaining outstanding permits and/or permit updates
 - 13) Updated Risk Register.
 - 14) SCADA/Control Room cooling load calculations and evaluation of existing equipment capacity or recommendations for replacement of existing equipment.
 - 15) Relevant Cyber, Technology, and Audit references, and standards.
 - 16) List of applicable Engineering, cyber/technology testing requirements
- c. Authority Wide Review (100%) Submission shall include but not limited to:
- 1) Responses and resolution of 50% Submission review comments.
 - 2) List of Contract Drawings, available documents, and reference drawings.
 - 3) Multi-discipline coordinated Contract Drawings documenting the full scope of work, including all CADD files in conformance with PA CADD Standards.

- 4) Construction staging plans.
 - 5) Final list of Authority standard specifications and final custom technical specifications (if required), including all Appendices.
 - 6) Final Sole Source/Sole Brand items documents (if required). Such documents shall include the Consultant's formal justification for the items, the Vendor's quotation per Authority Standards.
 - 7) 100% signed and sealed design calculations in hard copy and PDF format.
 - 8) The completed Contract Drawings and Technical Specifications submitted above will be reviewed by the Authority's Law and other Departments, as required. The Consultant shall make any changes to the Contract Drawings and Technical Specifications resulting from this review and submit the revised Contract Drawings and Technical Specifications, which will be used for bidding purposes.
 - 9) Construction cost estimate and construction schedule.
 - 10) Schedule and description of unit prices for classified work.
 - 11) Relevant Cyber, Technology, and Audit references, standards, and certifications.
 - 12) Detailed Engineering, cyber/technology and hardened testing requirements for acceptance tests, commissioning and start up.
- d. Final Submission shall include but are not limited to:
- 1) Original signed and sealed set ("Permalife" paper) of standard size (22" x 34") engineering drawings showing all information and details, along with two (2) full-size (22" x 34") copies and 12 half-size (11" x 17") copies unless otherwise directed by the Authority. Engineering drawings shall be prepared in such manner as to produce clearly legible drawings after reduction. Scales shall be graphical rather than numerical.
 - 2) Electronic files of all drawings indicated above in both DWG and DWF format posted to the project website as directed by the Authority. If directed by the Authority provide PDF format of the drawings in addition to the formats above.
 - 3) Three (3) copies of final design calculations (if applicable), including electronic files, computer printouts, and sketches in both bounded form and PDF format posted to the project website. Design calculation shall indicate all applicable codes, design criteria, and assumptions, if any. The hard copy of the design calculations shall be signed and sealed by a PE licensed in the State of New Jersey.
 - 4) Responses to Authority Wide Review (100%) Submission comments.
 - 5) Final Technical Specifications (inclusive of Cyber/Technology and Audit standards and requirements).
 - 6) Signed construction cost estimate in Authority's format.
 - 7) Final construction schedule.
 - 8) Signed QA/QC conformance documentation letter.

TASK F. CONSTRUCTION COST ESTIMATE

Prepare a detailed construction cost estimate for Stage III and in accordance with the Authority's Estimating Guidelines (Refer to Section VII below, Information and Material Provided by the Authority for link). Cost estimates shall include but not be limited to separate costs for labor, equipment, and materials, detailed construction costs for temporary structures including roadways, supports, deck plating, work platforms as well as temporary and permanent modifications or relocation of existing conditions, structures, and utilities. In addition, the cost estimate shall reflect conditions and precautions, winter suspensions, mobilization, shop drawings, hours of work, and security requirements in addition to recent trends of price escalation.

TASK G. CONSTRUCTION SCHEDULE AND STAGING

Provide an estimate of the time required to complete construction, incorporating staging and permits as well as estimated delivery times for all long lead-time items for each alternative/option considered. The construction schedule shall be prepared using Primavera P6 or industry software compatible with P6. Prepare Construction Staging drawings and suggested sequence of construction.

TASK H. BID PERIOD DUTIES

1. Prepare responses to questions asked by bidders during the bid period.
2. Prepare and submit, at least one month before the contract is bid, an outline list of required Contractor's submittals, including but not limited to, working drawings, catalog cuts, samples, certificates, and test reports.
3. Prepare Contract addenda including Contract Drawing revisions and engineering calculations, as necessary or as requested by the Chief Engineer, for approval and issuance by the Authority. Furnish originals for final printing.
4. Conform Technical Specifications and Contract Drawings to addenda when directed by the Chief Engineer after award of the Contract.
5. Upon request, assist Authority staff in items specified below. Authority staff will:
 - a. Prepare Information for Bidders, Form of Contract, Division 1 of the Specifications and the Analysis of Bid and Contract Progress Schedule.
 - b. Review with, and transmit comments from, various Authority Departments to the Consultant for incorporation into the Contract Documents.
 - c. Review addenda with and obtain approval of various Authority Departments.

IV. DESCRIPTION OF THE CONSULTANT'S TASKS FOR STAGE IV POST AWARD CONSTRUCTION SERVICES

- A. Submit a Quality Control/Quality Assurance Program for the professional services to be performed in connection with the performance of your Post Award Duties specified hereunder.
- B. Respond to Requests for Information (RFI).

- C. Review and approve or disapprove all working drawings, catalog cuts, and samples for conformance with the Specifications and Contract Drawings within five (5) working days after receipt of said articles from the Contractor, for those articles for which you are Engineer-of-Record. Indicate any corrections and additions as required. Advise the Authority thereof giving the reasons for your decisions. Make all required distributions through final approval. Ten (10) copies of each working drawing are required.
- D. Evaluate alternative construction details and materials, as requested by the Authority.
- E. Upon completion of construction, modify the Contract Drawings to "Drawings of Record" conditions and certify the same. The Contractor shall furnish "as-built" information used to create the Drawings of Record. Verify the accuracy of the "as-built" information.
- F. Evaluate alternative construction details and materials, as requested by the Authority.
- G. Maintain clear, dated records of all pertinent documents including, but not limited to, transmittals, submittals, and responses, RFI and responses, meeting minutes, shop drawing mark-ups, designs, calculations, or drawings prepared during the construction phase. These documents shall be forwarded to the Authority in bound form for official files.
- H. In addition to any on-site visits and observations that may be required by the Consultant as the Engineer-of-Record, attend at the request of the Authority, one (1) pre-construction meeting and one (1) field meeting for each month of the construction period.
- I. At the first pre-construction meeting, prepare and submit an outline list of required Contractor's submittals to include, but not be limited to, working drawings, catalog cuts, samples, certificates, and test reports, including submittal requirements in contract document.
- J. Coordinate with all relevant Authority constituencies including, but not limited to Engineering department disciplines, Operational Line staff (i.e. PATH), Technology Department, Office of the Chief Security Officer and Audit.
- K. Commissioning Services:
 - 1. Prepare commissioning procedures and requirements that are integrated into the design standards.
 - 2. Coordinate and participate (by appropriate technical personnel) in the site and factory acceptance testing, commissioning, and quality assessment prior to turnover and acceptance of any major SCADA, PLC and interface equipment and software package. The Consultant shall be responsible to ensure the equipment is built as per the shop drawings and specifications to achieve the design goals during the factory acceptance tests. Provide a detailed report of the factory acceptance testing within two (2) weeks of the testing. The firms for commissioning/testing shall be selected in cooperation with the Authority.
- L. Submit conformed set of drawings:

Compensation for the evaluations and changes referred to in items G and H as described above in this section shall be computed in accordance with the paragraphs of the Agreement relating to compensation and shall not be charged against the estimated cost, provided that none of these items result from non-compensable work.

M. Operation and Maintenance (O&M) Manuals:

Prepare O&M Manuals by engaging the services of one of the Authority’s list of approved consultants for providing services for the preparation of O&M Manuals. The O&M Manuals shall be submitted to the Authority, and shall be in compliance with the Authority’s specification 16001.

V. **SCHEDULE AND SUBMISSIONS**

Coordinate with the Authority to prepare a schedule for performance of all tasks listed herein. Project schedule shall comply with the schedule for submissions as identified below in this section and shall provide for meetings, presentations, submittals, document review, and incorporation of Authority comments after submittals and presentations. Stage III milestone submissions consist of a 25%, 50%, 100%, and Final Submissions.

The project schedule shall be prepared using Primavera P6 or industry software compatible with Primavera P6 and be submitted monthly via a live P6 file and PDF version.

The schedule shall be updated and submitted on a monthly basis. Said schedule shall be submitted as a draft, and upon incorporation of Authority comments by the Consultant, submitted as final. The draft schedule(s) shall include or provide for, but not be limited to:

- A. Meetings/presentations;
- B. Project milestones and interdependencies;
- C. Tasks/sub-tasks and other activities (e.g. permits);
- D. Review and incorporation of Authority comments, and submission of a final monthly schedule by the Consultant; and
- E. All activities required to complete each task and the staff assigned to proponents of each task.

Submit a project schedule for each Stage, including duration of each submission listed below. Assume review/comment periods for each submission will be at least two (2) weeks, with the exception of the review/comment period for Stage III 100% Review, which will be at least four (4) weeks.

Deliverable List		Submission Requirements	Due Date (weeks after Notice to Proceed)
STAGE III – FINAL DESIGN (18 months including Bid & Award)			
1	Submit Project Schedule, including WBS	1 – electronic (pdf) copy Live P6 file	2
2	25% Submission– Design Criteria Summary & Proposed SCADA Architecture	1 – electronic copy 12 – paper copies	20

Deliverable List		Submission Requirements	Due Date (weeks after Notice to Proceed)
3	50% Submission – Contract Documents	1 – electronic copy 12 – half-size paper copies	30
4	50% Submission Review Period		32
5	PA Wide Review (100%) Submission – Contract Documents	1 – electronic copy 12 – half-size paper copies	42
6	PA Wide Review (100%) Submission Review Period		44
7	Final Submission	1 – electronic copy 1 – signed and sealed copy 2 – full-size paper copies 12 – half-size paper copies	48
8	Drawings of Record – Signed Drawings		52
9	Bid and Award		72
STAGE IV – CONSTRUCTION (24 Months)			
1	Review and Approve shop drawings, catalog cuts, etc.		TBD
2	Reply to RFIs, Issue PACC drawings		TBD
3	Factory acceptance reports	12 paper copies 1 electronic copy (pdf)	Within two (2) weeks of the acceptance test
4	Construction Final Completion and Commissioning		TBD
5	Submittals per Specification 16001 – Operation and Maintenance Manuals	12 hardcopies in binder and 1 electronic files (original & PDF) in CD	Before Stage IV Contract Closed

Submit all documents to the Authority in both hard copies and electronic version simultaneously and present to Authority staff as required.

VI. MANAGE CYBER SECURITY VULNERABILITIES

General Software Requirements

A. Port Authority Standards and Guidelines

The Consultant shall conform to the latest revision of the Technology Standards for the Authority and industry best information technology practices listed below. The Consultant shall comply with the most current version of the Authority's Audit Department's Control Guidelines, and satisfy the checklists therein. The Consultant shall also comply with the most current version of the Authority's Cyber Security Guidelines (variation of NIST 800-53-R4), and the resulting control mechanisms.

