

August 21, 2019

SUBJECT: REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL SERVICES FOR THE ADVANCEMENT OF CONCEPTUAL DESIGN WITH OPTION FOR “AS-NEEDED” TECHNICAL ADVISORY SERVICES FOR THE LINCOLN TUNNEL HELIX REPLACEMENT PROJECT (RFP#58219)

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 provide the subject services, as further described in Attachment A, attached hereto and made a part hereof. You should carefully review the Authority’s Standard Agreement (the “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.

Proposers are advised that the selected Proposer’s (the “Consultant”) services shall be provided in two phases. Phase 1 consists of the advancement of conceptual design services for the Lincoln Tunnel Helix Replacement Project. Phase 2 consists of as-need technical advisory services during design, procurement and construction. At this time, Phase 2 services shall be considered optional, at the sole discretion of the Authority.

Proposers are advised that the Authority has determined that performance of the services contemplated hereunder could give rise to the existence, or the appearance, of a conflict of interest and accordingly, the firm(s) selected as lead for performance of the subject services will be expressly precluded from participation in, or the performance of, other Lincoln Tunnel Helix Replacement contracting opportunities. Performance of the services contemplated hereunder as a subconsultant may also result in or give the appearance of a conflict of interest, and as such, subconsultants may be precluded from participation in, or the performance of, contracting opportunities related to the Lincoln Tunnel Helix Replacement Project. This determination will be made on a case-by-case basis depending on the services performed.

I. PROPOSER REQUIREMENTS:

The Authority will consider only those firms who are able to demonstrate compliance with the following minimum qualifications requirements:

- A. Successful completion of at least two (2) major projects (minimum construction value of \$750 million each or a combined construction value of \$1.5 billion) completed in the past ten (10) years, of similar size, scope and complexity as the services contemplated in this RFP, including experience as an Owner’s Representative on projects delivered using traditional design-bid-build, and those using a design-build project delivery method. The Proposer’s experience in these projects must have included planning, conceptual design, construction staging and phasing, and traffic analysis.
- B. Project Manager licensed to practice engineering in the State of New Jersey and shall have project manager experience on at least three (3) major projects of similar size, scope and complexity to those contemplated herein.

II. PROPOSAL FORMAT REQUIREMENTS:

To respond to this RFP, the Proposer shall submit a concise Proposal in response to the following basic criteria:

- A. To be acceptable, this Proposal shall be no more than **40** single sided pages or **20** double sided pages, using 12 point or greater font size, not including resumes. Each resume shall be a maximum of two-pages single-sided or one-page double-sided, using 12 point or greater font size. The page limit pertains only to Letters E, F and G in Section III, below. The Proposal pages shall be numbered and bound, or in a 3-ring binder, with “Your Firm Name,” and **RFP Number 58219** 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, 4 World Trade Center, 21st Floor, New York, NY 10007, Attention: RFP Custodian. You are requested to submit one (1) original and five (5) compact disc copies 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).
- D. In each submission to the Authority, including any return address label, information on the compact disc 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 1, 2019**. 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.

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 below 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 Authority assumes no responsibility for delays, including, but not limited to, delays caused by any delivery services, building access procedures, or security requirements.

III. SUBMISSION REQUIREMENTS:

To respond to this RFP, provide the following information:

A. Agreement on Terms of Discussion

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. Company Profile

A complete a copy of Attachment C (Company Profile)

C. Transmittal Letter

Submit the transmittal letter, on letterhead, signed by an authorized representative, demonstrating compliance with each of the aforementioned "Proposer Requirements". For all projects referenced, include the name of the company, a contact person and current telephone number for verification purposes.

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

1. 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 common-law joint venture submits a proposal, all participants in the joint venture shall be bound jointly and severally and each participant shall execute the proposal.
2. If the Proposer is a joint venture, the joint venture's Proposal shall contain an executed teaming agreement or, alternatively, if the entities making up the joint venture proposer have not executed a teaming agreement, the joint venture's Proposal shall contain a summary of key terms of the anticipated agreement. If the joint venture proposer is a consortium, partnership or any other form of a joint venture, or an association that is not a legal entity, the proposal shall include a letter signed by each member indicating a willingness to accept joint and several liability until the point at which a corporation, limited liability company or other form of legal entity is formed for the purposes of undertaking the Agreement.

D. Staff Qualifications and Experience

In this section, detail the experience of key individuals (including subconsultants, if any) to be responsible for the successful completion of the contemplated services. Attach a detailed resume that generally complies with the GSA SF-330 for each key individual that includes his/her educational background, chronological history of employment, relevant

licenses, and certifications. The resumes should clearly identify the years of experience in the field related to the tasks for which the individual will be responsible, as well as his/her specific role if any, in performance of the project(s) identified in response to Section I, above.

For the Project Manager and designated leads, identify similar projects to the subject RFP that the individual has managed in the past five (5) years. If the Project Manager and designated leads are currently managing other projects, clearly state how he or she intends to work on this project and include the percentage of time to be dedicated to this project, as well as to any others during the term of the contemplated agreement.

It is preferable that the designated lead for each of the subject matter/discipline focuses (Structural, Civil, Geotechnical, Traffic, Security, Staging/Phasing and Constructability) have a minimum of ten (10) years professional experience in his/her specific subject matter/discipline focuses. The designated leads shall be licensed to practice engineering in the State of New Jersey and shall have professional experience on at least three (3) major projects of similar size, scope and complexity to those contemplated herein.

Provide a matrix, that generally complies with the GSA SF-330, showing the Project Manager and Subject Matter/Discipline Leads along the first column and the Projects shown along the top row. Place an "X" in the matrix box to clearly indicate which team members submitted for this project have worked on the projects identified with your proposal.

E. Firm Qualifications and Experience

Submit your firm's (including any subconsultants) qualifications and experience in providing the services specified in Section I "Proposer Requirements," which includes projects (not more than five) similar in size, scope and complexity to that of this RFP, including, but not be limited to, a list of entities for which similar services have been provided.

For all projects referenced, include the name of the company, a brief description and the value of services performed, key personnel participants, date started, date completed, construction cost, client, a client contact person and current telephone number for verification purposes. Indicate whether said projects were completed on schedule and within budget. Provide an explanation, if applicable, for why a project was not completed on schedule and/or within budget.

F. Technical Approach

- i. 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, including milestones associated with each task. The schedule shall be developed based on the overall Program Milestones noted in Attachment A (Section IV). Include an estimated list of contract drawings for Section III, Tasks F and K (Attachment A). 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.

- ii. All drawings developed as part of this contract shall be done using the latest version of AutoCAD Civil 3D (Civil and Traffic) and AutoCAD or BEM/Revit (for all other disciplines). As part of your firm's project approach, provide an explanation of which programs you plan to use, by discipline and what the advantages are of using what you have selected.

G. Staffing Analysis

Provide a staffing analysis for each task to be performed as identified in Attachment A using [Attachment D Staffing 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. Include the name(s), title(s) and hourly rate(s), of the personnel who will be assigned to perform the services requested. Indicate billing rates for partners or principals and actual hourly rates for all other billable employees. Compensation for premium pay (i.e. holidays, shift differentials, regular days, weekends and night work or union required payments) must be included. If proposing the use of subconsultant(s), provide the terms and conditions (including their multiplier and/or billing rates as appropriate), their Minority-Owned Business and/or Women-Owned Business (M/WBE) status, and the technical qualifications of their key personnel to be assigned to the subject project.

H. Management Approach

A detailed description of the proposed Management Approach to be taken in performance of the required services. This shall include, but is not limited to:

1. A staff organization chart for the Project that identifies each area of responsibility, the key individuals, their firms, work locations, and a clear management structure for sharing project responsibilities, work allocation, oversight, deliverable, costs and reporting responsibilities across multiple offices during performance of the services stipulated in Attachment A. For all intended subconsultant(s), indicate their MBE/WBE status, with the Authority
 2. Your proposed organizational structure shall be responsive to the Authority's needs; shall include your approach and schedule for keeping the client apprised of the project status; and ensure the quality and timeliness of the services/work product to be performed.
- I. Your attention is directed to Paragraph 20 of the Agreement in which the Authority has stated the Minority Business Enterprises (MBEs) and Women Business Enterprises (WBE) goals for participation in this program. In order to facilitate the meeting of these goals, the Consultant shall use every good-faith effort to utilize subconsultants who are Authority-certified MBEs or WBEs to the maximum extent feasible. A listing of certified MBE/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 OBD CR. 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 performance of work designated for a subconsultant by the Consultant's own forces, shall be deemed a violation of this section. Progress toward attainment of MBE/WBE participation goals set forth herein will be monitored by the Authority 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 the product or service supplied by each such subcontractor or supplier, the date and amount of each expenditure, and such other information as it 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 represents 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 will 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 an 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 subcontracts 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 or commissions customarily allowed for similar services. The costs of 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. Provide a complete list of your firm's affiliates.

K. If the Proposer or any employee, agent or subcontractor 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 its 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 that such performance 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 30 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 Agreement. 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 you have any specific exceptions, such exceptions should be set forth in a separate letter included with your response to this RFP, and shall include proposed alternative language, marked against the original text. 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.

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.

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

After consideration of these factors, the Authority may enter into negotiations with the firm(s) deemed best qualified in terms of the foregoing factors to perform the required services.

V. NOTIFICATION OF SECURITY REQUIREMENTS

The Authority will provide certain documents to Proposers interested in responding to this RFP upon request. In order to receive this information, Proposers must submit the following:

- A. A Letter of Intent to propose on this RFP, signed by a principal of the firm on firm letterhead
- B. A completed Attachment C (Company Profile). PLEASE NOTE: The documents will only be provided to the contact provided by the firm in Attachment C.
- C. A notarized affirmation signed by a principal of the firm that contains the following certification:
 - 1. the information provided by the Authority will be kept in confidence;
 - 2. the information provided will be used only for the purpose of addressing the requirements of the RFP, and for obtaining pricing information required to submit a proposal; and
 - 3. the information provided will be destroyed in the event of notification that the firm(s) was not awarded a contract for the work to be performed under this Agreement.

Please send a PDF attachment of the above requested information to Allison Agliardo at aagliardo@panynj.gov and mail a hard copy with original signatures to the following address:

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

The Authority must receive your E-mailed PDF requests no later than 4:00 P.M Eastern Time ten (10) working days before the RFP due date. The Available Submission of any information requested in this Section “NOTIFICATION OF SECURITY REQUIREMENTS” is separate and apart from that also requested elsewhere in this RFP document. If the information is also required under any section of the RFP, including, but not limited to, Proposal Submittal Requirements and Proposer Prerequisites, the information must also be submitted with the firm’s proposal. Submission of such information in response to this Section will not constitute submission of the information for purposes of the RFP.

The Authority shall not be responsible for the failure of a proposer firm, or individual, to meet each required component of the screening process in a timely manner. It is the sole responsibility of each prospective proposer to follow-up and complete the Screening Process. Only bona fide Proposers who have completed the screening process will be provided with access to the documents.

VI. 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 Manager, who may be supported by no more than five (5) 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.

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 Consultant shall be deemed to have made the certifications contained therein unless said Consultant 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 consultants, 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 also advised that additional vendor information, including but not limited to forms, documents and other related information, may be found on the Authority website at www.panynj.gov or <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, please contact Allison Agliardo, Solicitation Manager, at aagliardo@panynj.gov. All such correspondence must have your name, title, company, mailing address, telephone number, and state "RFP 58219" in the subject line. The Authority must receive all questions no later than 4:00 P.M. EST, seven (7) working days before the RFP due date. Neither Ms. Agliardo, nor any other employee of the Authority is authorized to interpret the provisions of this RFP or accompanying documents or 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. For RFP updates and Addenda, if any, Proposers are encouraged to access, and monitor, the Authority website at <http://www.panynj.gov/business-opportunities/bid-proposal-advertisements.html>. 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. 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 SERVICES FOR THE ADVANCEMENT OF CONCEPTUAL DESIGN WITH OPTION FOR “AS- NEEDED” TECHNICAL ADVISORY SERVICES FOR THE LINCOLN TUNNEL HELIX REPLACEMENT PROJECT

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 Lincoln Tunnel (sometimes referred to as “LT”) crosses the Hudson River between Midtown Manhattan and Weehawken, New Jersey. The Helix, constructed in 1937 and widened by one lane in 1957, provides a connection between the LT portals in Weehawken and Route 495. Route 495 runs west from the Helix and connects to the New Jersey Turnpike, Routes 1 & 9 and Route 3. The Helix’s 7-lane roadway carries over 87,000 vehicles per day, along with an Exclusive Bus Lane (XBL) carrying an estimated 1,800 daily buses and 70,000 weekday commuters. This makes the XBL one of the most highly used and most congested bus routes in the nation. The 2.5-mile-long XBL (0.6 mile is on the Helix and the remaining 1.9 miles is on the New Jersey Department of Transportation highway Route 495) is a bus contraflow operation run on weekdays during the morning rush hours (from approximately 6:00 AM until 10:00 AM), from the center tube, traveling along New Jersey Route 495, leading from the New Jersey Turnpike to the Lincoln Tunnel. The Port Authority is responsible for the daily operation of the XBL, including its opening and closing, removal of disabled vehicles, and response to emergencies along the Helix and Route 495.

The 3,200 feet (0.6 mile) long Helix is complex, as it traverses through an approximately 270-degree curve with an approximately 3.5% grade. Due to the geometry of the Helix, roadways and other features below it, and steep Palisades rock surfaces, the Helix structure itself is a combination of ten (10) individual structures as well as on-grade segments. The Helix is comprised of three sections: the Upper Helix, Kings Bluff and the Lower Helix. The Upper Helix extends from Route 495 to Kings Bluff where the Helix roadway is in a rock cut, and the Lower Helix is a sharply curved series of structures extending from Kings Bluff to the toll plaza.

The Helix structure is located between the toll plaza and Pleasant Avenue. The LT toll plaza is immediately south of the portal. The Helix is bordered by residential areas, including residences on top of Kings Bluff. Commercial properties are located south and southwest of the Helix. The Weehawken Waterfront Park and Recreation Center is located east of Kings Bluff. The Weehawken Stadium is located above the LT portal. The Amtrak Tunnel passes below the southern portion of the Helix, and the Amtrak Vent Building is located within the radius of the Lower Helix, as is the New Jersey Transit Bus Parking Lot. The LT Administration/Maintenance Building is located north of the New Jersey Transit Bus Parking Lot and west of the Helix. The Hudson Bergen Light Rail line runs along the east side of the

Helix and passes below a portion of the Lower Helix. The Hackensack Reservoir No. 2 is located southwest of the Helix.

The Need to Replace the Helix

The existing Helix is approaching the end of its useful life and is functionally obsolete. The replacement of the current Helix with a new design (meeting current codes and standards) would provide for a new, full asset life replacement of the Helix providing safe, reliable vehicular access to the Lincoln Tunnel and the Port Authority Bus Terminal for the next 100 years and improved XBL operations/regional traffic flow conditions between Route 495 and Lincoln Tunnel.

Program Overview/ History

- Pre-Stage I – Planning and Design Development (2008-2019)

- a) Feasibility Study (2008-2012)

The main objective of this study was to prepare a feasibility study report for replacement of the Helix including the development and evaluation of alternative schemes. Six (6) replacement schemes, identified as Schemes A through F, were developed and considered for the Feasibility Study. The schemes included single and double level elevated roadways, a single level elevated roadway following a new alignment, two (2) tunnel concepts following a new alignment, and one (1) hybrid concept following a new alignment. Out of the six (6) schemes evaluated, “**Scheme A**” (single level elevated roadway on existing alignment with a widened roadway) was identified for further evaluation. The Feasibility Study also considered possible improvements to Route 495's Pleasant Avenue on-ramp, which included ramp expansion, structural modifications to New Jersey Department of Transportation (NJDOT) bridges (Hudson Avenue and Palisades Avenue). The NJDOT bridge at North Marginal street over Park Avenue must be widened to accommodate the Helix widening.

- b) Helix Fix (2012-2015)

A state-of-good repair structural rehabilitation and repaving project (Contract LT 234.026) to provide for the continued safe operation of the existing Helix was completed in 2015. Its intent was to extend the useful life of the structure for approximately 10 years.

- c) Environmental Consideration and Traffic Study (2016-2019)

An Environmental Consideration and Traffic study (“Study”) was recently performed along with a public and stakeholder outreach program to engage the **Advisory Committee** (local officials from the Town of Weehawken, Union City, Hoboken, and Hudson County), **regional Transportation Agencies** (New Jersey Department of Transportation (NJDOT), U.S. Department of Transportation (USDOT), New Jersey Turnpike (NJTP), New Jersey Transit (NJ Transit), Federal Highway Administration (FHWA), and Amtrak), and **Other Stakeholders** (North Jersey Transportation Planning Authority (NJTPA), New Jersey Department of Environmental Protection (NJDEP), New Jersey Historical Preservation Office (NJHPO), Advisory Council on Historic Preservation (ACHP), and other federal, state and local agencies), as required,

by the Authority and the public, in order to coordinate and hear each party's concerns regarding a preferred scheme for replacement of the Helix.

As part of the Study, a new modified double deck scheme (referred to as "**Scheme H**") was developed for further study and evaluation and presented in the Scheme Development Report with related preliminary conceptual drawings (excluding NJDOT bridges). A stormwater management report for Scheme H was also developed. The traffic simulation modeling using AIMSUN software, traffic analysis studies and optimizing signalized intersections in the study area (Synchro Model) was performed for the existing conditions, future no build condition and Maintenance and Protection of Traffic (MPT) condition for one critical stage. However, in this Study, traffic modeling and traffic analysis was not performed for the future build condition and MPT conditions for all other Scheme H construction stages. A preliminary environmental screening was conducted and Scheme H (excluding all NJDOT bridges) was evaluated for potential community impacts, hazardous waste involvement, cultural resource impacts, ecological resource impacts, and regulatory permit/approval requirements. The findings are presented in the Scheme Development Report. A no-build concept ("**Scheme G**"), and a preliminary high-level discussion of variations to Scheme A ("**Scheme A Modified**") and Scheme H ("**Scheme H-Prime**") were also presented and discussed in the Scheme Development Report.

II. SCOPE OF WORK

Under Phase 1 of this contract, the Consultants will evaluate and refine up to three schemes based on previous work, recommend a preferred scheme, and, once the Authority has selected the preferred scheme, prepare a Conceptual Design Package Report including Design Criteria/Requirements for the selected preferred scheme. (The subject Stage I work is proposed as "Base Work" in this Request for Proposal, Attachment A).

At the completion of Phase 1 the Authority will determine next steps. If the Authority proceeds with Phase 2, the Authority reserves the right to retain the consultant to perform Phase 2 work. The Authority seeks to complete the replacement of the Helix by 2030.

Phase 1

A. Base Work

The initial authorization for the performance of services under this Agreement will be limited to generally performing the following:

1. Scheme Evaluation
 - a. Evaluating, developing further, and refining the single level scheme (Scheme A Modified identified in the Scheme Development Report which is a variation of Scheme A identified in the Feasibility Study Report but avoids cutting rock in upper kings bluff, which is a requirement of the project); an alternate single level scheme which seeks to reduce the width to seven lanes by using a movable barrier to create an inbound XBL lane in the AM peak hours and then create an outbound lane for the PM peak hours; and a double level scheme (Scheme H identified in the Scheme Development Report). The work shall also include Pleasant Avenue on and off ramp improvements in westbound and eastbound directions that satisfy the

requirements outlined in Task F (see Section III). The Consultant shall assume that a total of three (3) variations of previously identified schemes (without the existing toll plaza) will be developed, refined and evaluated in order to recommend a preferred Scheme.

- b. Engaging, coordinating and obtaining input from the Advisory Committee and Regional Transportation Agencies, ranking all the schemes based on weighted criteria (see Section III Task F.1 for criteria/requirements) and assisting the Authority in obtaining other Stakeholder inputs and concurrence of the preferred LT Helix replacement scheme.
- c. Developing alternatives (assume six alternatives for the three NJDOT bridges defined below) satisfying NJDOT standard requirements and processes for replacement and/or modification of three (3) NJDOT bridges (Hudson Avenue, Palisades Avenue and North Marginal street over Park Avenue bridges), that are required to facilitate the proposed Pleasant Avenue ramp improvements identified in the feasibility study report and scheme development report. Analyze alternatives and recommend a preferred scheme based on NJDOT's standards, project delivery process and NJDOT's internal and external stakeholder input and approval processes.

2. Conceptual Design

- a. Performing final Conceptual Design services of the selected preferred helix replacement scheme.
- b. The Consultant shall perform final Conceptual Design services for the replacement of the Helix based on the selected preferred scheme and shall be responsible for developing all involved disciplines, including but not limited to:
 - General (Cost Estimating, Construction Staging/Phasing, Construction Scheduling)
 - Architectural (including urban and landscape design)
 - Civil
 - Electrical
 - Electronics
 - Environmental
 - Geotechnical
 - Mechanical
 - Plumbing/Fire Protection
 - Structural
 - Sustainable Design
 - Traffic Engineering
 - Surveying
 - Security
 - Technology
- c. Except as otherwise noted in this document, the Consultant shall coordinate all services outlined in this scope of work with other contracts/projects impacting the area of work and operations of the LT Helix, as appropriate, and as required by the

Authority. The Consultant shall perform final Conceptual Design services of the selected preferred replacement scheme. As a separate package, the final Conceptual Design services for the on and off ramp improvements shall be completed. The Consultant shall be responsible for developing Conceptual Design for all involved disciplines (as listed in Section II.A.2.b) for the replacement and/or modification to the three (3) NJDOT bridges (Hudson Avenue, Palisades Avenue and North Marginal street over Park Avenue bridges) and shall meet all NJDOT standards and NJDOT project delivery process.

3. As part of the Base Work, the Consultant shall perform the following work that includes, but is not limited to:
 - a. Review and develop understanding of all the technical aspects of schemes that were developed as part of the previously prepared Feasibility Study Report and Scheme Development Package report, including but not limited to, design criteria, assumptions and unresolved issues. Also, review and study the previously completed traffic modeling, environmental requirements and stormwater management work.
 - b. Evaluate Scheme Development Package Report and Feasibility Study Report and identify challenges, opportunities, and potential refinements to improve Scheme H and Scheme A modified, or any other viable options deemed to reduce cost. As a minimum the envelopes of the schemes shall not be increased.
 - c. Evaluate security threat scenarios including blast protection and other security mitigation measures and related costs for all the LT helix replacement schemes to be used for ranking schemes (as defined in Section III Task F.2).
 - d. Review and update existing no-build and future no-build traffic model and traffic studies prepared as part of the previously prepared Environmental and Traffic Study to include the three NJDOT bridges.
 - e. Develop future build condition, MPT conditions and construction stages of up to three (3) helix replacement schemes to assess traffic conditions both during construction and after the project is completed. Consider other major projects that may impact the LT Helix traffic.
 - f. Prepare a Transportation Management Plan (TMP) for construction and, as required, a comprehensive monitoring plan in accordance with Authority TMP guidelines.
 - g. Prepare an Intelligent Transportation System (ITS) plan based on the LT facility's functional and operational requirements, as well as the LT ITS Master Plan.
 - h. Perform all surveys required for the three NJDOT bridges and Amtrak tunnel and ventilation building (footprint only), and New Jersey Transit (NJT) bus lot, Hudson Bergen Light Rail to perform scope of work identified in Section II and tasks identified in Section III.
 - i. Perform all utility surveys required for the three NJDOT bridges and Amtrak tunnel and ventilation building (footprint only), and NJT bus lot, Hudson Bergen Light Rail to perform scope of work identified in Section II and tasks identified in Section III.