All services provided by the Consultant that are hosted externally to Authority IT infrastructure, including but not limited to software as a service, on-demand software, cloud computing, etc., shall comply with the requirements and controls stated in the attached Cloud Computing Framework and Cyber Security Guidelines. If externally hosted services are proposed for use, the Consultant shall submit documentation that demonstrates compliance with the Cloud Computing Framework requirements.

The documents listed below will be provided by the Authority to the selected Consultant. In the event of a conflict, between the requirements and standards, the more stringent criteria shall govern unless a waiver is explicitly granted in writing by the Authority's Chief Technology Officer.

- Cyber Security Policies, Standards and Guidelines for the Port Authority of New York and New Jersey
- Technology Department's Cyber Security Guidelines for the Port Authority of New York and New Jersey
- Technology Standards for the Port Authority of New York and New Jersey
- The Port Authority of New York and New Jersey Audit Controls Requirement Contract Checklist
- The Port Authority of New York and New Jersey Cloud Computing Framework
- Standards and Guidelines for Port Authority Industrial Control Systems Technology
- Security and Privacy Controls for Federal Information Systems and Organizations - NIST Special Publication 800-53
- The Port Authority of New York and New Jersey Cybersecurity and Computing Resource
- The Port Authority of New York & New Jersey Information Security Handbook, October 15, 2008, corrected as of November 14, 2013 (<http://www.panynj.gov/business-opportunities/pdf/Corporate-Information-Security-Handbook.pdf>).

The Consultant shall comply with the requirements in the Port Authority's Standards, as may be modified or supplemented from time to time by the Authority.

B. Audit for Compliance with Security Requirements

The Authority may conduct random or scheduled examinations of business practices under the section of the Agreement entitled “NOTIFICATION OF SECURITY REQUIREMENTS” and the Information Security Handbook in order to assess the extent of compliance with security requirements, Confidential Information procedures, protocols and practices, which may include, but not be limited to, verification of background check status, confirmation of completion of specified training, and/or a site visit to view material storage locations and protocols.

The Authority may conduct random or scheduled audits of the Consultant’s software in order to assess the compliance with the security requirements listed in the Cyber Security Guidelines, Cloud Computing Framework and Audit Controls listed above.

C. The Authority may impose, increase, and/or upgrade security requirements for the Consultant, sub-Consultant and their staffs during the term of this Agreement to address changing security conditions and/or new governmental regulations.

D. Redundancy and Failover

The Consultant shall maintain a separate, diversely located computing environment that either supports load sharing or automatic failover of the Consultant’s software to support fault tolerance of its application. The Consultant shall describe how the Consultant will ensure continued full functionality of its software should its computing or network environment suffer a catastrophic failure, and indicate how the operational availability requirements will be met.

VII. INFORMATION AND MATERIALS PROVIDED BY THE AUTHORITY

The Authority will make available for the Consultant the “Exhibit I - SCADA Architecture Block Diagram (Typical)” and “Exhibit II - Stage I Conceptual Design Study performed for the Replacement of SCADA PLC Hardware and Interface” as specified below under "A" upon submission, by the Consultant, of a signed Non-Disclosure Agreement, and the completion of necessary security requirements. This Protected Information must be handled in accordance with the Port Authority Information Security Handbook (<http://www.panynj.gov/business-opportunities/pdf/Corporate-Information-Security-Handbook.pdf>). The Protected Information shall not be reproduced for other purposes, discarded in public trash receptacles, posted on unauthorized public portals such as websites and internet sites, or distributed to others without written approval of the Authority. Once the provided Protected Information is no longer needed, the recipient shall ensure appropriate disposal of the Protected Information, as outlined in the Port Authority Information Security Handbook and return a Notification of Document Destruction to the Authority ([Attachment E](#)).

The documents specified under "A" and "B" below were not prepared for the purpose of providing information for the Consultant upon the present work but they were prepared for other purposes, and do not form a part of this Agreement. The Authority makes no representation or guarantee as to, and shall not be responsible for, their accuracy, completeness or pertinence, and, in addition, shall not be responsible for the conclusions to be drawn therefrom. They are made available to the Consultant merely for the purpose of providing information as is in the possession of the Authority, whether or not such information may be accurate, complete or pertinent, or of any value to the Consultant.

A. Engineering Reference Documents:

1. Exhibit I - SCADA Architecture Block Diagram (Typical)
2. Exhibit II - Stage I Conceptual Design Study performed for the Replacement of SCADA PLC Hardware and Interface
3. [Exhibit III - Section 16001: Operation and Maintenance Manuals](#) (link provided)
4. [Exhibit IV - Standards and Guidelines for Port Authority Industrial Control Systems Technology](#) (link provided)

B. Engineering Available Documents:

1. [Estimating Guidelines](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-estimating-guidelines.pdf>
2. [PA – Central Survey Group \(CSG\) CADD Standards](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-csg-cad-standard.pdf>
3. [PA – Engineering/Architectural Design \(EAD\) BIM Standards](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-ead-bim-standard-manua-september-2012.pdf>
4. [PA – Engineering/Architectural Design \(EAD\) CADD Standards](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-ead-cad-standard.pdf>
5. [Project Delivery – Roles and Responsibilities](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-revised-roles-responsibilities.pdf>
6. [PA – Standard Technical Specifications Index](#)
<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-standard-specifications-index.pdf>
7. [PA – Contract Unit Review Standards](#)
<http://www.panynj.gov/business-opportunities/pdf/contracts-unit-review-standards.pdf>
8. [PA – Sustainable Buildings Guidelines](#)
<http://www.panynj.gov/about/pdf/sustainable-building-guidelines.pdf>
9. [PA – Sustainable Infrastructure Guidelines](#)
http://www.panynj.gov/business-opportunities/pdf/PANYNJ_sust_infra_guidelines.pdf

10. Design Guidelines Introduction

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/design-guidelines-introduction.pdf>

a. Architecture

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/architecture.pdf>

b. Civil

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/civil.pdf>

c. Climate Resilience

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/climate-resilience.pdf>

d. Electrical

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/electrical.pdf>

e. Environmental

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/environmental.pdf>

f. Geotechnical

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/geotechnical.pdf>

g. Mechanical

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/mechanical.pdf>

h. Structural

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/structural.pdf>

i. Traffic

<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/traffic.pdf>

VIII. COMMERCIAL GENERAL LIABILITY INSURANCE AND WORKERS' COMPENSATION INSURANCE PROCURED BY CONSULTANT

A. Commercial Liability Insurance:

1. The Consultant(s), and all of its/their Sub-consultants shall take out, maintain, and pay the premiums on Commercial General Liability Insurance for the life of the Agreement and such Insurance and shall be written on an ISO occurrence form CG 00 01 0413 or its equivalent covering the obligations assumed by the Consultant(s) under this Agreement, including, but not limited to, Premises-Operations, Products and Completed Operations, and

Independent Contractor's coverages, with contractual liability language covering the obligations assumed by the Consultant(s) with insurance covering against claims for injuries to persons or damages to property which may arise from or in connection with products and materials supplied to the Agency in limits of not less than \$5,000,000 combined single limit per occurrence and in the annual aggregate. If vehicles are to be used to carry out the performance of this Agreement, then the Consultant(s) shall also take out, maintain and pay the premiums on Automobile Liability Insurance covering all owned, non-owned and hired autos in not less than \$5,000,000 combined single limit per accident for bodily injury and property damage.

The insurance shall be written on an occurrence basis, as distinguished from a "claims made" basis, and shall not include any exclusions for "action over claims" (insured vs. insured) and minimally arranged to provide and encompass at least the following coverages:

- Contractual Liability to cover liability assumed under the Agreement;
- Independent Contractor's Coverage;
- Premises-Operations, Products and Completed Operations Liability Insurance;
- The insurance coverage (including primary, excess and/or umbrella) hereinafter afforded by the Consultant(s) and Sub-consultant(s) shall be primary insurance and non-contributory with respect to the additional insureds;
- Excess/umbrella policies shall "follow form" to the underlying policies;
- Excess/umbrella policies shall have a liberalization clause with drop down provision;
- To the extent any coverage the Consultant(s) and Sub-consultant(s) obtains and/or maintains under this Agreement contains "Other Insurance" language or provisions shall not be applicable to the additional insureds or to any insurance coverage maintained by the additional insureds;
- All insurance policies shall include a waiver of subrogation, as allowed by law, in favor of the additional insureds;
- Defense costs must be outside of policy limits. Eroding limits policies are not permitted;
- In the event the Consultant(s) and/or its Sub-consultant(s) obtains and/or maintains broader coverage and/or insurance in an amount greater than the minimum limits required under this Agreement, then the full limits of that insurance coverage will be available to respond to any claims asserted against the additional insureds that arises out of or is in any way connected with this Agreement; and
- Additional insureds coverage shall not be restricted to vicarious liability unless required by controlling law.

In addition, the liability policy(ies) shall be written on a form at least as broad as ISO Form CG 20 10 10 01 (for ongoing operations work) together with ISO Form CG 20 37 10 01 (for completed operations work) or their equivalent and endorses to name "The Port Authority of New York and New Jersey, and its related entities, their Commissioners, Directors, Superintendents, officers, partners, employees, agents, their affiliates, successors or assigns", in addition to: The City of New York, for all operations at John F. Kennedy and LaGuardia Airports; Port Authority Trans-Hudson Corporation, for operations at PATH; AFCO AvPorts Management LLC, for operations at Teterboro Airport; AFCO AvPorts Management LLC and NY State Dept. of Transportation, for operations at Stewart International Airport, Trends Urban Renewal for operations at PATC and Silverstein Properties Inc.; The Port Authority of

New York and New Jersey; Silverstein 2/3/4 WTC Redevelopment LLC; WTC Redevelopment LLC; World Trade Center Properties LLC; 4 World Trade Center LLC; Net Lessees 'Association of the World Trade Center; WTC Management and Development LLC; Silverstein WTC Mgmt. Co. LLC. Silverstein WTC Mgmt. Co II LLC; Silverstein WTC Properties LLC; Silverstein WTC Management and Development LLC; Silverstein WTC LLC.; WTC Investors LLC.; 4 WTC Holdings LLC; WTC Investors Management and Development LLC; World Trade Center Holdco LLC; 4 WTC Mezz LLC. for operations at the World Trade Center Site as “Insured” (as defined in the policy or in an additional insured endorsement amending the policy’s “Who Is An Insured” language as the particular policy may provide) on its liabilities policies with respect to liability arising out of work or operations performed by or on behalf of the Consultant(s) including, but not limited to, materials, parts or equipment furnished in connection with such work or operations. The “Insured” shall be afforded coverage and defense as broad as if they are the first named insured and regardless of whether they are otherwise identified as additional insureds under the liability policies, including but not limited to premises-operations, products-completed operations of the Commercial General Liability Policy. Such additional insureds status shall be provided regardless of privity of contract between parties. The liability policy(ies) and certificate of insurance shall contain cross-liability language providing severability of interests so that coverage will respond as if separate policies were in force for each insured. An act or omission of one of the insureds shall not reduce or void coverage to the other insureds. The Consultant(s) is/are responsible for all deductibles or losses not covered by commercially procured insurance. Any portion of the coverage to be provided under a Self-Insured Retention (SIR) of the Consultant(s) is/are subject to the review and approval of the General Manager, Risk Finance. Furthermore, any insurance or self-insurance maintained by the above additional insureds shall not contribute to any loss or claim.

Any self-insured retention shall cover any liability imposed upon the Consultant(s) and any and all subsidiaries with respect to all operations and obligations assumed by the Consultant(s) and any and all subsidiaries. The undersigned represents that such program provides the Additional Insureds (as defined in the Agreement) with all rights, immunities and protections that would be provided by traditional independent insurance required under the Agreement, including, but not limited to, the defense obligations that insurers are required to undertake in liability policies pursuant to the terms of the Agreement.

If any of the Work is to be done on or at Port Authority facilities by the Sub-consultants and, if the Consultant(s) requires its Sub-consultant(s) to procure and maintain such insurance in the name of the Consultant(s), then such insurance as is required herein shall include and cover the additional insureds and it must have insurance limits not lower than those set forth by the Port Authority herein, along with all the insurance requirements in this “Insurance” section.

Further, it is the Consultant’s responsibility to maintain, enforce and ensure that the type of coverages and all limits maintained by it and any of all Sub-consultants are accurate, adequate and in compliance with the Port Authority requirement. All certificates of insurance shall be turned over to the Port Authority prior to the start of work, and upon completion of the Agreement.

“The Consultant, its Sub-consultant(s) and its insurer(s) shall not, without obtaining the express advance written permission from the General Counsel of the Port Authority, raise any defense involving in any way the jurisdiction of the Tribunal over the person of the Port

Authority, the immunity of the Port Authority, its Commissioners, officers, agents or employees, the governmental nature of the Port Authority, or the provisions of any statutes respecting suits against the Port Authority.”

2. Workers' Compensation Insurance:

The Consultant(s) and its/their Sub-consultant(s) shall take out, maintain and pay premiums on Workers' Compensation Insurance in accordance with the requirements of law in the state(s) where work will take place, and Employer's Liability Insurance with limits of not less than \$1,000,000 each accident. Such policy shall include a waiver of subrogation endorsement in the benefit of the additional insureds.

3. Additional Coverages: The Consultant(s) shall have the policy endorsed when required by the Chief Engineer for specific services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

- a) Any/all activities performed airside must, at all times, be performed while under security escort as approved in advance, and in writing by the Project Manager. If the services of the Consultant(s), as directed by the Authority, require the performance of services airside, the Commercial General Liability and Automobile Liability coverage limits stipulated in subparagraph 1, above, shall be increased to an amount not less than \$25,000,000 per occurrence as provided herein.
- b) Endorsement to eliminate any exclusions applying to the explosion, collapse, and underground property damage (XCU) hazards.
- c) Endorsement to eliminate any exclusions on account of ownership, maintenance, operation, use, loading or unloading of watercraft.
- d) Coverage for work within fifty (50) feet of railroad.

4. Additional Coverages: The Consultant(s) shall have the policy endorsed when required by the Chief Engineer for specific services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

- a) United States Longshoremen's and Harbor Workers' Compensation Act Endorsement.
- b) Coverage B Endorsement - Maritime (Masters or Members of the Crew of Vessels), in limits of not less than \$1,000,000 per occurrence.
- c) Amendments to Coverage B, Federal Employers' Liability Act in limits of not less than \$1,000,000 per occurrence.

5. Professional Liability Insurance:

The Consultant(s) shall take out, maintain and pay premiums on Professional Liability Insurance in limits of not less than \$5,000,000 each occurrence, covering acts, errors, mistakes, and omissions arising out of the work or services performed by Consultant(s), or any person employed by Consultant(s). All endorsements and exclusions shall be evidenced on the certificate of insurance. The coverage shall be written on an occurrence basis or may be written on a claims made basis with a minimum of a three-year reporting/discovery period.

Each policy above shall contain an endorsement that the policy may not be canceled, terminated or modified without thirty (30) days' prior written notice to the Project Manager, at the location where the work will take place with a copy to the General Manager, Risk Financing.

The Port Authority may, at any time during the term of this Agreement, change or modify the limits and coverages of insurance. Should the modification or change result in an additional premium, the General Manager, Risk Financing for the Port Authority may consider such cost as an out-of-pocket expense.

Within five (5) days after award of this Agreement and prior to the start of work at the site, the Consultant(s) must submit an original certificate of insurance, to the Project Manager and Exigis email: certificates-portauthority@riskworks.com at the location where the work will take place. This certificate of insurance MUST show evidence of the above insurance policy(ies), including, but not limited to, the title of this Agreement, the P. A. Agreement number, the notice of cancellation provisions, prior to the start of work. The Consultant(s) is/are also responsible for maintaining and conforming to all insurance requirements from the additional insureds and their successors and assigns. The General Manager, Risk Financing must approve the certificate(s) of insurance before any work can begin. Upon request of the General Manager, Risk Financing/Treasury, the Consultant shall furnish to the Authority a certified copy of each policy itself, including the provisions establishing premiums.

Renewal certificates of insurance or policies shall be delivered to the Authority's Project Manager, and upon request from the additional insureds, their successors or assigns at least fifteen (15) days prior to the expiration date of each expiring policy. The General Manager, Risk Financing must approve the renewal certificate(s) of insurance before work can resume on the facility. If at any time any of the certificates or policies shall become unsatisfactory to the Authority, the Consultant(s) shall promptly obtain a new and satisfactory certificate and policy and provide same to the Port Authority.

If at any time the above liability insurance should be canceled, terminated, or modified so that the insurance is not in effect as above required, then, the Consultant(s) and all Sub-consultants shall suspend performance of the Agreement at the premises until a satisfactory insurance policy(ies) and certificate of insurance is provided to and approved by Risk Financing, unless the Facility or Project Manager directs the Consultant(s), in writing, to continue to performing work under the Agreement. If the Agreement is so suspended, no extension of time shall be due on account thereof.

Failure by the Consultant(s) to meet any of the insurance requirements, including the requirement that the Port Authority be afforded the full extent of the insurance obtained under this Agreement without limitation, shall be deemed a material breach of Agreement and may be a basis for termination of this Agreement by the Port Authority.

The requirements for insurance procured by the Consultant(s) shall not in any way be construed as a limitation on the nature or extent of the contractual obligations assumed by the Consultant(s) under this Agreement. The insurance requirements are not a representation by the Authority as to the adequacy of the insurance to protect the Consultant against the obligations imposed on them by law or by this or any other Agreement.

All insurance coverage shall be provided by the Consultant(s) and/or by or for any of its/their Sub-consultant(s) at no additional expense to the Port Authority and its related entities. A copy

of this “Insurance” section shall be given to your insurance agent and Sub-consultant(s) and shall form a part of the covered Agreement for insurance purposes in furtherance of the insurance requirements of this Agreement.

IX. CONDITIONS AND PRECAUTIONS

1. General

The Consultant shall immediately inform PATH of any unsafe condition discovered at any time during the course of this work.

All traffic on any PATH site shall always have priority over any and all of the Consultant's operations.

2. Work Areas

The Consultant shall limit its field visits to the areas necessary for the performance of such work and shall not interfere with the operation of any facility without first obtaining specific approval from PATH.

The Consultant shall not permit any objects or pieces of equipment to lie unattended on platforms, sidewalks, roadways or structures at any time.

3. Work Hours

The Consultant shall coordinate the work at the site(s) with PATH's Project Manager at least two weeks prior to the visit(s).

Any work inside PATH Substations, Electrical/Power Rooms and Vent Buildings shall be performed between the hours of 7:30 A.M. to 1:15 P.M. each day Sunday through Saturday. Any work inside PATH Communications Rooms shall be performed between the hours of 8:00 A.M. to 1:00 P.M. each day Monday through Friday.

The Consultant shall cease work upon request from PATH's Project Manager (or designee) and reschedule work, as needed, due to an event affecting PATH riders.

In any case, no work shall be performed at PATH Facilities on a legal holiday of either the State of New York or the State of New Jersey, unless approved by PATH.

4. Drugs and Alcohol Program

Effective June 12, 2017 (the “Effective Date,”) the Consultant and its subconsultants, which perform regulated services (as defined in 49 CFR Part 219) for PATH, shall comply with the Federal Railroad Administration (“FRA”) 49 CFR 219 "Control of Alcohol and Drug Use" (“Part 219.”) For the purposes of compliance, the Consultant and its subconsultants shall not be included in the Port Authority or PATH Part 219 Compliance Program and must therefore comply as otherwise set forth in Part 219. In order to perform Work covered by Part 219 after the Effective Date, Consultant and its subconsultants shall submit to PATH a written certification that the Consultant and its subconsultants are in compliance with all applicable parts of Part 219. This certification and any other documentation required by PATH or Part 219 must be provided prior to performing Work covered by Part 219 under the Agreement and at least every six (6) months during the duration of the Agreement, or at any other frequency determined by PATH or required by the FRA.

The Consultant's, or its subconsultants', failure to comply with any provision of this numbered clause may be deemed as a substantial breach of this Agreement.

P.A. AGREEMENT #*-**-*****

DATE

FIRM NAME

ADDRESS

CITY, STATE ZIP

Attention: CONTACT, TITLE

SUBJECT: PERFORMANCE OF EXPERT PROFESSIONAL ENGINEERING SERVICES FOR PORT AUTHORITY TRANS-HUDSON SUPERVISORY CONTROL AND DATA ACQUISITION, PROGRAMMABLE LOGIC CONTROLLER AND INTERFACE EQUIPMENT REPLACEMENT STAGE III AND STAGE IV DESIGN SERVICES DURING 2017 THROUGH 2022

Dear CONTACT:

1. The Port Authority of New York and New Jersey (the "Authority") hereby offers to retain FIRM NAME ("the Consultant" or "you") to provide expert professional engineering services for the Port Authority Trans-Hudson (PATH) Supervisory Control and Data Acquisition (SCADA) Programmable Logic Controllers (PLC) and Interface Equipment Replacement Design Services as more fully set forth in Attachment A, which is attached hereto and made a part hereof, during 2017 through 2022.

2. This Agreement shall be signed by you and the Authority's Chief Procurement Officer. As used herein "Chief Engineer" shall mean the Chief Engineer, or the Deputy Chief Engineer of the Authority, acting either personally or through their duly authorized representatives acting within the scope of the particular authority vested in them unless specifically stated to mean acting personally.

For the purpose of administering this Agreement, the Chief Engineer has designated DAR NAME, TITLE, to act as his duly authorized representative. The Project Manager for this project is NAME, at (***) ***-****, or e-mail address ***@panynj.gov.