- j. Perform hazardous material survey (abatement of lead based paint and asbestos materials, polychlorinated biphenyl (PCB) containing materials, other hazardous or regulated building materials, and hazardous or regulated utilities materials) of existing Helix structures (including the three NJDOT bridges), roadways, and utilities that will be impacted to perform the scope of work.
- k. Perform final conceptual design of the selected preferred scheme, including but not limited to, all Helix structures, ramps, roadways, retaining walls, sign structures, miscellaneous structures below the helix (including salt shed, field offices, etc.), Pleasant Avenue on/off-ramp improvements in westbound and eastbound directions, including structural replacement of NJDOT's Hudson Avenue and Palisades Avenue bridges and North Marginal Street bridge widening over Park Avenue, and improvements to the intersection of South Marginal Highway and Pleasant Avenue with consideration for grade separation (all work associated with the on-ramp and off-ramp improvements shall be done as a separate package). Work shall include but is not limited to:
 - 1) Bridge deck wearing surfaces, roadways, pavements and utilities;
 - 2) Plumbing and fire protection systems including domestic water system, storm water drainage system, fire standpipe system, bridge drainage system, etc.;
 - 3) Electrical infrastructures including power, lighting, SCADA system, Fire Alarm system, traffic signals, signage, electronics etc.;
 - 4) Roadway drainage and utilities;
 - 5) Contaminated/hazardous material removal and disposal;
 - 6) Noise and vibration impacts and mitigation;
 - 7) Electronic infrastructures including CCTV, security, Intelligent Surveillance, ITS, over-height detection and prevention system, fiber-optic, communication systems, design interfaces, software and hardware;
 - 8) Landscape and urban elements;
 - 9) Traffic systems (ITS, signing and striping, signals, pavement markings, guiderails, barriers);
 - 10) Phasing and equipment plans required to show closures, work areas and rights of way for all phases of work for construction staging.
 - 11) Provide support by assisting the Authority in developing background documents for all agreements needed for public and private entities.
 - 12) Perform a detailed constructability review including phasing means and methods of construction, demolition and erection schemes for all stages of construction;
 - 13) Provide construction cost estimates and cost loaded construction schedules;
 - 14) Perform life-cycle cost analyses and cost-benefit analyses;
 - 15) Evaluate Hudson Bergen Light Rail, Amtrak Tunnel, Amtrak Ventilation Building (including ventilation system) and security impacts (including right-

of-way impacts for residential and commercial properties) due to the Helix replacement construction for all replacement schemes. Review impacts and recommended mitigations;

- 16) Evaluate security strategy and incorporate security mitigation measures in all aspects of Conceptual Design;
- 17) Review, update and determine stormwater management scenarios, including discharge points, permitting/approval requirements and design implications;
- 18) Support consultation and coordination, as appropriate, with transit operators and transportation oversight agencies;
- 19) Provide risk assessment support including a risk register;
- 20) Prepare and document compliance with the Authority's Sustainable Infrastructure Guidelines (SIG) and demonstrate expected achievement under the Institute for Sustainable Infrastructure's (ISI) Envision verification system;
- 21) Make good faith efforts to fulfill requirements of the Advisory Committee, Regional Transportation Agencies, and Other Stakeholders and provide report(s) of those respective parties' requests to the Authority, including recommendation of required mitigation efforts with justifications; Regional
- 22) Document Control Management - purchase, launch, manage and develop a control system such as Share Point for Helix Replacement Program. Develop process plan and user manual for the document control system and train Authority personnel, as needed; and
- 23) Participate in meetings and provide documents to the Authority for performing a project delivery method (PDM) analysis as defined in Section III Task O.

Though services contemplated hereunder will be performed by the Consultant under this Agreement (with the Authority), the project is subject to NJDOT, Amtrak, NJ Transit (Hudson Bergen Light Rail), State, and local municipality, and Other Stakeholder review. The Consultant shall follow all NJDOT standards, specifications and materials approval list for performing Conceptual Design of the three NJDOT bridges and shall follow Amtrak and NJ Transit standards for any work related to or that may impact the properties and assets of the aforementioned parties.

4. Value Engineering

The Authority will perform a Value Engineering (VE) review of the final concept design. The Consultant shall provide all supporting documents for the review including responses to comments and shall incorporate all recommendations as directed by the Authority.

Phase 2 – Optional, solely at the Authority's discretion

B. As-Needed Technical Advisory Services

Near the completion of the Consultant's Base Work, the Authority may decide to deliver the Project using a design-bid-build (D/B/B) project delivery method, or a design-build (D/B) project delivery method (or an alternative project delivery method that may also include a hybrid option). As such, the Authority may elect to further engage the Consultant under this contract or solicit proposals for a new consultant to:

1. Perform the As-Needed Work services for one of the two (2) options; to support either a D/B/B project delivery method consisting of performing, but not limited to, Preliminary Design (“Stage II”), Final Design (“Stage III”) and Post Award (“Stage IV”) services; or
2. Support a D/B project delivery method wherein the Consultant, as Authority’s representative, will provide technical advisory services consisting of, but not limited to, performing Preliminary Design (“Stage II”) including D/B bridging documents, D/B or alternate delivery procurement support services, construction management services, project management services and miscellaneous technical services on an “as-needed” basis.

III. DESCRIPTION OF CONSULTANT’S TASKS

All submissions prepared by the Consultant may, as approved by the Authority, be transmitted to, and result in Consultant meetings with NJDOT, NJ Transit, NJDEP, Amtrak and others, as required, in performance of the requested tasks detailed below.

For Base Work-related tasks, assume a total overall project duration of eighteen (18) months following the execution of the Agreement by the Authority.

Tasks to be performed by the Consultant for the Base Work may include, but are not limited to the following:

TASK A. PROJECT SCHEDULE, QA/QC PROGRAM AND MONTHLY PROGRESS REPORTS

1. Project Schedule, QA/QC
 - a. Submit a detailed project schedule and project specific Consultant’s Quality Assurance/Quality Control (QA/QC) Program for performance of all tasks. The schedule shall include, but not be limited to: project milestones and interdependencies, tasks and sub-tasks, allowance for review of all submittals by the Authority, and incorporation of all Authority comments. The project schedule shall be prepared using Microsoft Project based Critical Path Method Project Schedule from the date of award of this Agreement to the completion of the proposed work activities. The Consultant shall incorporate the Authority’s comments and submit as final.
 - b. Prepare a PowerPoint version of the project schedule using Microsoft Office 365 – PowerPoint or compatible version. The PowerPoint file shall be made available to Authority staff for internal presentations.
 - c. Update the PowerPoint version of the schedule monthly to reflect the progress of all items being tracked.
2. Monthly Progress Reports
 - a. Prepare and submit a Monthly Progress Report (MPR) to the Authority including, but not limited to, task status, deliverables, issues and concerns, accomplishments, actions required, hours of work expected for each task, total hours worked, percentage complete per task, and a cumulative estimate of expenditures through the end of the reporting month, including accruals.
 - b. The MPR shall be updated, as appropriate, and submitted on the 15th of each month.

- c. Prior to submission of the first MPR, prepare and submit a template of the MPR to the Authority for review. Incorporate comments as required and submit the revised format to the Authority.

TASK B. MEETINGS

1. Meet with Authority staff, and others, as required, in the performance of the services.
2. Attend a project kick-off meeting to finalize the scope of work and develop a "roadmap" for conducting the Project.
3. Attend a separate meeting to conceptualize the tasks and schedules specific to the cost-benefit analysis and outline the methodology for evaluating key costs and benefits.
4. Attend bi-weekly progress meetings and inter-agency meetings, comprised of the Authority, the Advisory Committee, Regional transportation agencies, and Other Stakeholders, as required, by the Authority.
5. Prepare presentation materials for meetings, as required. Evaluate comments and recommend courses of action, as appropriate. Incorporate comments and finalize presentations.
6. All meetings will take place at Authority facilities (unless noted otherwise), or other stakeholder agency offices or at the Consultant's offices.
7. Prepare an agenda before each meeting in coordination with the Authority and distribute said agenda two (2) business days prior to the meeting. Record, and subsequently distribute for review and comment (to all participants) draft minutes for all meetings attended by the Consultant within three (3) business days after the meeting. Incorporate Authority staff comments as directed and submit and distribute the minutes as final within two (2) business days of receipt of such comments and implement such follow-up as appropriate. Both draft and final minutes shall identify items requiring follow-up action (and the associated responsible party), action to date and a summary of critical path items, as appropriate.

Estimate a total of 60 meetings for Base Work- Task B specified tasks, and 30 staff hours per meeting (inclusive of presentation and meeting minute preparation).

TASK C. DOCUMENT REVIEW

1. Collect, research and review all the available documents, as listed in Section V below and other relevant documents available from the Authority's files located at 20th Floor, 4 World Trade Center, 150 Greenwich Street, New York, NY 10007 and 2 Montgomery Street, 1st Floor, Jersey City, NJ 07302.
2. Gather and review information from other entities (stakeholder agencies such as NJDOT, Amtrak and utility companies etc.) that own property, bridge structures, roadways, signs, sign structures, drainage structures and utilities that abut the project site(s) as determined by the Consultant and as approved in advance by the Authority.
3. All data received from above Tasks C.1. and C.2 shall be field verified. Information not available from Tasks C.1. and C.2. shall be researched, reviewed and collected during your field verification (Task D).

4. Meet with Authority staff and others, as required, to discuss findings and to review Authority data relevant to the project prior to performance of field verification services.

TASK D. FIELD SERVICES

See Section VI. Conditions and Precautions and below for requirements related to the performance of field services.

1. General:

- a. Coordinate with LT facility staff and Port Authority Police Department (PAPD) for proper identification and procedures to be followed for field work.
- b. Prepare all maintenance of traffic (MOT) drawings needed for field inspections. Inform and coordinate with the Authority for all access and lane closures required for the inspection. Meet with facility personnel to discuss any impacts to their operations and obtain approval prior to performing any field inspection. Provide MOT in accordance with the approved MOT drawings, including traffic control devices (e.g. attenuator vehicles, arrow boards, cones, drums, etc.) and associated labor services, as required, to inspect the structure and to maintain traffic under and on the structure during fieldwork. The Consultant must acquire the services of local township police officers and other external stakeholder approvals for MOT when field work is being performed outside Authority property. All MOT principles shall conform to the current Federal Manual on Uniform Traffic Control Devices and Authority's Lincoln Tunnel Routine Lane Closure Guidelines.
- c. Street level inspection that requires closures of traffic lanes, sidewalks or parking areas may require support from NJDOT including the preparation of permitting documents. The Consultant shall perform such permit services and prepare MOT plans related to the temporary closures.