3. Your services shall be performed as expeditiously as possible and at the time or times required by the Chief Engineer. Time is of the essence in the performance of all your services under this Agreement.

4. In order to effectuate the policy of the Authority, the services provided by the Consultant shall comply with all provisions of federal, state, municipal, local and departmental laws, ordinances, rules, regulations, and orders which would affect or control said services as if the services were being performed for a private corporation, unless the Authority standard is more stringent, in which case the Authority standard shall be followed, or unless the Consultant shall receive a written

notification to the contrary signed by the Chief Engineer personally, in which case the requirements of said notification shall apply.

5. The Consultant shall meet and consult with Authority staff as requested by the Chief Engineer in connection with the services to be performed herein. Any Contract Drawings and Technical Specifications and other items to be submitted or prepared by the Consultant hereunder shall be subject to the review of the Chief Engineer. The Chief Engineer may disapprove if, in his sole opinion, said items are not in accordance with the requirements of this Agreement or with sound engineering principles or are impractical, uneconomical or unsuited in any way for the purpose for which the contemplated construction is intended. If any of the said items or any portion(s) thereof are so disapproved, the Consultant shall forthwith revise them until they meet the approval of the Chief Engineer, but the Consultant shall not be compensated under any provision of this Agreement for performance of such revisions. No approval or disapproval or omission to approve or disapprove, however, shall relieve the Consultant of its responsibility under this Agreement to furnish, in accordance with an agreed upon schedule, a complete, practical, economical design and Contract Drawings and Technical Specifications, and corrections and changes therein which are best suited for the contemplated construction, are done in accordance with sound engineering principles and are signed and sealed by a licensed Professional Engineer.

6. When services to be performed by the Consultant include the preparation of contract documents, or the performance of post award services, the Consultant shall submit its specific Quality Assurance/Quality Control Program to the Chief Engineer prior to the performance of said services. Upon completion of specific services requested hereunder, the Consultant shall submit a letter to the Chief Engineer certifying the Consultant's conformance with the aforementioned Quality Assurance/Quality Control Program.

7. When the services to be performed by the Consultant include the preparation of computer aided design and drafting (CADD) documents, said documents must be prepared using the latest available version of Autodesk's "AUTOCAD" software or as directed by the Engineer prior to the performance of specific services. All drawings shall be prepared in strict conformance to the Port Authority CADD Standards. All submissions of CADD drawings shall be submitted to the Authority on compact discs, USB drives, uploaded to the Project Website, or as otherwise required in DWG and DWF format in accordance with the Port Authority CADD Standards.

8. You shall not continue to render services under this Agreement after the point at which the total amount to be paid to you hereunder including reimbursable expenses reaches the amount of \$*** unless you are specifically authorized in writing to so continue by the Chief Engineer. If no such authorization is issued, this Agreement shall be terminated without further obligation by either of the parties as to services not yet performed, but you shall be compensated as hereinafter provided for services already completed. It is understood, however, that this limitation shall not be construed to entitle you to the above amount as a minimum compensation.

9. As full compensation for all your services and obligations in connection with this Agreement, the Authority will pay you the total of the amounts computed under subparagraphs A, B, C, D and E below, subject to the limits on compensation and the provisions set forth in paragraph 8 above.

Subject to the terms and conditions below, travel time is not reimbursable under subparagraphs A, B, and C hereunder.

A. The Consultant will be compensated at an amount equal to *.* times the actual salaries paid by you to professional and technical personnel (but not partners or principals) for time actually spent by them in the performance of services hereunder, plus an amount equal to the number of hours actually spent by partners and principals in the performance of services hereunder times the billing rate (no multiplier applied) described below but in each case excluding premium payments for overtime work or night work or for performing hazardous duty. Attached hereto is a schedule of actual salaries and titles of architects, engineers, technical staff, or other permanent professional and technical personnel employed by you, as well as rates customarily billed for partners and principals on projects such as this. Said staffing analysis shall clearly indicate any of your employees, proposed by you to perform the requested services that are former Authority employees. For compensation purposes under this Agreement, no said salary or amount shall exceed the salary or amount received by said personnel or rate customarily billed for a partner or principal as of the effective date of this Agreement unless the Chief Engineer has been notified in advance, in writing, of the increased salary, rate or amount and approves the increase.

The Consultant shall verify that its employees, or subconsultants, working under this Agreement are legally present and authorized to work in the United States, as per the federally required I-9 Program. Furthermore, upon request of the Authority, the Consultant shall furnish, or provide the Authority access to federal Form I-9 (Employment Eligibility Verification) for each individual hired by the Consultant, performing services hereunder. This includes citizens and noncitizens.

The Authority reserves the right of approval of all personnel, amounts, billing rates and salaries of said personnel performing services under this Agreement. When requesting salary or billing rate adjustments for one or more of its personnel, the Consultant shall submit his/her name, title, current direct hourly rate or billing rate, proposed new direct hourly salary or billing rate, resulting percentage increase, effective date, and reason for the requested change setting forth in detail any increased costs to the Consultant of providing the services under this Agreement which has given rise to the request for increased salary. For adjustments submitted after the effective date of this Agreement, the Authority will grant an increase only if the Consultant demonstrates compliance with all of the following conditions: that increases in salary, or partner's or principal's billing rate or amount are a) in accordance with the program of periodic merit and cost of living increases normally administered by it, b) are warranted by increased costs of providing services under this Agreement, c) are based upon increases in salaries and billing rates which are generally applicable to all of Consultant's clients, and d) are in accordance with the Authority's salary rate increase policy for the current year for Authority employees possessing comparable skills and experience. If, during any calendar year, Authority limits are not available to the Consultant in a timely fashion, increases falling within such limits may be approved retroactively, as appropriate. The amount of increase in salary or billing rate, if any, to be applicable under this Agreement will therefore in all cases be finally determined by the Chief Engineer or their designee, in their sole and absolute discretion.

Notwithstanding the above, the multiplier set forth in the first line of this subparagraph shall be applied only in the case of personnel other than partners or principals who are permanent employees.

B. Premium payments for overtime work or night work or for performing hazardous duty, actually paid to professional and technical employees, but not partners or principals for time actually spent by them in the performance of services hereunder when such overtime or other premium payments have been demonstrated to be in accordance with the Consultant's normal business practice and have been authorized in advance by the Chief Engineer in writing. The Project Manager for the Authority shall have the right to authorize and approve premium payments up to a total amount of one thousand dollars (\$1,000) per occasion. Payments above said total amount shall be subject to the prior written authorization of the Chief Engineer. Such premium payments to supervisory employees who do not receive such payments in the Consultant's normal business practice shall not be given under this Agreement.

C. Amounts actually paid to subconsultants hereunder who have been retained after the written approval by the Chief Engineer of the subconsultant and the compensation to be paid the subconsultant. The Consultant shall submit a copy of the terms and conditions of the subconsultant's compensation (including multiplier, if applicable), as well as an estimate of the number of hours required by the subconsultant to perform his services, as part of any request for approval of the subconsultant.

D. Out-of-pocket expenses, approved in advance by the Chief Engineer, necessarily and reasonably incurred and actually paid by you in the performance of your services hereunder. Out-of-pocket expenses are expenses that are unique to the performance of your services under this Agreement and generally contemplate the purchase of outside ancillary services, except that for the purpose of this Agreement, out-of-pocket expenses do include amounts for long distance telephone calls, rentals of equipment, travel and local transportation, and meals and lodging on overnight trips.

Notwithstanding the above the Authority will pay an amount approved in advance by the Chief Engineer and computed as follows for the reproduction of submittal drawings, specifications and reports:

1) If the Consultant uses its own facilities to reproduce such documents, an amount computed in accordance with the billing rates the Consultant customarily charges for reproduction of such documents on agreements such as this, or

2) If the Consultant uses an outside vendor for the reproduction of such documents, the actual, necessary and reasonable amounts for the reproduction of such documents.

The Authority will not pay for expenses that are usually and customarily included as part of the Consultant's overhead. For the purposes of this Agreement out-of-pocket expenses do not include amounts for typing, utilization of computer systems, computer aided design and drafting (CADD), cameras, recording or measuring devices, flashlights and other small, portable equipment, safety supplies, phones, telephone calls, electronic messaging including facsimile or expendable office supplies. Unless otherwise indicated, required insurance is not a reimbursable expense.

When the Consultant uses its personal vehicle to provide services within the Port District, the Consultant will be reimbursed for travel expenses beyond normal commuting costs at a rate not higher than the Annual Federal Mileage Reimbursement Rate (as determined by the United States General Services Administration (GSA) – <http://www.gsa.gov/portal/content/100715>) per mile traveled by auto.

When the Consultant is asked to provide services outside the Port District, the actual cost of transportation as well as the cost for hotel accommodations and meals will be reimbursable hereunder when approved in advance in writing by the Chief Engineer. The cost for all meals and lodging on approved overnight trips is limited to the amounts established by the United States GSA for that locality.

GSA Domestic Rates: <http://www.gsa.gov/portal/category/21287>

You shall obtain the Chief Engineer's written approval prior to making expenditures for out-of-pocket expenses in excess of one-thousand dollars (\$1,000) per specific expenditure and for all overnight trips, which are reimbursable expenditures as set forth above. You shall substantiate all billings for out-of-pocket expenses in excess of twenty-five dollars (\$25) with receipted bills and provide said receipts with the appropriate billing.

E. As used herein:

"Port District" is an area comprised of about 1,500 square miles in the States of New York and New Jersey, centering about New York Harbor. The Port District includes the Cities of New York and Yonkers in New York State, and the cities of Newark, Jersey City, Bayonne, Hoboken and Elizabeth in the State of New Jersey, and over 200 other municipalities, including all or part of seventeen counties, in the two States.

"Salaries paid to employees" or words of similar import means salaries and amounts actually paid (excluding payments or factors for holidays, vacations, sick time, bonuses, profit participations and other similar payments) to architects, engineers, designers, drafters or other professional and technical employees of the Consultant, for time actually spent directly in the performance of technical services hereunder and recorded on daily time records which have been approved by the employee's immediate supervisor, excluding the time of any employee of the Consultant to the extent that the time of such employee of the Consultant is devoted to typing/word processing, stenographic, clerical or administrative functions. Such functions shall be deemed to be included in the rates referred to in subparagraph A above.

10. You shall keep, and shall cause any subconsultants under this Agreement to keep, daily records of the time spent in the performance of services hereunder by all persons whose salaries or amounts paid thereto will be the basis for compensation under this Agreement as well as records of the amounts of such salaries and amounts actually paid for the performance of such services and records and receipts of reimbursable expenditures hereunder, and, notwithstanding any other provisions of this Agreement, failure to do so shall be a conclusive waiver of any right to compensation for such services or expenses as are otherwise compensable hereunder. The Authority will have the right to audit all such records.

The Authority will have the right to inspect your records, and those of your subconsultants, pertaining to any compensation to be paid hereunder, such records to be maintained by you and your subconsultants for a period of one year after completion of services to be performed under this Agreement.