2. Street and Transportation Inventory

- a. The Consultant shall conduct field visits to determine street and sidewalk geometry and dimensions, lane uses and lane use restrictions, parking restrictions, traffic control devices (signs, signals, etc.), and typical driver and pedestrian behaviors (especially during peak hours). This information shall be used to calibrate, update, and verify the existing Authority AIMSUN and Synchro model traffic simulation models.
- b. Obtain traffic signal timing data from local agencies, in coordination with the Authority, for all applicable intersections. The Authority will work with the Consultant to allow necessary access to all LT facilities and will provide any necessary aerial photographs or plans. The Consultant shall take photographs during the field visit and thoroughly document their locations and circumstances. The Consultant shall work with the Authority to obtain permission for these photographs. The Consultant shall adhere to Authority security requirements while performing this or any other similar task.
- c. Bus and any other transit routes and stops shall be obtained from publicly available data. Any additional data needed shall be obtained in coordination with the Authority and the appropriate bus carriers, such as NJ Transit and other private bus carriers.
- d. Vehicle headways shall be collected along the study corridor at six (6) locations in the

eastbound direction and six (6) locations in the westbound direction during the typical weekday periods, and shall include locations along NJ Route 495.

- e. Develop a list of up to fifty (50) Automatic Traffic Recorder (ATRs) locations in the study corridor, including on all major roadways, approaches, and ramps to and from the LT in Hoboken, Union City, and Weehawken, and the three (3) NJDOT bridges. Submit this list to the Authority for approval. ATR counts shall be taken for a continuous (2) two-week period. Existing construction, other projects or seasonal events that may affect data collection shall be identified.
- f. Develop a list of up to fifty (50) Manual Vehicle Classification Counts (VCCs) locations in the study corridor including on all major roadways, approaches, and ramps to and from the Lincoln Tunnel in Hoboken, Union City, and Weehawken. Submit this list to the Authority for approval. The VCCs shall be conducted on a typical weekday (as used herein, “typical weekday” means Monday-Friday, morning rush hours “AM” (6 AM to 10 AM), afternoon rush hours “PM” (4 PM to 7 PM) and “Early Evening” (7 PM to 10 PM) periods). The survey classifications shall include but are not limited to:
 - 1) Passenger Cars;
 - 2) Single Unit Trucks;
 - 3) Multiple Unit Trucks;
 - 4) Mini, Coach, Articulated, Double Deck Buses; and,
 - 5) Other vehicle types.
- g. Develop a list of up to twenty (20) signalized intersections at which Turning Movement Counts (TMC) shall be conducted in the local streets of Hoboken, Union City, and Weehawken used to access the Lincoln Tunnel. The TMC shall be conducted on a typical weekday. TMC shall also be conducted in accordance with the traffic survey vehicle classifications listed above.
- h. Develop a list of up to ten (10) intersections where detailed Vehicle Queue Length Measurements shall be conducted for all approaches in the local streets of Hoboken, Union City, and Weehawken used to access the Lincoln Tunnel during typical weekday periods.
- i. Conduct Pedestrian Counts at up to ten (10) intersections in the local streets of Hoboken, Union City, and Weehawken used to access the Lincoln Tunnel, to be determined in consultation with the Authority. Pedestrian counts shall be conducted during typical weekday periods.
- j. Collect Travel Time Surveys along the length of the study corridor. Conduct up to ten (10) runs for each inbound and outbound direction during typical weekday periods.
- k. Obtain Travel Time data from TRANSCOM in coordination with the Authority for the study area. The Authority will work with the Consultant to allow necessary access to TRANSCOM’s data fusion engine. The Consultant shall validate collected Travel Time Surveys against TRANSCOM’s Travel Time data.
- l. Conduct field observations to aid in model calibration and/or analyses, including verifying any changes in lane usage, queuing patterns, traffic operations, etc. from summer 2018 conditions. Consultant shall assume 10 hours of field observations.

3. Survey Services:
 - a. Review the existing preliminary survey and as-built files that are available with the Authority and identify additional required topographic, utility and property/right of way (ROW) and boundary surveys to be performed as part of Task D.
 - b. Perform a topographic survey of roads and other features under and around the three NJDOT bridges, including but not limited to, all sidewalks, curbs, parapets, railings, fence, utilities, drainage systems, signals, signs, lamp posts, fire hydrants/standpipes, under-bridge vertical and horizontal clearances, piers, columns, and abutment locations, bridge seat elevations and bearing elevations. Contour lines shall be at 0.2 feet intervals where it is practical in AutoCAD Civil 3D format. Perform this task in accordance with Authority Surveying Standards. Surveys on NJDOT property may be subject to NJDOT survey standards.
 - c. Identify and prepare a list of all entities, utility agencies with contact information that have utilities in project limits. Visit utility agency offices to obtain information from them, as required.
 - d. The survey limits shall be as required to perform all scope of work described in Section II and shall include, but not be limited to, the NJDOT bridges, Amtrak, NJT bus lot, Hudson Bergen Light Rail, LT portal in Weehawken, toll plaza, the existing inbound and outbound Helix roadways, structures and ramps to approximately 100 feet west of Palisade Avenue.
4. Health and Safety Plan (HASP): Prior to performing any field inspection and verification, submit a Health and Safety Plan to the Authority for review and approval. Information in the Health and Safety Plan shall include, but not be limited to:
 - a. a description of the verification services to be performed;
 - b. the types of vehicles and equipment to be used;
 - c. names and telephone numbers of personnel to be present;
 - d. the name and qualifications and experience of consultant staff in charge at the site of the inspection/verification work;
 - e. evidence of OSHA Construction Industry training (10-hour minimum, 30-hour recommended);
 - f. a traffic safety plan and an emergency response plan that lists the telephone numbers for both the Authority LT Facility's office and the Port Authority Police and provides directions to the nearest hospital and the means of conveying the emergency response plan to the Consultants field personnel.
5. Field Inspection and Verification Services: Prior to performance of the field work, submit a draft Field Inspection/Verification Plan identifying all locations to be inspected, as required, to verify existing conditions of Helix structural elements and collect any missing information for design and document development including, but not limited to:
 - a. Scope of work items identified in Section II.
 - b. Locations that will be inspected as required to verify and supplement (as appropriate) findings in the referenced documents, included herewith and made a part hereof.

- c. All existing structural elements of superstructure and substructure and the roadway safety features at the ends of the bridges; roadway pavement, utility castings, sign structures, drainage systems, fire standpipe systems, electrical equipment (including light poles, fixtures, conduits, raceways, wiring, junction boxes, etc.); and electrical power sources and loads that may be affected by interruption of power during relocation of electrical equipment, raceways and wiring.
 - d. Identification of utilities that may restrict access.
 - e. Identification of environmental requirements and all hazardous materials (e.g., lead based paint, asbestos containing materials, Polychlorinated biphenyl's (PCBs) and/or universal wastes) that will be impacted by the demolition of the current Helix and the construction of a new Helix.
6. Incorporate Authority comments as required and resubmit the draft plan as Final. Upon approval of the Field Inspection/Verification Plan by the Authority proceed with performance of Item 8, Field Inspection/Verification.
7. Prepare a detailed Environmental Investigation Plan, to be approved by the Authority, which will describe the type and locations of environmental samples for collection and laboratory analysis to allow for characterization of materials likely to be disturbed as a result of the proposed work. The plan will include the methodology for sampling and analysis in compliance with applicable regulations and guidance. The sampling plan shall include, but not be limited to: asbestos, lead-containing paint, PCBs, and other hazardous building materials.
8. Field Inspection/Verification:
 - a. Perform/determine Asbestos Containing Material (ACM) and Hazardous Material Surveys, in accordance with the Authority-approved Environmental Investigation Plan, of the existing areas/structures which are likely to be impacted as a result of the proposed construction. The Consultant shall collect all samples for analysis, prepare all samples for shipment to the laboratory, complete all chain of custody forms and perform laboratory analysis.
 - b. Verify existing conditions of all structural, civil, plumbing, fire protection, electrical and electronics components as required to perform scope of work outlined in this Attachment A and to identify and develop structural temporary support and demolition details for construction staging.
 - c. Provide all equipment including rigging, temporary structures, scaffolds and ladders as required for your inspection of the structure and to maintain traffic under and over the structure. Equipment rentals shall be clearly defined as part of reimbursable expenses.
 - d. Determine and document the extent of modification/relocation of utilities required to eliminate interferences and provide necessary clearances for construction activities.
 - e. Conditions of major utilities that may affect the work shall be noted. The verification shall document information necessary for staging of demolition and construction, conceptual design of temporary structures and defining dimensional constraints. This shall include fire watch and any temporary drainage and standpipe systems during the staging and phasing.

- f. As part of the field inspection, identify all electrical and electronics equipment (including light poles, fixtures, conduits, raceways, wiring, fiber cables, junction boxes, CCTV (traffic/security), Access Control System, Perimeter-Intrusion Detection Weather Station, SCADA Systems and security systems, networks, Radio Frequency (RF) microwave communication wireless (antennas for communication, etc.) systems, network infrastructure, sign structures, utilities and their supports that interfere with the work of this project and prepare field condition drawings including, but not limited to, location plans with photographs, one line diagrams, layouts, associated panels, junction boxes, conduit and cable schedules, elevations for electrical and electronics systems.
 - g. The Authority will perform all field and laboratory concrete and steel material testing of the elements in consultation with the Consultant. Prior to performance of any required concrete and steel material testing, the testing schedule shall be discussed with the Authority. Incorporate all field service and laboratory test data into the Conceptual Design Package (CDP) report, as appropriate.
 - h. Refer to Existing Conditions section of the Design Criteria Summary included in the Pre-stage I Feasibility report for a listing of some of the electronics systems, which are known to exist at the LT Helix.
 - i. Conduct field survey(s) and trace each circuit for each conduit of existing electrical/electronic systems associated and mounted on all the bridges including the substructures for both the LT Helix Structures and the three NJDOT bridges.
 - j. Conduct field survey of the Amtrak Vent Building to verify the location and capacity of the existing ventilation equipment and location and geometry of existing building intake and exhaust openings. Verify location of the Amtrak tunnel and envelope.
9. Submit six (6) copies of completed field findings on inspection reporting forms and meet with Authority staff to discuss those findings, as required.
 10. Upon completion of the Environmental Investigation Plan, Field Inspection/Verification services submit a draft and final report documenting your findings with photographs as part of the CDP report, required under Task K below.

TASK E. APPROVAL CRITERIA SUMMARY

The Consultant shall prepare a summary of all criteria to be used in the preparation of all required documents. Said criteria shall include, but not be limited to, all applicable codes and standards as well as:

1. Implementing applicable regulations and standards (e.g., NJDOT, and all other applicable federal, state and local environmental laws and requirements);
2. Federal, state, regional, and local government programs, plans, policies, initiatives, and all applicable public laws and regulations. Reference applicable programs, plans, policies, initiatives, laws and regulations in the appropriate deliverables;
3. All federal, state, and local permits, licenses, supporting documents, and other approvals that must be obtained to implement the project;
4. Any required environmental requirements, alternative analyses, and/or air quality studies/analyses/surveys/reports required to obtain approval; and

5. Preparation and submission of draft regulatory consultation documents and/or Memorandum of Agreements, as appropriate, including supporting documents, to the Authority for approval and execution by the respective regulatory agencies, as warranted.