11. On or about the fifteenth (15th) day of each month, you shall render a bill for services performed and reimbursable out-of-pocket expenses incurred in the prior month, accompanied by such records and receipts as required, to the Project Manager. Each invoice shall bear your taxpayer number and the purchase order number provided by the Chief Engineer. Upon receipt of the foregoing, the Chief Engineer will estimate and certify to the Authority the approximate amount of compensation earned by you up to that time. As an aid to you the Authority will, within fifteen (15) days after receipt of such certification by the Chief Engineer, advance to you by check or electronic funds the sum certified minus all prior payments to you for your account.

12. The Authority may at any time for cause terminate this Agreement as to any services not yet rendered, and may terminate this Agreement in whole or in part without cause upon three (3) days' notice to you. You shall have no right of termination as to any services under this Agreement without just cause. Termination by either party shall be by certified letter addressed to the other at its address hereinbefore set forth. Should this Agreement be terminated in whole or in part by either party as above provided, you shall receive no compensation for any services not yet performed, but if termination is without fault on your part, the Authority will pay you as the full compensation to which you shall be entitled in connection with this Agreement the amounts computed as above set forth for services completed to the satisfaction of the Chief Engineer through the date of termination, minus all prior payments to you.

13. Under no circumstances shall you or your subconsultants communicate in any way with any contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the services to be performed hereunder except upon prior written approval and instructions of the Chief Engineer, provided, however that data from manufacturers and suppliers of material shall be obtained by you when you find such data necessary unless otherwise instructed by the Chief Engineer.

14. Any services performed for the benefit of the Authority at any time by you or on your behalf, even services in addition to those described herein, even if expressly and duly authorized by the Authority, shall be deemed to be rendered under and subject to this Agreement (unless referable to another express written, duly executed agreement by the same parties), whether such additional services are performed prior to, during or subsequent to the services described herein, and no rights or obligations shall arise out of such additional services.

15. No certificate, payment (final or otherwise), acceptance of any work nor any other act or omission of the Authority or the Chief Engineer shall operate to release you from any obligations under or upon this Agreement, or to estop the Authority from showing at any time that such certificate, payment, acceptance, act or omission was incorrect or to preclude the Authority from recovering any money paid in excess of that lawfully due, whether under mistake of law or fact or to prevent the recovery of any damages sustained by the Authority.

16. Mylars of the contract drawings, originals of technical specifications, estimates, reports, records, data, charts, documents, renderings, computations, computer tapes or disks, and other papers of any type whatsoever, whether in the form of writing, figures or delineations, which are prepared or compiled in connection with this Agreement, shall become the property of the Authority, and the Authority will have the right to use or permit the use of them and of any ideas or methods represented by them for any purpose and at any time without compensation other than that specifically provided herein. The Consultant hereby warrants and represents that the Authority will have at all times the ownership and rights provided for in the immediately preceding sentence free and clear of all claims of third persons whether presently existing or arising in the future and whether presently known to either of the parties to this Agreement or not. This Agreement shall not be construed, however, to require the Consultant to obtain for the Consultant and the Authority the right to use any idea, design, method, material, equipment or other matter which is the subject of a valid patent, unless owned by the Consultant, or subconsultant, or an employee of either. Whether or not your Proposal is accepted by the Authority, it is agreed that all information of any nature whatsoever which is in any way connected with the services performed in connection with this Agreement, regardless of the form of which it has been or may be given by you or on your behalf, whether prior or subsequent to the execution of this Agreement, to the Authority, its Commissioners, officers, agents or employees, is not given in confidence and may be used or disclosed by or on behalf of the Authority without liability of any kind, except as may arise under valid existing or pending patents, if any.

17. If research or development is furnished in connection with the performance of this Agreement and if in the course of such research or development patentable subject matter is produced by the Consultant, his officers, agents, employees, or subconsultants, the Authority will have, without cost or expense to it, an irrevocable, non-exclusive royalty-free license to make, have made, and use, either itself or by anyone on its behalf, such subject matter in connection with any activity now or hereafter engaged in or permitted by the Authority. Promptly upon request by the Authority, the Consultant shall furnish or obtain from the appropriate person a form of license satisfactory to the Authority, but it is expressly understood and agreed that, as between the Authority and the Consultant the license herein provided for shall nevertheless arise for the benefit of the Authority immediately upon the production of said subject matter, and shall not await formal exemplification in a written license agreement as provided for above. Such license agreement may be transferred by the Authority to its successors, immediate or otherwise, in the operation or ownership of any real or personal property now or hereafter owned or operated by the Authority but such license shall not be otherwise transferable.

18. Notwithstanding anything to the contrary herein, the work product of the Consultant, its officers, agents, employees, or sub-consultants which is produced in accordance with the Agreement, whether it consists of computer programming or documentation thereof, including source code, and on any media whatsoever, shall be deemed to belong exclusively to the Authority, and the Authority will have the exclusive right to obtain and to hold in its own name any and all copyrights, patents, trade secrets and/or other proprietary rights and protection as may be produced as part of this work product, including the right to extensions or renewals, where appropriate. The work product shall not be destroyed or released to anyone outside of the Engineering Department

without express written authorization of the Chief Engineer. The Authority will have the exclusive right to use or permit the use of them and any ideas or methods represented by them for any purpose and at any time without other compensation than that specifically provided for herein. You agree to contract with your employees for the benefit of the Authority to insure that the Authority has such rights and to give to the Authority or any party designated by the Authority all assistance reasonably required to perfect the rights herein above stated. You shall indemnify and hold harmless the Authority against any claims of proprietary rights infringement arising out of such use of your work product.

19. You shall promptly and fully inform the Chief Engineer in writing of any patents or patent disputes, or intellectual property disputes, whether existing or potential, of which you have knowledge, relating to any idea, design, method, material, equipment or other matter related to the subject matter of this Agreement or coming to your attention in connection with this Agreement.

20. This Agreement being based upon your special qualifications for the services herein contemplated, any assignment, subletting or other transfer of this Agreement or any part hereof or of any moneys due or to become due hereunder without the express consent in writing of the Authority shall be void and of no effect as to the Authority, provided, however, that you may sublet services to subconsultants with the express consent in writing of the Chief Engineer. All persons to whom you sublet services, however, shall be deemed to be your agents and no subletting or approval thereof shall be deemed to release you from your obligations under this Agreement or to impose any obligation on the Authority to such subconsultant or give the subconsultant any rights against the Authority.

21. The Authority has a long-standing practice of encouraging Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) to seek business opportunities with it, either directly or as subconsultants or subcontractors. "Minority-owned business" or "MBE" means a business entity which is at least fifty-one percent (51%) owned by one (1) or more members of one (1) or more minority groups, or, in the case of a publicly held corporation, at least fifty-one percent (51%) of the stock of which is owned by one (1) or more members of one (1) or more minority groups; and whose management and daily business operations are controlled by one (1) or more such individuals who are citizens or permanent resident aliens. "Women-owned business" or "WBE" means a business which is at least fifty-one percent (51%) owned by one (1) or more women; or, in the case of a publicly held corporation, fifty-one percent (51%) of the stock of which is owned by one (1) or more women: and whose management and daily business operations are controlled by one (1) or more women who are citizens or permanent resident aliens.

"Minority group" means any of the following racial or ethnic groups:

A. Black persons having origins in any of the Black African racial groups not of Hispanic origin;

B. Hispanic persons of Puerto Rican, Mexican, Dominican, Cuban, Central or South American culture or origin, regardless of race;

C. Asian and Pacific Islander persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands;

D. American Indian or Alaskan Native persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification.

The Chief Engineer has set a goal of twelve percent (12%) participation by qualified and certified MBEs and five percent (5%) to qualified and certified WBEs on technical service projects.

To be "certified" a firm must be certified by the Authority's Office of Business Diversity and Civil Rights.

In order to facilitate the meeting of this goal, the Consultant shall use every good-faith effort to utilize subconsultants who are certified MBEs or WBEs to the maximum extent feasible.

The Authority has a list of certified MBE/WBE service firms which is available to you at <http://www.panynj.gov/business-opportunities/supplier-diversity.html>. The Consultant will be required to submit to the Authority's Office of Business Diversity and Civil Rights for certification the names of MBE/WBE firms it proposes to use who are not on the list of certified MBE/WBE firms.

22. NON-DISCRIMINATION REQUIREMENTS

The Consultant shall take all necessary and reasonable steps to ensure non-discrimination in the performance and administration of all aspects of this Agreement.

A. Consultant hereby agrees that no person on the ground of race, color, national origin, creed/religion, sex, age or handicap/disability shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the furnishing of goods or services or in the selection and retention of subconsultants and/or vendors under this Agreement. Consultant shall also ascertain and comply with all applicable federal, state and local laws, ordinances, rules, regulations, and orders that pertain to equal employment opportunity, affirmative action, and non-discrimination in employment.

B. Consultant agrees that these "Non-Discrimination Requirements" are a binding part of this Agreement. Without limiting the generality of any other term or provision of this Agreement, in the event the Authority, or a state or federal agency finds that the Consultant or any of its subconsultants or vendors has not complied with these "Non-Discrimination Requirements", the Authority may cancel, terminate or suspend this Agreement in accordance with Section 12 of this Agreement.

C. Consultant agrees to cooperate fully with the Authority's investigation of allegations of discrimination. Cooperation includes, but is not limited to, allowing the Authority to question employees during the investigation of allegations of discrimination, and complying with directives that the Authority or the State or Federal government deem essential to ensure compliance with these "Non-Discrimination Requirements."

23. NOTIFICATION OF SECURITY REQUIREMENTS

The Authority has the responsibility of ensuring safe, reliable and secure transportation facilities, systems, and projects to maintain the well-being and economic competitiveness of the region. Therefore, the Authority reserves the right to deny access to certain documents, sensitive security

sites and facilities (including rental spaces) to any person that declines to abide by Authority security procedures and protocols any person with a criminal record with respect to certain crimes or who may otherwise pose a threat to the construction site or facility security. The Authority reserves the right to impose multiple layers of security requirements on the Consultant, its staff and subconsultants and their staffs depending upon the level of security required, or make any amendments with respect to such requirements as determined by the Authority.

These security requirements may include but are not limited to the following:

- Execution of Non-Disclosure and Confidentiality Agreements and Acknowledgments

At the direction of the Authority, the Consultant shall be required to have its principals, staff and/or subconsultant(s) and their staff, execute Authority approved non-disclosure and confidentiality agreements.

- Consultant/Subconsultant identity checks and background screening

The Authority's designated background screening provider may require inspection of not less than two forms of valid/current government issued identification (at least one having an official photograph) to verify staff's name and residence; screening of federal, state, and/or local criminal justice agency information databases and files; screening of any terrorist identification files and access identification, to include some form of biometric security methodology, such as fingerprint, facial or iris scanning.

The Consultant may be required to have its staff, and any subconsultant's staff, material-men, visitors or others over whom the Consultant/subconsultant has control, authorize the Authority or its designee to perform background checks, and personal identity verification checks. Such authorization shall be in a form acceptable to the Authority. The Consultant and subconsultants may also be required to use an organization designated by the Authority to perform the background checks.