TASK F. SCHEME EVALUATION PACKAGE (SEP)

1. Review and evaluate the partial bi-level scheme (Scheme H identified in Scheme Development Report), single level scheme (Scheme A Modified identified in Scheme Development Report) and the single level scheme including a movable barrier for the XBL (a variation of Scheme A identified in Feasibility Study Report) and compare them with the existing Helix. Identify challenges, opportunities, potential improvements and further develop the three (3) schemes to satisfy the following criteria/requirements:
 - a. Minimum initial construction cost, optimum lifecycle cost, minimum 100-year design life of bridge structures and minimum construction duration (including optimum cost loaded construction schedules).
 - b. Means and methods of construction (including ease of constructability) and construction staging that results in minimum traffic/XBL operational impacts, impact to Lincoln Tunnel operations and travelling public.
 - c. Compliance with latest codes and standards.
 - d. Compliance with Port Authority Design Guidelines and Standards including the Authority's security requirements (i.e., protection against various threat scenarios including blast protection).
 - e. Meet and comply with the Port Authority's Sustainability Guidelines requirements, including level of projected achievement under the Authority's Sustainable Infrastructure Guidelines (SIG) and Institute for Sustainable Infrastructure's (ISI)'s Envision system.
 - f. Minimum environmental impacts including potential right-of-way (property), impact on adjoining communities, community impacts, hazardous waste involvement, noise and vibration impacts, cultural resource impacts, ecological resource impacts, and regulatory permit/approval requirements. The preferred scheme shall have preferably no or minimum impact on King's Bluff.
 - g. Minimum impact to Hudson Bergen Light rail, Amtrak Ventilation Buildings, Amtrak Tunnel and any other buildings in the vicinity.
 - h. Horizontal alignment that minimizes property/ROW/environmental impacts.
 - i. Vertical alignment that has optimum grades and maximum under-bridge clearance. Minimum existing roadway re-profile work at the approaches.
 - j. Advisory Committee and Regional Transportation Agencies inputs.
 - k. Minimum utility impacts.
 - l. Visually appealing aesthetic structure with lighting that blends with the surrounding environment.
 - m. Bird deterrent mitigation plans

2. Engaging, coordinating and obtaining inputs from the Advisory Committee and Regional Transportation Agencies, ranking all the schemes based on weighted criteria (see Section III Task F.1 for criteria/requirements), recommending a scheme, and assisting the Authority in obtaining stakeholder inputs and concurrence of the preferred LT Helix Replacement Scheme.
3. The Consultant shall assume that a total of three (3) variations of the Helix replacement schemes will be developed, refined and evaluated for recommending a preferred scheme. The three schemes shall be developed without existing the toll plaza. Assume six (6) alternatives for replacement and or modification of NJDOT bridges that satisfy NJDOT standards. Prepare associated functional drawings, order-of-magnitude construction cost estimates, construction schedules and cost loaded construction schedules for all the schemes/alternatives.

The SEP effort shall include, but not be limited to, the following:

Functional layout drawings to include, but not be limited to, the following:

- a. Horizontal and vertical alignments.
- b. Elevations and sections, as necessary, at critical sections including at-grade roadway areas to depict geometry, typical construction, and temporary construction, and to demonstrate staging.
- c. Identification of impacted properties (those beyond Authority's right of way). Identify parcels requiring permanent or temporary land acquisition and those requiring permanent subsurface easement agreements. Additionally, identify limits of temporary surface and permanent subsurface easements.
- d. Clearances and structure elevations or limits (i.e. maximum/minimum).
- e. Staging plans, including closures, detours, laydown areas, major construction equipment placement and clearance requirements and temporary structures, along with traffic analyses and models performed in support of the plans.
- f. Security resiliency measures required at the new Helix. Evaluate the hardening and resiliency of each scheme, clearly defining the challenges or costs associated with each scheme.
- g. Amtrak tunnel and ventilation system impact, evaluation and Amtrak Ventilation Building security review and mitigation measures due to construction of a new Helix.
- h. Prepare a white paper that includes the justification on vertical clearances, grades, design speed etc. for all the alternatives. Create a matrix table in which alternatives are compared to existing conditions and American Association of State Highway and Transportation Officials ("AASHTO") guidelines.
- i. Aesthetic alternative concepts including lighting aesthetic concepts.
- j. Cost estimates for the alternatives, which clearly defines the most cost-effective alternative.

The information shall be overlaid on the topographic survey plan background drawing(s) or on aerial images. Vertical alignments and elevations shall be prepared in AutoCAD

drawing format in accordance with Authority's AutoCAD or Revit Standards (See Section V). All drawings developed as part of this contract shall be done using the latest version of AutoCAD Civil 3D (Civil and Traffic) and AutoCAD or BIM/Revit (for all other disciplines).

4. Review existing load ratings provided by the Authority and supplement as required to develop construction loading, structural temporary support design criteria/concepts for structural demolition and construction staging schemes.
5. Identify necessary environmental permits.
6. Determine requirements for plumbing and fire protection during construction and final conditions.
7. Review of electronics recommendations included in the 2012 Feasibility Study report. Consult with the Authority on which recommendations to consider in the construction cost estimates.
8. Amtrak Ventilation Building Impact Study: The objective of the study for the three (3) schemes is to: 1) assess the impact of the proposed temporary and permanent Helix replacement structures on exhaust dispersion from, and the air intakes serving the Amtrak Ventilation Building, 2) evaluate the potential air entrainment of exhausts due to the temporary and permanent Helix replacement structures during normal and emergency operation of the Amtrak facility, 3) provide mitigation measures to be adopted to ensure minimum impact on the Amtrak Ventilation systems, and 4) evaluate impacts of new temporary and permanent foundations on the Amtrak Vent Building and Amtrak Tunnel. Re-run models to validate that proposed mitigation measures are successful. The exhaust dispersion and re-entrainment study shall be accomplished by performing detailed tracer gas wind tunnel dispersion modeling for this project (including, but not limited to, temporary and permanent Helix replacement structures, surrounding buildings, etc.). Develop and submit a summary of the design criteria and methodology used for evaluating ventilation system effects for the wind tunnel analysis, including the local wind climate for approval before performing the wind tunnel analysis. Develop order of magnitude cost estimates for the mitigation measures. Collect all data including drawings, ventilation rates for all operating modes, details of building intake and exhaust location and geometry as needed for construction of the wind tunnel model from Amtrak and all others. Prepare a presentation summarizing all findings including mitigation recommendation to Amtrak for obtaining Amtrak's feedback, input and approval.
9. Identify and maintain Amtrak's emergency egress at the Amtrak ventilation building during construction and final conditions.
10. Develop presentations, renderings, video animations, architectural presentation models of a maximum of three (3) Helix replacement schemes and six (6) alternatives for NJDOT bridge replacement and/or modification for presentation to the Advisory Committee and Regional Transportation Agencies in coordination with Task M.
11. Prepare Construction Cost Estimates and Cost Loaded Construction Schedules for the three (3) schemes. The construction cost estimates shall include a 40% design contingency and shall be in accordance with the Authority's estimating guidelines and procedures, included herewith and made a part hereof (See Section V, below). Present the Construction Schedule in bar chart form, using days, weeks or months, as appropriate for the unit of

time. Provide a cost loaded construction schedule. Costs for property acquisition or easements shall not be included in the estimates.

12. The Consultant is responsible for fulfilling all sustainable design requirements, including achieving compliance with the Authority's SIG. Each alternative shall be evaluated against SIG criteria and, where necessary, separate SIG Checklists shall be provided. Gold level SIG certification shall be the targeted level of certification, with "Certified" as the minimum acceptable standard. Include a Sustainable Design section, which identifies how each possible credit will be achieved.
13. Prepare and submit a SEP report:
 - a. Report shall be prepared with the final version of information developed for this Task F. The report format shall generally be consistent with that of the 2012 Pre-Stage I Feasibility Study Report and 2018 Scheme Development Report. The SEP report shall include, but not be limited to, the following sections: Executive Summary, Introduction, Purposes and Needs Statement, Design Criteria Summary, Assignment of Weightages to each Criteria, Screening Criteria, Inputs from all Stakeholders (including the public), Foundation Design Recommendations, Existing Traffic Information, Stormwater Management, Structural Concept, Alignment and Profile, Civil, Traffic, Construction Staging and Phasing, Constructability, Permanent Structures, Temporary Structures, Mechanical/Electrical, Resiliency and Sustainable Design, Right of Way Acquisitions and Easements, Conceptual Cost Estimates, Cost Loaded Construction Schedules, Evaluation and Ranking of Schemes, Comparison of Schemes and Recommendation of preferred scheme.
 - b. Create plans and sections for all schemes with respect to the Amtrak Ventilation Building and Tunnel envelope including results of the Amtrak Ventilation Building impact study for Amtrak review.
 - c. Submit a 50%, 90% and a final SEP report for Authority review.
 - d. Prepare and conduct a Microsoft PowerPoint presentation of the 90% complete SEP for all schemes with pros and cons to Authority staff at least one (1) month prior to its use for Advisory Committee and Regional Transportation Agencies review sessions.
 - e. Incorporate Authority comments and present the final SEP to Authority staff.
 - f. SEP report for three (3) NJDOT bridges shall follow NJDOT standards and shall be a separate report for submitting to NJDOT for review including recommendation of the preferred scheme for each bridge.
 - g. Prepare a Microsoft PowerPoint presentation (including an animation video) of the 100% complete SEP report findings for all stakeholders.

TASK G. COST BENEFIT ANALYSIS OF THE PREFERRED SCHEME

The Consultant shall perform a public (social) cost-benefit analysis (CBA) comparing the no-build option described below to the preferred Helix scheme prior to commencement of the final Conceptual Design.

The Helix project is expected to provide new benefits in the form of improved reliability and increased safety. The prime rationale for the project, however, is the maintenance of a critical

link in the region's transportation system. A primary benefit, then, is the avoided costs to the agency and the public of *not* replacing the link in a timely fashion.

This CBA shall compare the costs and benefits of proceeding with the preferred scheme (the "Build" case) against:

1. A base case of not replacing the link in a timely fashion (the "No-Build" case), and;
2. Any alternative schemes advanced under the project's conceptual design scope.

Under the no-build (suboptimal) scenario, in lieu of replacement of the Helix, the Consultant shall develop a major rehabilitation scope of work under this Task that shall include complete deck replacement, seismic upgrades/retrofit, repairing steel and concrete superstructures and substructures that are to remain bringing the existing structure into current code compliance.

A key sub-task of this CBA will be the development of conceptual costs for the No-Build condition. The Authority will provide the Consultant with a history of past maintenance and repair costs on the Helix, costs for rehabilitation work that was recently completed, and engineering assessments of the Helix's condition. The Authority will also provide the Consultant with a timetable giving the nature and extent of the repairs to be utilized for the No-Build scenario which will also include complete redecking of the existing LT Helix as described above. The Consultant shall develop a schedule of conceptual costs for maintaining the Helix in its existing configuration in a state of good repair starting from January 2020 to the time the existing roadway is demolished.

The Consultant shall also develop a schedule of conceptual costs for maintaining the replacement Helix after the construction period.

All costs used in the analysis will be on a Total Project Cost basis, including any relevant soft costs.

1. The CBA shall, at a minimum, consider the following costs and benefits occurring during and after construction, to the extent that they differ between the Build and No-Build cases:
 - a. All life-cycle costs;
 - b. Disruption of travel due to construction or repairs and rehabilitation. The analysis of travel time impacts during construction and capital renewal may be conducted at a conceptual level using a simple spreadsheet queuing model;
 - c. Reliability (e.g., from faster clearing of lanes after incidents);
 - d. Improved safety;
 - e. Vehicle operating costs;
 - f. Air pollution emissions including carbon emissions.
2. The Consultant shall meet with the Authority to agree on the parameters of the CBA, including the definition of the No-Build condition. This meeting is referenced in Task B above.