As of January 29, 2007, the Secure Worker Access Consortium (S.W.A.C.) is the only Authority approved provider to be used to conduct background screening and personal identity verification, except as otherwise required by federal law and/or regulation (such as Security Identification Display Area (SIDA), the federal regulatory requirements for personnel performing Work at aviation facilities and such as the Transportation Worker Identification Credential (TWIC) for personnel performing in secure areas at Maritime facilities). Information about S.W.A.C., instructions, corporate enrollment, online applications and location of processing centers can be found at <http://www.secureworker.com>, or S.W.A.C. may be contacted directly at (877) 522-7922 for more information and the latest pricing. The cost for said background checks for staff that pass and are granted a credential shall be reimbursable to the Consultant (and its subconsultants) as an out-of-pocket expense as provided herein. Staff that are rejected for a credential for any reason are not reimbursable.

- Issuance of Photo Identification Credential

No person shall be permitted on or about the Authority construction sites or facilities (including rental spaces) without a facility-specific photo identification credential approved by the Authority. If the Authority requires facility-specific identification credentials for the

Consultant and the subconsultant's staff, the Authority will supply such identification at no cost to the Consultant or its subconsultants. Such facility-specific identification credential shall remain the property of the Authority and shall be returned to the Authority at the completion or upon request prior to completion of the individual's assignment at the specific facility. It is the responsibility of the appropriate Consultant or subconsultant to immediately report to the Authority the loss of any staff member's individual facility-specific identification credential. The Consultant or subconsultant will be billed for the cost of the replacement identification credential. Consultant's and subconsultant's staff shall display Identification badges in a conspicuous and clearly visible manner, when entering, working at or leaving an Authority construction site or facility.

Employees may be required to produce not less than two forms of valid/current government issued identification having an official photograph and an original, unlaminated social security card for identify and SSN verification. Where applicable, for sensitive security construction sites or facilities, successful completion of the application, screening and identity verification for all employees of the Consultant and subconsultant shall be completed prior to being provided a S.W.A.C. ID Photo Identification credential.

- Designated Secure Areas

Services under the Agreement may be required in designated secure areas, as the same may be designated by the Authority ("Secure Areas"). The Authority will require the observance of certain security procedures with respect to Secure Areas, which may include the escort to, at, and/or from said high security areas by security personnel. All personnel that require access to designated Secure Areas who are not under escort by an authorized individual will be required to undergo background screening and personal identity verification.

- Forty-eight (48) hours prior to the proposed performance of any work in a Secure Area, the Consultant shall notify the Project Manager. The Consultant shall conform to procedures as may be established by the Project Manager from time to time and at any time for access to Secure Areas and the escorting of personnel hereunder. Prior to the start of work, the Consultant shall request a description from the Project Manager of the Secure Areas that will be in effect on the commencement date(s) of the requested services. The description of Secure Areas may be changed from time to time and at any time by the Project Manager during the term of the Agreement.

- Access control, inspection, and monitoring by security guards

The Authority may provide for Authority construction site or facility (including rental spaces) access control, inspection and monitoring by Port Authority Police or Authority retained contractor security guards. However, this provision shall not relieve the Consultant of its responsibility to secure its equipment and work and that of its subconsultant/subcontractor's and service suppliers at the Authority sites or facilities (including rental spaces). In addition, the Consultant, subconsultant or service provider is not permitted to take photographs, digital images, electronic copying and/or electronic transmission or video recordings or to make sketches on any other medium at any Authority sites or facilities (including any rental spaces), except when necessary to perform the Work under this Agreement, without prior written

permission from the Authority. Upon request, any photograph, digital image, video recording or sketch made of any Authority sites or facility shall be submitted to the Authority to determine compliance with this paragraph, which submission shall be conclusive and binding on the submitting entity.

- Compliance with the Port Authority Information Security Handbook

This Agreement may require access to Authority information considered Protected Information (“PI”) as defined in the Port Authority Information Security Handbook (“Handbook”), dated October, 2008, corrected as of November 14, 2013, and as may be further amended. The Handbook and its requirements are hereby incorporated into this Agreement and will govern the possession, distribution and use of PI if at any point during the lifecycle of the project or solicitation it becomes necessary for the Consultant to have access to PI. Consultant shall protect sensitive information by applying uniform safeguarding measures to prevent unauthorized disclosure and to control any authorized disclosure of this information within the Authority or when released by the Authority to outside entities. The Handbook can be obtained at: <http://www.panynj.gov/business-opportunities/pdf/Corporate-Information-Security-Handbook.pdf>. The following is an outline of some of the procedures, obligations and directives contained in the Handbook:

- (1) require that the Consultant and subconsultants, when appropriate, sign Non-Disclosure and Confidentiality Agreements (NDAs), or an Acknowledgment of an existing NDA, provided by the Authority as a condition of being granted access to Protected Information categorized and protected as per the Handbook;
- (2) require that individuals needing access to PI be required to undergo a background check, pursuant to the process and requirements noted in § 3.2 of the Information Security Handbook.
- (3) require Consultants and commercial enterprises to attend training to ensure security awareness regarding Authority information;
- (4) specific guidelines and requirements for the handling of PI to ensure that the storage and protection of PI;
- (5) restrictions on the transfer, shipping, and mailing of PI;
- (6) prohibitions on the publication, posting, modifying, copying, reproducing, republishing, uploading, transmitting, or distributing PI on websites or web pages. This may also include restricting persons, who either have not passed a pre-screening background check, or who have not been granted access to PI, from viewing such information;
- (7) require that PI be destroyed using certain methods, measures or technology pursuant to the requirements set forth in the Handbook;
- (8) require the Consultant to mandate that each of its subconsultants maintain the same levels of security required of the Consultant under any Authority-awarded Agreement.

- (9) prohibit the publication, exchange or dissemination of PI developed from the project or contained in reports, except between Consultants and subconsultants, on a need to know basis, without prior approval of the Authority;
- (10) require that PI only be reproduced or copied pursuant to the requirements set forth in the Handbook.
- Audits for Compliance with Security Requirements
- The Authority may conduct random or scheduled examinations of business practices under this section entitled “NOTIFICATION OF SECURITY REQUIREMENTS” and the Handbook in order to assess the extent of compliance with security requirements, PI procedures, protocols and practices, which may include, but not be limited to, verification of background check status, confirmation of completion of specified training, and/or a site visit to view material storage locations and protocols.

24. CONFIDENTIAL INFORMATION/NON-PUBLICATION

A. As used herein, confidential information shall mean all information disclosed to the Consultant or the personnel provided by the Consultant hereunder which relates to the Authority's and/or the Port Authority Trans Hudson (PATH) Corporation's past, present, and future research, development and business activities including, but not limited to, software and documentation licensed to the Authority or proprietary to the Authority and/or PATH and all associated software, source code procedures and documentation. Confidential information shall also mean any other tangible or intangible information or materials including but not limited to computer identification numbers, access codes, passwords, and reports obtained and/or used during the performance of the Consultant's Services under this Agreement.

B. Protected Information shall mean and include collectively, as per *The Port Authority of New York & New Jersey Information Security Handbook (October 15, 2008, corrected as of November 14, 2013)*, Confidential Information, Confidential Proprietary Information, Confidential Privileged Information and information that is labeled, marked or otherwise identified by or on behalf of the Authority so as to reasonably connote that such information is confidential, privileged, sensitive or proprietary in nature. Confidential Information shall also include all work product that contains or is derived from any of the foregoing, whether in whole or in part, regardless of whether prepared by the Authority or a third-party or when the Authority receives such information from others and agrees to treat such information as Confidential.

C. The Consultant shall hold all such Protected Information in trust and confidence for the Authority, and agrees that the Consultant and the personnel provided by the Consultant hereunder shall not, during or after the termination or expiration of this Agreement, disclose to any person, firm or corporation, nor use for its own business or benefit, any information obtained by it under or in connection with the supplying of services contemplated by this Agreement. The Consultant and the personnel provided by the Consultant hereunder shall not violate in any manner any patent, copyright, trade secret or other proprietary right of the Authority or third persons in connection with their services hereunder, either before or after termination or expiration of this Agreement. The Consultant and the personnel provided by the Consultant hereunder shall not willfully or otherwise perform any dishonest or fraudulent acts, breach any security procedures, or damage or

destroy any hardware, software or documentation, proprietary or otherwise, in connection with their services hereunder. The Consultant shall promptly and fully inform the Chief Engineer in writing of any patent, copyright, trade secret or other intellectual property rights or disputes, whether existing or potential, of which the Consultant has knowledge, relating to any idea, design, method, material, equipment or other matter related to this Agreement or coming to the Consultant's attention in connection with this Agreement.

D. The Consultant shall not issue nor permit to be issued any press release, advertisement, or literature of any kind, which refers to the Authority or to the fact that goods have been, are being or will be provided to it and/or that services have been, are being or will be performed for it in connection with this Agreement, unless the Consultant first obtains the written approval of the Authority. Such approval may be withheld if for any reason the Authority believes that the publication of such information would be harmful to the public interest or is in any way undesirable.

25. The Consultant assumes the following distinct and several risks to the extent arising from the negligent or willful intentional acts or omissions of the Consultant or its subconsultants in the performance of services hereunder:

A. The risk of loss or damage to Authority property arising out of or in connection with the performance of services hereunder;

B. The risk or loss or damage to any property of the Consultant or its subconsultants arising out of or in connection with the performance of services hereunder;

C. The risk of claims, arising out of or in connection with the performance of services hereunder, whether made against the Consultant or its subconsultants or the Authority, for loss or damage to any property of the Consultant's agents, employees, subcontractors, subconsultants, materialmen or others performing services hereunder;

D. The risk of claims, just or unjust, by third persons made against the Consultant or its subconsultants or against the Authority on account of injuries (including wrongful death), loss or damage of any kind whatsoever arising in connection with the performance of services hereunder including claims against the Consultant or its subconsultants or against the Authority for the payment of workers' compensation, whether such claims are made and whether such injuries, damage and loss are sustained at any time both before and after the completion of services hereunder.

The Consultant shall indemnify the Authority against all claims described in subparagraphs A through D above and for all expense incurred by the Authority in the defense, settlement or satisfaction thereof, including expenses of attorneys. If so directed by the Authority, the Consultant shall defend against any claim described in subparagraphs B, C and D above, in which event the Consultant shall not without obtaining express advance permission from the General Counsel of the Authority raise any defense involving in any way jurisdiction of the tribunal, immunity of the Authority, governmental nature of the Authority or the provisions of any statutes respecting suits against the Authority, such defense to be at the Consultant's cost.

The provisions of this clause shall also be for the benefit of the Commissioners, officers, agents and employees of the Authority, so that they shall have all the rights which they would have under this clause if they were named at each place above at which the Authority is named, including a direct right of action against the Consultant to enforce the foregoing indemnity, except, however, that the Authority may at any time in its sole discretion and without liability on its part cancel the benefit conferred on any of them by this clause, whether or not the occasion for invoking such benefit has already arisen at the time of such cancellation.

Neither the completion of services hereunder nor the making of payment (final or otherwise) shall release the Consultant from his obligations under this clause. Moreover, neither the enumeration in this clause or the enumeration elsewhere in this Agreement of particular risks assumed by the Consultant or of particular claims for which he is responsible shall be deemed (a) to limit the effect of the provisions of this clause or of any other clause of this Agreement relating to such risks or claims, (b) to imply that the Consultant assumes or is responsible for risks or claims only of the type enumerated in this clause or in any other clause of this Agreement, or (c) to limit the risks which the Consultant would assume or the claims for which he would be responsible in the absence of such enumerations.

No third party rights are created by the Agreement, except to the extent that the Agreement specifically provides otherwise by use of the words "benefit" or "direct right of action".

Inasmuch as the Authority has agreed to indemnify the Cities of New York and Newark against claims of the types described in subparagraph D above made against said cities, the Consultant's obligation under subparagraph D above shall include claims by said cities against the Authority for such indemnification.

26. CERTIFICATION OF NO INVESTIGATION (CRIMINAL OR CIVIL ANTI-TRUST), INDICTMENT, CONVICTION, DEBARMENT, SUSPENSION, DISQUALIFICATION AND DISCLOSURE OF OTHER INFORMATION

By proposing on this Agreement, each Consultant and each person signing on behalf of any Consultant certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, that the Consultant and each parent and/or affiliate of the Consultant has not:

- A. been indicted or convicted in any jurisdiction;
- B. been suspended, debarred, found not responsible or otherwise disqualified from entering into any agreement with any governmental agency or been denied a government agreement for failure to meet standards related to the integrity of the Consultant;
- C. had an agreement terminated by any governmental agency for breach of agreement or for any cause based in whole or in part on an indictment or conviction;
- D. ever used a name, trade name or abbreviated name, or an Employer Identification Number different from those inserted in the Proposal;
- E. had any business or professional license suspended or revoked or, within the five years prior to proposal opening, had any sanction imposed in excess of fifty thousand dollars (\$50,000)

as a result of any judicial or administrative proceeding with respect to any license held or with respect to any violation of a federal, state or local environmental law, rule or regulation;

F. had any sanction imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, bid rigging, proposal rigging, embezzlement, misrepresentation or anti-trust, regardless of the dollar amount of the sanctions or the date of their imposition; and

G. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or a civil anti-trust investigation by any federal, state or local prosecuting or investigative agency, including an inspector general of a governmental agency or public authority.

27. NON-COLLUSIVE PROPOSING, AND CODE OF ETHICS CERTIFICATION, CERTIFICATION OF NO SOLICITATION BASED ON COMMISSION, PERCENTAGE, BROKERAGE, CONTINGENT OR OTHER FEES

By proposing on this Agreement, each Consultant and each person signing on behalf of any consultant certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that:

A. the prices in its proposal have been arrived at independently without collusion, consultation, communication or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other consultant or with any competitor;

B. the prices quoted in its proposal have not been and will not be knowingly disclosed directly or indirectly by the Consultant prior to the official opening of such proposal to any other consultant or to any competitor;

C. no attempt has been made and none will be made by the Consultant to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition;

D. this organization has not made any offers or agreements or taken any other action with respect to any Authority employee or former employee or immediate family member of either which would constitute a breach of ethical standards under the Code of Ethics dated March 11, 2014, or as may be revised, (a copy of which is available upon request to the Authority), nor does this organization have any knowledge of any act on the part of an Authority employee or former Authority employee relating either directly or indirectly to this organization which constitutes a breach of the ethical standards set forth in said Code;

E. no person or selling agency other than a bona fide employee or bona fide established commercial or selling agency maintained by the Consultant for the purpose of securing business, has been employed or retained by the Consultant to solicit or secure this Agreement on the understanding that a commission, percentage, brokerage, contingent, or other fee would be paid to such person or selling agency;

F. the Consultant has not offered, promised or given, demanded or accepted, any undue advantage, directly or indirectly, to or from a public official or employee, political candidate, party or party official, or any private sector employee (including a person who directs or works for a

private sector enterprise in any capacity), in order to obtain, retain, or direct business or to secure any other improper advantage in connection with this Agreement; and

G. no person or organization has been retained, employed or designated on behalf of the Consultant to impact any Authority determination with respect to (i) the solicitation, evaluation or award of this Agreement; or (ii) the preparation of specifications or request for submissions in connection with this Agreement.

The certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information" shall be deemed to be made by the Consultant as follows:

* if the Consultant is a corporation, such certification shall be deemed to have been made not only with respect to the Consultant itself, but also with respect to each parent, affiliate, director, and officer of the Consultant, as well as, to the best of the certifier's knowledge and belief, each stockholder of the Consultant with an ownership interest in excess of 10%;

* if the Consultant is a partnership, such certification shall be deemed to have been made not only with respect to the Consultant itself, but also with respect to each partner.

Moreover, the certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information", if made by a corporate Consultant, shall be deemed to have been authorized by the Board of Directors of the Consultant, and such authorization shall be deemed to include the signing and submission of the proposal and the inclusion therein of such certification as the act and deed of the corporation.

In any case where the Consultant cannot make the certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information", the Consultant shall so state and shall furnish with the signed proposal a signed statement which sets forth in detail the reasons therefor. If the Consultant is uncertain as to whether it can make the foregoing certifications, it shall so indicate in a signed statement furnished with its proposal, setting forth in such statement the reasons for its uncertainty. With respect to the foregoing certification in paragraph "27G.", if the Consultant cannot make the certification, it shall provide, in writing, with the signed proposal: (i) a list of the name(s), address(es), telephone number(s), and place(s) of principal employment of each such individual or organization; and (ii) a statement as to whether such individual or organization has a "financial interest" in this Agreement, as described in the Procurement Disclosure Policy of the Authority (a copy of which is available upon request to the Chief Procurement Officer of the Authority). Such disclosure is to be updated, as necessary, up to the time of award of this Agreement. As a result of such disclosure, the Authority will take appropriate action up to and including a finding of non-responsibility.

Failure to make the required disclosures shall lead to administrative actions up to and including a finding of non-responsiveness or non-responsibility.

Notwithstanding that the Consultant may be able to make the certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information" at the

time the proposal is submitted, the Consultant shall immediately notify the Authority in writing during the period of irrevocability of proposals on this Agreement or any extension of such period, or during the term of this Agreement, of any change of circumstances which might under this clause make it unable to make the foregoing certifications, might render any portion of the certifications previously made invalid, or require disclosure. The foregoing certifications or signed statement shall be deemed to have been made by the Consultant with full knowledge that they would become a part of the records of the Authority and that the Authority will rely on their truth and accuracy in awarding this Agreement. In the event that the Authority should determine at any time prior or subsequent to the award of this Agreement that the Consultant has falsely certified as to any material item in the foregoing certifications, has failed to immediately notify the Port Authority of any change in circumstances which might make it unable to make the foregoing certifications, might render any portion of the certifications previously made invalid, or require disclosure, or has willfully or fraudulently furnished a signed statement which is false in any material respect, or has not fully and accurately represented any circumstance with respect to any item in the foregoing certifications required to be disclosed, the Authority may determine that the Consultant is not a responsible Consultant with respect to its proposal on the Agreement or with respect to future proposals on Authority agreements and may exercise such other remedies as are provided to it by the Agreement with respect to these matters. In addition, Consultant is advised that knowingly providing a false certification or statement pursuant hereto may be the basis for prosecution for offering a false instrument for filing (see, e.g., New York Penal Law, Section 175.30 et seq.). Consultant is also advised that the inability to make such certification will not in and of itself disqualify the Consultant and that in each instance the Authority will evaluate the reasons therefor provided by the Consultant.

Under certain circumstances, the Consultant may be required as a condition of award of this Agreement to enter into a Monitoring Agreement under which the Consultant will be required to take certain specified actions, including compensating an independent Monitor to be selected by the Authority. Said Monitor shall be charged with, among other things, auditing the actions of the Consultant to determine whether its business practices and relationships indicate a level of integrity sufficient to permit it to continue business with the Authority. Furthermore, the Consultant selected for performance of the subject services shall immediately notify the Authority in writing, at any time during the term of the Agreement, of any change of circumstances which might, under this clause, make it unable to make the foregoing certifications, or might require disclosure.

28. CONSULTANT ELIGIBILITY FOR AWARD OF AGREEMENTS - DETERMINATION BY AN AGENCY OF THE STATE OF NEW YORK OR NEW JERSEY CONCERNING ELIGIBILITY TO RECEIVE PUBLIC AGREEMENTS

Consultants are advised that the Authority has adopted a policy to the effect that in awarding its agreements it will honor any determination by an agency of the State of New York or of the State of New Jersey that a Consultant is not eligible to propose on or be awarded public agreements because the Consultant has been determined to have engaged in illegal or dishonest conduct or to have violated prevailing rate of wage legislation.

The policy permits a Consultant whose ineligibility has been so determined by an agency of the State of New York or of the State of New Jersey to submit a proposal on an Authority agreement

and then to establish that it is eligible to be awarded an agreement on which it has proposed because (i) the state agency determination relied upon does not apply to the Consultant, or (ii) the state agency determination relied upon was made without affording the Consultant the notice and hearing to which the Consultant was entitled by the requirements of due process of law, or (iii) the state agency determination was clearly erroneous or (iv) the state agency determination relied upon was not based on a finding of conduct demonstrating a lack of integrity or violation of a prevailing rate of wage law.

The full text of the resolution adopting the policy may be found in the Minutes of the Authority's Board of Commissioners meeting of September 9, 1993.

29. CONSULTANT RESPONSIBILITY, SUSPENSION OF WORK AND TERMINATION

During the term of this Agreement, the Consultant shall remain responsible. To be "responsible" shall mean (1) to have legal authority to do business in the State of New Jersey and/or the State of New York and (2) to possess, in the Authority's opinion, integrity, experience, ability, financial capacity and a satisfactory record of prior performance sufficient to perform the services required under this Agreement. The Consultant agrees, if requested by the Authority, to present evidence that the Consultant is responsible.

The Authority, in its sole discretion, reserves the right to suspend any or all activities under this Agreement, at any time, when it discovers information that calls into question the responsibility of the Consultant. The Authority may exercise this right to suspend the Consultant by giving the Consultant written notice outlining the particulars of such suspension. Upon receipt of such notice, the Consultant shall comply with the notice's terms. Agreement activity may resume at such time as the Authority issues another written notice authorizing a resumption of performance under the Agreement.

Upon written notice to the Consultant, and an opportunity to be heard with appropriate Authority officials or staff, the Agreement may be terminated by the Authority at the Consultant's expense when the Consultant is determined by the Authority not to be responsible (non-responsible). In such event, the Authority or its designee may complete the contractual requirements in any manner he or she may deem advisable and may pursue available legal or equitable remedies for breach, including recovery of costs from Consultant associated with such termination.