3. For the No-Build condition, the Consultant shall deliver a draft schedule of conceptual costs for maintaining the existing roadway.
4. The Consultant shall deliver a draft analysis of benefits, including backup spreadsheets.
5. The Consultant shall deliver a final analysis, including backup spreadsheets, and present results of the CBA.
6. The CBA shall be carried out from the perspective of both the region and the nation, if the consultant anticipates results from these perspectives are reasonably expected to differ notably. The Consultant shall also prepare a brief analysis considering only internal returns – that is, financial costs and revenues for the Authority. Benefits and costs shall be evaluated over an analysis period to be agreed upon by the Consultant and the Authority, likely between 20 and 30 years from the conclusion of project construction. The Authority will provide its CBA framework to the Consultant. The framework specifies a discount rate and recommended methodologies regarding key benefit and cost calculation that the Consultant shall use in the analysis. Where the framework does not specify an analytical approach, the Consultant shall recommend an approach for review by the Authority’s Planning and Regional Development Department. The CBA does not need to account for wider economic benefits to the region, although consideration of such analysis is not precluded.
7. The Consultant shall rely, to the degree possible, on preliminary or final results from the traffic analysis and simulation modeling tasks, outlined in subsequent sections, when conducting the CBA.
8. The Consultant shall prepare this CBA consistent with Federal guidelines for competitive grant programs such as the USDOT BUILD grant program. To the extent that those guidelines differ from the Authority’s guidelines, as in the specification of geographic scope or discount rate, the Authority guidelines will govern.
9. The Consultant shall conduct risk analysis to establish confidence intervals for the inputs to the CBA, and the Consultant shall present CBA metrics such as Net Present Value and Benefit-Cost Ratio along with confidence intervals or probability distributions.

If seismic upgrades are performed, the risk analysis shall also consider the benefits of reduced risk of catastrophic failure due to seismic events. The Authority will provide conceptual estimates of the travel time impact of a catastrophic failure.

10. The Consultant shall deliver a report that includes a detailed explanation of economic, engineering, and transportation parameters and assumptions used in the analysis; a detailed explanation of the methods and analysis used; quantitative and qualitative costs and benefits of the options; cost benefit metrics evaluated (Net Present Value, Internal Rate of Return, Cost-Benefit Ratio, etc.) along with sensitivity and risk analysis; and appropriate appendices containing raw data variables and describing methodologies employed. The Consultant shall also deliver any spreadsheets used to perform the cost-benefit calculations and sensitivity analysis. The Authority shall have the right to use and alter this spreadsheet to update the analysis in the future. Draft and final versions of these spreadsheets shall be delivered with the draft and final reports, respectively.

TASK H. METROPOLITAN TRANSPORTATION PLANNING SUPPORT

The Consultant shall prepare support material for submittal to Metropolitan Planning Organizations (MPOs) as may be required, including information about evaluation of project alternatives and documentation to incorporate the project into federally mandated MPO transportation plans, air-quality conformity, and congestion management analyses.

TASK I: TRAFFIC ANALYSIS AND STUDY

1. Lane Closure Hours or Hours of Work for any and all inspection and/or construction activities shall comply with the Work Hours outlined in Section VI. C. Any deviations from the Work Hours in Section VI. C. will require additional traffic analysis and the Authority's written approval.
2. Traffic analysis of all roadways/intersections for all stages of construction during hours not conforming to the Work Hours as outlined in Section VI. C. shall be performed to evaluate traffic impacts due to construction and proposed detour routes. The consultant shall also validate that the impacts will be within acceptable levels, as determined by the Authority. Traffic analyses shall identify any "fatal flaws" of conceptual construction staging and related MOT. Assume that eight (8) stages per scheme shall be analyzed.
 - a. Traffic analyses shall include the determination of queues, existing delays, and incremental delays of roadway segments and intersections due to construction, and also the determination of the levels of service ((LOS) as defined by the Transportation Research Boards' *Highway Capacity Manual – HCM 2010*) and volume to capacity ratios (v/c) for the existing, No-Build construction year, and build year with the construction scenarios. The Consultant shall examine regional projects (including those being conducted by the Authority and other agencies) to validate traffic diversion assumptions.
3. The Consultant shall evaluate alternatives for impacts to traffic on Helix and the three (3) NJDOT bridges (including all construction stages) and XBL operations. Functional traffic plans shall be developed for all alternatives and for all construction stages that include: lane utilization, direction of travel, pavement markings, regulatory traffic controls, XBL lane closures, XBL lane transitions, XBL operations, XBL transition through the toll plaza, etc. for conditions both with the XBL during the AM and without the XBL during the PM.
4. The Consultant shall conduct a capacity analysis for the study corridor (including the three NJDOT bridges) using multilane highway criteria set forth in the Highway Capacity Manual. Evaluate the corridor on a segment-by-segment basis separately for eastbound and westbound travel directions. Evaluate the maximum service flow rate for the weekday AM and PM peak periods to account for conditions with and without the XBL and including the three NJDOT bridges. Evaluate the XBL separately due to the unique characteristics of this contraflow lane.
5. The Consultant shall evaluate the potential capacity limitations of the LT toll plaza and tunnel travel lanes to assess the true capacity of the study corridor.
6. Based on the results of the traffic analyses, the Consultant shall identify four (4) critical stages per scheme to advance into additional traffic simulation modelling required in Task J. Submit the list of stages to be modelled for Authority review and approval.

7. The Consultant shall participate in consultations among the Authority, NJDOT, NJT, and other bus transit operators to review these findings relative to anticipated bus operations and requirements on the study corridor (including the three (3) NJDOT bridges).
8. The Consultant shall prepare a Scope Summary Memorandum (SSM) for submission to NJDOT and Municipalities as per NJDOT standards. Include in the SSM relevant initial traffic, safety and operational analysis including construction staging impacts.
9. Once comments are received from NJDOT and surrounding municipalities including but not limited to the Weehawken, Union City, and Hoboken, and incorporated, the Consultant shall prepare the respective documents as final (Purpose and Need, Alternative Actions and Screening and Traffic Analyses), which will then form the basis for the NJDOT Notice of Intent.

TASK J. TRAFFIC SIMULATION MODELS

Use most current version of the New York Best Practices Model (NYBPM) and update the existing AIMSUN traffic simulation models. Conduct analyses for the regional and local/facility network to analyze and assess impacts and diversions in the existing and future 2040 conditions. The traffic simulation models will be used to support future public outreach efforts and used in coordination with other stakeholders. For the three (3) schemes developed under Task F, model each construction stage identified from Task I as the critical stages (Assume 4 stages per scheme) will be modeled to inform the discussion. Assume that the XBL must be maintained during construction for each stage modelled.

The study corridor includes roadways and approaches to the LT, three (3) NJDOT bridges, including NJ Route 495 and local streets in Weehawken, Union City, and Hoboken. Ramp merge and diverge points along NJ Route 495 are also included in the study corridor.

1. Model Development Strategy Session

Discuss the process for updating the NYBPM and AIMSUN simulation models with the Authority. Include updating the baseline project schedule, determining calibration goals, and establishing Measures of Effectiveness (MOEs) that the model must satisfy. These MOEs may include, but are not limited to, density, average speed, levels of service for multilane roadways, travel times, vehicular delays, queue lengths, intersection delays by movements, and intersection queue lengths by movement (50%, 95% and maximum). Summarize the capability of the NYBPM and the procedure that allows static assignment of the NYBPM's internally generated 15-minute/30-minute trip tables over a user specified time window to the regional highway network as a step in preparing and exporting data for use in other microscopic or mesoscopic models. Develop a Synchro model to simulate existing and future 2040 conditions (assuming the replace in-kind or other build alternative is implemented) for the local street network and for use in signal timing optimization in the build MPT only condition.

2. Existing Origin Destination Tables and Traffic Volume Flow Maps

The traffic data provided by the Authority and collected in Task D and Section III, Turning Movement Counts, Vehicle Classification Counts, Automatic Traffic Recorder data, Turning Movement Data, and Pedestrian Count data shall be used to establish the existing 24-hour baseline traffic volumes for intersections, ramps, and highways on schematic flow maps. Historical data from various sources, such as from the Authority or New York City

DOT, shall be reviewed to determine if a supplemental data collection plan is needed for this project. Other supplemental data sources could include, but are not limited to: Waze, TRANSCOM, and big data sources (i.e. Streetlight). Develop Origin Destination tables and volume flow maps for each hour of the 24-hour period. Origin Destination tables and volume flow maps shall be submitted to the Authority for approval.

The Authority shall provide the Consultant with the Existing Condition Traffic Simulation and Future No-Build Condition Traffic Simulation previously developed from the Environmental Consideration and Traffic Study. The Consultant shall validate and calibrate the provided simulations with the approved Origin Destination tables and volume flow maps.

3. The following shall apply for Future Build Condition Traffic Simulations for all construction stages identified in Task I to be modelled (assume (4) four stages per scheme and (3) three schemes.):

Conditions during the typical weekday shall be modeled using AIMSUN software and shall include 3-D visualization of traffic conditions, as well as network environment (buildings, signage, and landscape) for a total of three (3) time periods, based on the data collected in Tasks D and Section III. In addition, 15-minute trip tables shall be provided to be used as a temporal resolution for simulations. Volumes shall be refined such that they may be input into the AIMSUN model and shall be divided into vehicle classifications as appropriate. The vehicle classifications itemized in Task D are preferred but not required. The model assignment and simulation shall include two (2) types of routing:

- a. Dynamic routing for assignment of all traffic (except transit modes fixed route)
- b. Static routing for simulating local fixed route transit activities.

The Dynamic Model shall include:

- a. Origin Destination matrices developed from the existing peak period volumes.
- b. Development of Route Guidance sub-routines using COM to direct traffic via the least congested route.
- c. Allowing traffic to choose the most optimum route based on congestion.

The dynamic assignment shall achieve a convergence assignment so that all possible routes can be evaluated.

The Static Model used to simulate transit activities shall include:

All transit type vehicles such as courtesy vans, charter buses, and public buses serving the XBL and Port Authority Bus Terminal facilities shall be simulated with their predetermined headways.

The Consultant shall develop hourly Origin Destination tables and volume flow maps for a 24-hour period for the study area roadways (including NJDOT bridges) and intersections during the existing conditions. Conditions shall be modeled during a typical weekday using AIMSUN software for a total of three (3) time periods. Develop AIMSUN models for study area conditions, tabulate data and summarize results, prepare and submit Technical Reports and Memoranda summarizing the findings for the mainline roadways, study area intersections, three NJDOT bridges and related intersections, Tunnel approaches, ramp

access roadways, and ramp merge/diverge areas as well as analyze and develop a comprehensive report on the study area.

The Consultant shall examine regional projects (including those being conducted by the Authority and other agencies) to validate traffic diversion assumptions.

4. Future Build Origin Destination Tables and Traffic Volume Flow Maps (for the three (3) schemes including the three (3) NJDOT bridges).

The traffic data provided by the Authority and collected in Task C.2 shall be used to establish future 2040 build baseline traffic volumes for intersections, ramps, and highways on schematic flow maps. The Consultant shall develop Origin Destination tables and volume flow maps for each hour of a 24-hour period based on the NYBPM future growth. Origin Destination tables and volume flow maps shall be submitted to the Authority for approval.

5. Traffic Studies & Traffic Simulation Models Draft and Final Report Preparation

All the Technical Reports and Technical Memoranda submitted for the first four items listed above (i.e., Task J.1 thru Task J.4) shall be combined into a single draft report at the conclusion of the project. The draft report shall be submitted to the Authority for review and comment; the final report shall address all comments noted by the Authority.