30. NO GIFTS, GRATUITIES, OFFERS OF EMPLOYMENT, ETC.

At all times, the Consultant shall not offer, give or agree to give anything of value either to an Authority employee, agent, job shopper, consultant, construction manager or other person or firm representing the Authority, or to a member of the immediate family (i.e., a spouse, child, parent, brother or sister) of any of the foregoing, in connection with the performance by such employee, agent, job shopper, consultant, construction manager or other person or firm representing the Authority of duties involving transactions with the Consultant on behalf of the Authority, whether or not such duties are related to this Agreement or to any other Authority agreement or matter. Any such conduct shall be deemed a material breach of this Agreement.

As used herein "anything of value" shall include but not be limited to any (a) favors, such as meals, entertainment, transportation (other than that contemplated by the Agreement or any other

Authority agreement), etc., which might tend to obligate the Authority employee to the Consultant and (b) gift, gratuity, money, goods, equipment, services, lodging, or discounts not available to the general public, offers or promises of employment, loans or the cancellation thereof, preferential treatment or business opportunity. "Anything of value" shall not include compensation contemplated by this Agreement or any other Authority agreement. Where used herein, the term "Port Authority" or "Authority" shall be deemed to include all subsidiaries of the Authority.

The Consultant shall ensure that no gratuities of any kind or nature whatsoever shall be solicited or accepted by it or by its personnel for any reason whatsoever from the passengers, tenants, customers or other persons using the Facility and shall so instruct its personnel.

In the event that the Consultant becomes aware of the occurrence of any conduct that is prohibited by this section entitled "No Gifts, Gratuities, Offers of Employment, Etc.", it shall report such occurrence to the Authority's Office of Inspector General within three (3) business days of obtaining such knowledge. (See "<http://www.panynj.gov/inspector-general>" for information about reporting information to the Office of Inspector General). Failing to report such conduct shall constitute grounds for a finding that the Consultant is non-responsible.

In addition, during the term of this Agreement, the Consultant shall not make an offer of employment or use confidential information in a manner proscribed by the Code of Ethics and Financial Disclosure dated March 11, 2014, or as may be revised, (a copy of which is available upon request to the Office of the Secretary of the Authority). Without the express written approval of the Chief Engineer, you shall keep confidential, and shall require your employees, your subconsultants and your subconsultant's employees to keep confidential, a) all information disclosed by the Authority or its consultants to you or b) developed by you or your subconsultants in the performance of services hereunder. Disclosure of any such information shall constitute a material breach of the Agreement.

The Consultant shall include the provisions of this clause in each subagreement entered into under this Agreement.

31. CONFLICT OF INTEREST

During the term of this Agreement, the Consultant shall not participate in any way in the preparation, negotiation or award of any agreement (other than an agreement for its own services to the Authority) to which it is contemplated the Authority may become a party, nor shall the Consultant participate in any way in the review or resolution of a claim in connection with such an agreement if the Consultant has a substantial financial interest in any other consultant or potential consultant of the Authority or if the Consultant has an arrangement for future employment or for any other business relationship with said other consultant or potential consultant; nor shall the Consultant at any time take any other action which might be viewed as or give the appearance of a conflict of interest on its part. If the possibility of such arrangement for future employment or for another business arrangement has been or is the subject of a previous or current discussion, or if the Consultant has reason to believe that any other situation exists which might be viewed as or give the appearance of a conflict of interest, the Consultant shall immediately inform the Authority in writing of such situation, giving the full details thereof. Unless the Consultant receives the specific written approval of the Authority, the Consultant shall

not take the contemplated action which might be viewed as or give the appearance of a conflict of interest. The Authority may require the Consultant to submit a mitigation plan addressing and mitigating any disclosed or undisclosed conflict, and such mitigation plan shall be subject to the approval of the Authority and shall become a requirement imposed on the Consultant, as though fully set forth in this Agreement. In the event the Authority shall determine that the performance by the Consultant of a portion of its services under this Agreement is precluded by the provisions of this numbered paragraph, or if a portion of the Consultant's said services is determined by the Authority to be no longer appropriate because of such preclusion, then the Authority shall have full authority on behalf of both parties to order that such portion of the Consultant's services not be performed by the Consultant, reserving the right, however, to have the services performed by others; and any lump sum compensation payable hereunder which is applicable to the deleted work shall be equitably adjusted by the parties. The Consultant's execution of this document shall constitute a representation by the Consultant that at the time of such execution the Consultant knows of no circumstances, present or anticipated, which come within the provisions of this paragraph or which might otherwise be viewed as or give the appearance of a conflict of interest on the Consultant's part. The Consultant acknowledges that the Authority may preclude it from involvement in certain disposition/privatization initiatives or transactions that result from the findings of its evaluations hereunder or from participation in any agreements that result, directly or indirectly, from the services provided by the Consultant hereunder. The Authority's determination regarding any questions of conflict of interest shall be final.

32. DEFINITIONS

As used in sections 26 to 31 above, the following terms shall mean:

Affiliate - Two or more firms are affiliates if a parent owns more than fifty percent of the voting stock of each of the firms, or if a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the firms, or if the firms have a common proprietor or general partner.

Agency or Governmental Agency - Any federal, state, city or other local agency, including departments, offices, public authorities and corporations, boards of education and higher education, public development corporations, local development corporations and others.

Investigation - Any inquiry made by any federal, state or local criminal prosecuting agency and any inquiry concerning civil anti-trust investigations made by any federal, state or local governmental agency. Except for inquiries concerning civil anti-trust investigations, the term does not include inquiries made by any civil government agency concerning compliance with any regulation the nature of which does not carry criminal penalties, nor does it include any background investigation for employment, or federal, state or local inquiries into tax returns.

Officer - Any individual who serves as chief executive officer, chief financial officer or chief operating officer of the Consultant by whatever titles known.

Parent - An individual, partnership, joint venture or corporation which owns more than 50% of the voting stock of the Consultant.

33. The entire agreement between the parties is contained herein and no change in or modification, termination or discharge of this Agreement in any form whatsoever shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith, or his duly authorized representative, provided, however, that termination in the manner hereinbefore expressly provided shall be effective as so provided.

34. No Commissioner, officer, agent or employee of the Authority shall be charged personally by you with any liability or held liable to you under any term or provision of this Agreement, or because of its execution or attempted execution or because of any breach hereof.

35. References herein to the Port Authority shall and shall be deemed to mean equally the Port Authority Trans Hudson Corporation (PATH).

36. Nothing in this Agreement is intended to constitute the creation of an agency relationship between the Authority and the Consultant or any other right for the Consultant to act as the representative of the Authority for any purpose whatsoever except as may be specifically provided in this Agreement. It is hereby specifically acknowledged and understood that the Consultant, in performing its services hereunder, is and shall be at all times an independent contractor and the officers, agents and employees of the Consultant shall not be or be deemed to be agents, servants, or employees or "special employees" of the Authority.

37. If the foregoing meets with your approval, please indicate your acceptance by signing the original and the additional enclosed copy in the lower right-hand corner and returning them to the Authority.

The execution of this Agreement by the Consultant's duly authorized representative shall serve as a certification that no alterations have been made to this Agreement, and if any changes or alterations to this Agreement have been made by the Consultant without the Authority's prior written consent, such changes shall be void, non-binding and of no effect.

Sincerely,

THE PORT AUTHORITY OF
NEW YORK AND NEW JERSEY

Lillian D. Valenti
Chief Procurement Officer

Date: _____

ACCEPTED:

FIRM NAME

By: _____
Print Name: _____
Date: _____
Title: _____

INSTRUCTIONS

If the selected Consultant firm is not located in the States of New York or New Jersey, change the number of the last Paragraph of this Agreement from "37" to "38" and insert a new Paragraph "37" as follows:

37. This Agreement shall be governed by and construed in accordance with the Laws of the State of New York without regard to conflict of laws principles.

ATTACHMENT B

REQUEST FOR PROPOSALS FOR PERFORMANCE OF EXPERT PROFESSIONAL ENGINEERING SERVICES FOR PORT AUTHORITY TRANS-HUDSON SUPERVISORY CONTROL AND DATA ACQUISITION, PROGRAMMABLE LOGIC CONTROLLER AND INTERFACE EQUIPMENT REPLACEMENT STAGE III AND STAGE IV DESIGN SERVICES DURING 2017 THROUGH 2022 (RFP# 50937)

AGREEMENT ON TERMS OF DISCUSSION

The Port Authority’s receipt or discussion of any information (including information contained in any proposal, vendor qualification(s), ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) shall not impose any obligations whatsoever on the Port Authority or entitle us to any compensation therefor (except to the extent specifically provided in such written agreement, if any, as may be entered into between the Port Authority and us). Any such information given to the Port Authority before, with or after this Agreement on Terms of Discussion (“Agreement”), either orally or in writing, is not given in confidence. Such information may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever. Any statement which is inconsistent with this Agreement, whether made as part of or in connection with this Agreement, shall be void and of no effect. This Agreement is not intended, however, to grant to the Port Authority rights to any matter, which is the subject of valid existing or potential letters patent.

Any information (including information contained in any proposal, vendor qualification(s), ideas, models, drawings, or other material communicated or exhibited by us or on our behalf) provided in connection with this procurement is subject to the provisions of the Port Authority Public Records Access Policy adopted by the Port Authority’s Board of Commissioners, which may be found on the Port Authority website at: <http://corpinfo.panynj.gov/documents/Access-to-Port-Authority-Public-Records/>. The foregoing applies to any information, whether or not given at the invitation of the Authority.

(Company)

(Signature)

(Title)

(Date)

ORIGINAL AND PHOTOCOPIES OF THIS PAGE ONLY.
DO NOT RETYPE.

ATTACHMENT C

COMPANY PROFILE

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL ENGINEERING SERVICES FOR PORT AUTHORITY TRANS-HUDSON SUPERVISORY CONTROL AND DATA ACQUISITION, PROGRAMMABLE LOGIC CONTROLLER AND INTERFACE EQUIPMENT REPLACEMENT STAGE III AND STAGE IV DESIGN SERVICES DURING 2017 THROUGH 2022 (RFP# 50937)

1. Company Name (print or type):

2. Business Address (to receive mail for this RFP):

3. Business Telephone Number: _____

4. Business Fax Number: _____

5. Firm website: _____

6. Federal Employer Identification Number (EIN): _____

7. Date (MM/DD/YYYY) Firm was Established: ____/____/____

8. Name, Address and EIN of Affiliates or Subsidiaries (use a separate sheet if necessary):

9. Officer or Principal of Firm and Title:

10. Name, telephone number, and email address of contact for questions:

11. Is your firm certified by the Authority as a Minority-owned, Woman-owned or Small Business Enterprise (M/W/SBE)? Yes No

If yes, please attach a copy of your **Port Authority** certification as a part of this profile.

If your firm is an MBE/WBE not currently certified by the Authority, see the Authority's web site – <http://www.panynj.gov/business-opportunities/supplier-diversity.html>, to receive information and apply for certification.