The Consultant's final report shall include, but not be limited to, the following elements, in both electronic and paper form:

- a. All Authority comments during review of the Draft Report shall be addressed;
- b. Meeting minutes shall be organized by meeting date and included in the Appendix;
- c. Summary of calibration parameters and assumptions for each Simulation Model;
- d. Detailed explanation of the methods of analysis used;
- e. Summary of data inputs and results of the simulation models;
- f. The photographs submitted in Task D.2 shall be included in the Appendix as a Compact Disc (CD); and
- g. A report discussing a comparison between estimated traffic conditions obtained from the calibrated model and baseline traffic data.

All the tables and graphs shall be compiled into an organized set of Microsoft Excel spreadsheet files. Appropriate section and title divider pages shall be included, a continuous set of page numbers shall be applied to the entire document, and a comprehensive table of contents shall be prepared referencing each table or graph title and page number.

6. Traffic Studies & Traffic Simulation Models Project Deliverables

The deliverables for Tasks J.1 to J.5 are described below. Each Technical Report or Memorandum shall first be submitted in draft form for review by the Authority prior to the submittal of the final deliverables. Six (6) draft and final copies shall be submitted for Deliverables 1-8. Electronic copies of all deliverables shall also be provided to the Authority.

- a. *Deliverable 1* – The Consultant shall submit a Technical Memorandum summarizing what data must be gathered in Task D.2 and Section III to supplement the existing data that the Authority will provide to the Consultant prior to developing the traffic simulation models.
- b. *Deliverable 2* –Photographs from the Physical Conditions Inventory shall be appropriately edited, formatted, and labeled for submittal to the Authority in electronic format. Data collected in Transit Data Collection, Vehicle Headway, Turning Movement Counts, Queue Measurements, Pedestrian Counts, Supplemental Overnight Turning Movement Counts, and Travel Time Surveys shall be included in a Technical Report that details the data gathering processes and results. The Technical Report shall detail the potential impacts of all existing projects identified that may have affected data collection.
- c. *Deliverable 3* – The Consultant shall submit a Technical Memorandum that details the process and results of the Task J.1 meetings with the Authority, including the actual MOEs determined during the meeting.
- d. *Deliverable 4* – The results generated by the previous existing conditions traffic simulation models and analysis shall be reviewed, updated and detailed in a Technical Report to be submitted to the Authority, along with the process of model update. The calibration process and calibration results shall also be included in the Technical Report. In addition, the Consultant shall submit all NYBPM, AIMSUM and Synchro model simulation electronic files on a CD.
- e. *Deliverable 5* – The results generated by the previous future no-build conditions traffic simulation models and analyses shall be reviewed, updated and detailed in a Technical Report to be submitted to the Authority, along with the process used for the model update. The calibration process and calibration results shall also be included in the Technical Report. In addition, the Consultant shall submit all NYBPM, AIMSUM and Synchro model simulation electronic files on a CD.
- f. *Deliverable 6* – The results generated by the future build conditions traffic simulation models and analyses (for the three alternatives including NJDOT bridges and for all construction stages) shall be detailed in a Technical Report to be submitted to the Authority, along with the process of model update. The calibration process and calibration results shall also be included in the Technical Report. In addition, the consultant shall submit all NYBPM, AIMSUM and Synchro model simulation electronic files on a CD.
- g. *Deliverable 7* – All model results shall be documented in a single Technical Memorandum. All assumptions used in building and calibrating the models shall be documented in this Technical Memorandum as well.
- h. *Deliverable 8* – The Technical Reports and Memoranda described above in Deliverables 1 through 7 shall be integrated into a single Draft Report. The Final Report shall include, but shall not be limited to, the following elements:
 - 1) All Authority comments during the review of the Draft Report shall be addressed.
 - 2) Meeting minutes shall be organized by meeting date and included in the Appendix.
 - 3) Summary of calibration parameters and assumptions for each Simulation Model.

- 4) Detailed explanation of the methods of analysis used.
 - 5) Summary of data inputs and results of the Simulation Model.
 - 6) A report discussing a comparison between estimated traffic conditions obtained from the calibrated model and baseline traffic data.
 - 7) QA/QC Plan(s) shall be included in the Appendix, if not as part of the body of the report.
 - 8) The photographs submitted in Task D shall be included in the Appendix as a CD.
- i. *Deliverable 9* – The Monthly Progress Report shall list the status of each of Deliverables 1-8 and shall detail all work performed and spending on each task in the preceding month.

All analyses, studies, reports, data, etc., provided and produced in support of this effort will become the property of the Authority and are not to be reproduced or utilized in any way by the Consultant for any purpose without the prior written consent of the Authority.

TASK K. CONCEPTUAL DESIGN PACKAGE (CDP)

The Consultant shall prepare a Conceptual Design package for the selected preferred Helix Replacement Scheme and NJDOT bridges replacement scheme including the following:

1. Evaluation of the following design alternatives, and variations of specific design parameters/elements, including, but not limited to, the following:
 - a. General (Civil, Structural and Traffic)
 - 1) Evaluate impacts to traffic and XBL operations. Functional traffic plans should be developed for the refined alignment and include: lane utilization, direction of travel, pavement markings, regulatory traffic controls, XBL lane closures, XBL lane transitions, XBL operations, XBL transition through the toll plaza, etc. for conditions both with the XBL during the AM.
 - 2) Evaluation of the possibility of combining the two (2) westbound exit ramps (Mullers to JFK Boulevard East, Hauxhurst to Park Avenue) into a single exit from the Helix and split into two (2) ramps after exiting the Helix.
 - 3) Evaluation of Pleasant Avenue on and off ramp improvements in eastbound and westbound directions of 495, including improvements to intersection of South Marginal Highway and Pleasant Avenue with consideration for grade separation, capacity improvements, and other potential impacts related to construction of improvements.
 - 4) Provide conceptual staging plans for all disciplines. Coordinate all the staging plans with regard to facility operations and planned or on-going operations and work by other agencies in the region. Staging plans shall minimize roadway closures during construction.
 - b. Civil
 - 1) Evaluate types of roadway pavement flexible and rigid for roadways on-grade and on-structure, including bridge deck wearing surface. Roadway on-structure shall

include: use of an asphaltic wearing surface in combination with a waterproofing membrane (Rosphalt 50) and options without waterproofing membrane, an integral concrete wearing surface and a Portland cement concrete wearing surface.

- 2) Review previously developed storm water management report and evaluate storm water flow. Based on the flow determined, identify if the local municipality system is capable of handling and accepting estimated flow. Develop design solutions if it is determined that the local system cannot accept additional flow. Submit permit or regulatory requirements associated with proposed scenarios.
- 3) Evaluate alternatives for design and layout of stormwater management plan to comply with the NJDEP stormwater management regulations. Provide recommendations concerning various treatment methods taking into account environmental permitting requirements, feasibility of connecting to the existing storm drainage system and/or requirements for new outfalls. Additionally, evaluate and identify potential sustainable design opportunities for stormwater drainage system.

c. Structural

- 1) Evaluate the following structural systems for the Helix including on/off ramp structures and Palisades Avenue, Hudson Avenue and North Marginal street over Park Avenue bridges:
 - a) steel superstructure and steel and/or concrete substructure. Evaluate curved girders, straight girders and curved box beams for all curved sections of the bridges along with the deck types described below. Provide recommendations for the most cost-effective superstructure solution. Provide a memo discussing issues with durability and resilience.
- 2) Evaluate deck types to be used including:
 - a) Cast-in-place concrete deck;
 - b) Composite precast concrete deck;

Provide a cost benefit analysis of the deck types and a life-cycle analysis as described below. Provide recommendations for deck selection.
- 3) Perform life-cycle cost analysis of various structural and foundation systems based on Authority's Life Cycle Cost Analysis Guidelines (LCCA). The objective of performing LCCA is to determine the overall costs of project alternatives and to recommend the design alternative that ensures the Authority will have the lowest overall cost of ownership consistent with its quality and function. The LCCA shall include initial construction costs, operation, maintenance, and repair costs, replacement costs, residual values etc. The Consultant shall discuss with the Authority all parameters to be used in the analysis. LCCA shall be coordinated with the Authority's Cost Estimating and Planning Divisions. Incorporate all comments and incorporate LCCA findings.
- 4) For the steel superstructure, compare the advantages and disadvantages of using straight girders versus curved girders.

- 5) Evaluate various structural superstructure and substructure systems with emphasis on minimizing fracture critical members. Evaluate and recommend mitigation requirements (including security measures defined in Task K.1.n) including a fracture control plan if use of fracture critical members is required.
 - 6) Evaluate and recommend structural systems and staging that minimize the number of permanent deck joints and construction stages.
 - 7) Evaluate foundation types and permanent retaining wall types based on soil/ground conditions. The foundation type recommended shall minimize impact on existing structures including but not limited to the LT Administration Building, NJ Transit Light Rail, Amtrak Tunnels and the Amtrak Ventilation Building. Recommend vibration design criteria and monitoring criteria for Amtrak tunnels due to impact of temporary and permanent structure foundations.
 - 8) Evaluate feasibility of using the same structural system for the entire Helix. If not feasible, as a minimum, each Helix bridge segment (upper, lower), preferably, shall have the same system.
 - 9) Evaluate construction staging (including staged removal and replacement) and construction methodology (including means and methods and construction equipment), excavation support alternatives for all the LT Helix and NJDOT bridge replacement schemes.
 - 10) Provide adequate analysis and design to ensure that accurate quantity estimates can be performed and that structural stability is maintained at all stages of construction for both temporary and permanent structures.
 - 11) Evaluate alternatives for maintaining miscellaneous structures (salt shed, field office buildings) beneath the existing Helix during all stages of construction.
 - 12) Evaluate alternatives for removal of toll plaza structures and restoration of removal area.
 - 13) Evaluate alternatives for all temporary structures and their foundations.
- d. Architecture (Aesthetics/Urban Design)
- 1) Develop four (4) renderings, including birds-eye view, abutment view and two other architectural views.
 - 2) Analyze public space design issues relating to the region and local neighborhoods, as well as transportation, community facilities, accessibility, wayfinding, and environmentally sensitive areas. Include the existing conditions and proposed alternatives.
 - 3) Prepare an issues-and-opportunities narrative for each of the alternatives and an implementation program narrative that proposes measures, feasibility, and estimated costs.
- e. Landscaping
- 1) Develop issues and alternatives related to regulatory requirements including, but not limited to:
 - a) Soil erosion control;

- b) Stormwater BMP's (1/4-Acre threshold);
 - c) NJ No Net Loss Reforestation (1/2-Acre threshold).
- 2) Develop ways and means to protect existing trees on Kings Bluff during construction and/or replanting proposals.
 - 3) Coordinate with other disciplines to reduce the negative visual impacts required to stabilize both the bare and forested rock slopes exposed during the performance of this project.
 - 4) Evaluate any loss of vegetation resulting from the Helix that will result in the replacement of trees and shrubs.
 - 5) Propose options for the restoration of trees and shrubs on Authority property as well as within the surrounding effected neighborhood.
 - 6) Develop alternatives for green infrastructure to minimize and reduce the impact of stormwater management both qualitatively and quantitatively.
- f. Electrical
- 1) Analyze capability of existing electrical feeders / equipment to accommodate new Helix replacement work for the selected preferred scheme.
 - 2) Evaluate and recommend electrical power distribution systems and staging and phasing requirements/sequences to ensure continuous operation while the work is being performed. Identify service requirements and equipment manufacturer's/owner's requirements.
 - 3) Develop alternatives in regard to, but not limited to, electrical lighting (including bridge, architectural and security lighting for maximum interaction with environment), bridge power distribution, dynamic signage, etc., for the selected preferred scheme.
 - 4) Perform design studies for different lighting methods and provide calculations for light modeling luminesce and luminesce levels.
 - 5) Prepare an issues-and-opportunities narrative for each of the alternatives and an implementation program narrative that proposes measures, feasibility, and estimated costs. Provide conceptual design for new electrical systems directly and/or indirectly affected by the new LT Helix including but not limited to electrical power distribution system for all equipment, SCADA, Lighting etc.
 - 6) Electrical Equipment Rooms - Evaluate if existing SCADA/Equipment rooms would be impacted as a result of new equipment being installed at the LT due to the new LT Helix.
 - 7) Provide a comprehensive electrical survey report which shall include, but is not limited to, the ability to accommodate the new Helix replacement work stated under Task K- Electrical/Electronics requirements.

g. Electronics

- 1) For the selected preferred scheme, identify alternatives to existing electronics systems in the event existing legacy technology does not provide flexibility nor allow for a seamless integration and/or expansion.
- 2) Recommend any new systems or technologies, currently not utilized at the LT Helix that should be considered by the Authority for inclusion in the project. New systems to support the operation and/or integrity of the new LT Helix shall be included.
- 3) Evaluate existing electronic systems directly or indirectly affected by the new LT Helix work including existing electronics systems being monitored at the Lincoln Tunnel Command Center (LTCC). Make determinations related to, but not limited to: modernization upgrades, modifications, replacements and/or reconstruction of the Lincoln Tunnel existing electronics and security infrastructures and associated components.
- 4) Provide conceptual design for new electronic and security systems directly or indirectly affected by the new Helix. Typical electronics and security systems shall include, but not be limited to, the following:
 - a) CCTV System for Security Surveillance and Traffic Management, evaluate existing CCTV cameras based on the new LT Helix configuration. Additionally, provide recommendations for CCTV elements from NJT approaches to the new Helix.
 - b) Fiber Optic Backbone, consider a robust Fiber Optic (FO) infrastructure with a minimum FO backbone that may include 72 strand Single Mode (SM) fiber.
 - c) High capacity Data Network, avoid utilization of existing Verizon Leased lines for CCTV camera means of transmission. These lines are not reliable. Bandwidth associated with video transmission will require a robust network infrastructure.
- 5) Support Infrastructure for over-height detection and prevention system, investigate if new Helix footprint has any impact to existing communications duct-banks currently supporting Tolls/EZ-pass equipment.
- 6) Electronic Equipment Rooms, show required changes if existing Communication/Equipment rooms would be impacted as a result of new equipment being installed at the LT due to the new LT Helix.
- 7) Communications Desk / Command Center adjustments, evaluate existing legacy software, hardware currently supporting LT electronics systems; particularly those directly/indirectly impacted by the Helix replacement.

- 8) For the selected preferred scheme, evaluate available smart bridge technology systems to be incorporated into the design including, but not limited to, the following:
 - a) Accelerometers and strain gages for monitoring bridge reaction to live traffic.
 - b) Embedded corrosion sensors to monitor chloride penetration in the concrete deck.
 - 9) Evaluate use of automated lane reversals technology and incorporate into design.
 - 10) Recommend other technologies that will assist in traffic maintenance and/or security functions.
- h. Environmental
- 1) Provide a comprehensive environmental survey report which shall include drawings depicting sample locations, and quantities of all hazardous and regulated materials which may be impacted by the proposed work and provide recommendations for the abatement of these materials.
 - 2) Generate a permit matrix that identifies all necessary environmental permits for the Preferred Scheme, identify required elements of each permit application package, and provide a draft permit timeline, including application package preparation, submission, and issuance of permits by regulating Agencies.
 - 3) Identify general environmental management requirements for soil excavation and disturbance, stockpile areas, dewatering discharges, stormwater management, and other environmental requirements for the construction.
 - 4) Identify noise and vibration requirements and provide mitigation recommendations.
- i. Sustainable Design
- 1) Provide a comprehensive Sustainable Design submission including:
 - a) SIG checklist(s) for the selected preferred Helix replacement scheme including the three (3) NJDOT bridges.
 - b) Summary of strategies for how each credit may be achieved and identifying cross disciplinary opportunities.
 - c) Identify next steps / coordination efforts required for implementation.
 - 2) Develop documentation demonstrating anticipated ISI Envision achievement at the Gold level of certification, or greater.
 - a) All documentation will be in reference to Envision v3, or most recent version available at the commencement of conceptual design.
 - b) Populate the applicable (e.g. v3 or later) Envision templates with narratives and supporting references from the design effort (including, as applicable, drawings, details, notes, specifications, and/or narratives). Indicate the

anticipated level of achievement, and note assumptions and caveats, as appropriate.

- c) For the selected preferred scheme, the templates will be accompanied by a narrative (in report or memo format) detailing the overall achievement strategy, documenting critical design assumptions and uncertainties, summarizing potential alternative compliance pathways, and specifying critical assumptions and coordination requirements outside of the Engineering (design and construction) process (for example, relating to meetings with the Advisory Committee and Regional Transportation Agencies).

j. Plumbing, Fire Protection, Storm Water

- 1) Identify staging and phasing requirements/sequences to ensure continuous operation while the work is being performed.
- 2) Identify service requirements, equipment manufacturer's/owner's requirements.
- 3) Identify specific requirements and implications of local and NJDEP storm water management regulations and utility design (including, but not limited to, sanitary, storm water and gas).
- 4) Produce Concept Design Documents showing all required plumbing, fire protections and stormwater work associated with the execution of the selected preferred scheme including the three (3) NJDOT bridges.

k. Mechanical

Present recommendations (Based on Task F findings) for the selected preferred scheme and show it in the Conceptual Design Documents.

l. Geotechnical

- 1) The Authority's Geotechnical Group will provide existing boring information on and near the site, to the Consultant to evaluate the subsurface conditions. The Consultant shall review the provided Geotechnical borings to identify gaps in the subsurface information coverage and the need for additional subsurface data for design of foundations to support bridge piers, abutments, cut slopes and retaining walls.
- 2) Prepare a preliminary Geotechnical investigation program to be implemented by the Authority's Material Engineering Unit (MEU) to supplement the available subsurface data.
- 3) Monitor the field and laboratory progress of the preliminary subsurface investigation program.
- 4) Summarize the subsurface stratigraphy with the compactness and stiffness of granular and cohesive materials based on the data disclosed from field and laboratory tests.
- 5) Provide conceptual geotechnical design parameters and criteria for bearing capacity of spread footings and deep foundations as well as foundation stiffness and seismic site class.

- 6) Evaluate pros and cons of different types of foundations and temporary/permanent retaining walls based on the site specific subsurface conditions and site conditions (minimize the impact on Kings Bluff, existing structures including the LT Administration Building, Amtrak Ventilation Building, Amtrak Tunnel and miscellaneous structures) considering cost-effectiveness and constructability.
- 7) Recommend the optimal type of foundations for the bridges for temporary structures and for both temporary and permanent retaining walls.
- 8) Perform conceptual design for the selected foundation alternatives considering the interference with the existing structures and utilities.
- 9) Evaluate constructability for each foundation alternative.
- 10) Perform rock slope stabilization.

m. Traffic

- 1) Include evaluation of potential benefits of extending on/off-ramp acceleration/deceleration lanes particularly at Pleasant Avenue (e.g., would the merging on-ramp traffic be under yield or stop control? What would be the safety benefit achieved by extending the acceleration lane? Would there be an operational/capacity benefit?).
- 2) Provide a description regarding how the XBL would be transitioned from the left lane of westbound Route 495 at the Pleasant Avenue crossover point and into the Center Tube. The description shall include measures which would be implemented to notify motorists of the XBL operations, lane closures, type of separation (e.g., plastic post delineators, similar to the existing condition, or a movable barrier option) which would be installed between the XBL and adjacent travel lanes if necessary. These should also be illustrated on the functional traffic plans.
 - a. This task should include the evaluation of a variation to the proposed Scheme where a movable barrier is used to allow for the bi-directional conversion of the XBL based on operational needs.
- 3) Evaluate the existing reverse center approach ramp to the plaza at Park Avenue and the impact the selected preferred scheme would have on this ramp. (e.g., would the center approach ramp remain reversible similar to the existing condition?).
- 4) Evaluate how the XBL would be transitioned from the tunnel portal(s) onto the Helix. The evaluation should identify measures which would be implemented to notify motorists of the XBL operations, lane closures, type of separation (e.g., plastic post delineators, similar to the existing conditions) which would be installed between the XBL and adjacent travel lanes, etc.
- 5) Identify impacts to existing ITS Assets (including, but not limited to, Dynamic Messaging Signs, Lane Use Control Signals, CCTVs, and Vehicle Detectors), planned ITS device needs, and ITS devices needed for monitoring traffic conditions in the area during construction. Evaluate the existing ITS operations and identify measures to keep the beneficial use of those devices through construction. Evaluating the need for future ITS devices. The Consultant should utilize the LT ITS Master Plan and the Port Authority's ITS Design Guidelines as well as new

needs identified by meeting with facility and engineering. Identify all the areas expected to be impacted by the construction and evaluate the use of ITS devices to monitor, mitigate and report on travel conditions. In addition to the existing ITS devices, additional devices shall be recommended on local streets and highways that may be impacted. These devices shall be used to support the Transportation Management Plan (TMP) for the Helix Replacement and other concurrent construction activities in the area. Include recommendations and strategies for deployment of these ITS devices, specifically because most monitoring devices need to be in place prior to construction.

- 6) ITS Conceptual design includes Roadway Weather and Temperature Monitoring Systems (RWIS), Elements associated with RWIS and should be integrated into the existing LT-Automated Traffic Management System (ATMS) software. Evaluate impact(s) to existing ITS configuration at Helix as well as include recommendations for additional RWIS/ITS elements from NJT approaches to the new LT Helix. Vehicle over-height countermeasures are also to be considered. Recommend necessary technologies to deter, detect and monitor over-height concerns.
 - 7) Review, update and develop Traffic Simulation Models developed as part of the earlier Environmental and Traffic Analysis Study utilizing available data and models provided by the PA. New data should be collected as needed. The models should also reflect other planned projects and infrastructure improvements that may impact Helix traffic. Regional traffic impacts of the project should be assessed if necessary.
 - 8) Review, update and develop Traffic Analyses performed during the Environmental and Traffic study and previous Tasks to support the development of functional Traffic drawings of the selected preferred scheme, as a result of changes to construction staging, MPT, traffic patterns, new construction, etc. and develop a Synchro model network for the study area as required to determine the impact of the construction on the surrounding roadway network on both the New York and New Jersey sides.
 - 9) Traffic analysis should investigate impacts of Pleasant Avenue improvements, including impacts to local streets.
 - 10) The recommended/selected scheme should be flexible, to meet the existing Lincoln Tunnel directional designations during the weekday morning when the Lincoln Tunnel's south and center tubes are designated for inbound travel only and the north tube is designated for outbound travel only; during the weekday, midday when the south tube is designated for inbound travel only, the center tube provides one lane for inbound and one lane for outbound travel; and during the weekday evening when the south tube is designed for inbound travel only and the center and north tubes are designated for outbound travel only. The consultant shall review and discuss operational flexibility, especially for motorists traveling outbound from Manhattan who may not have a choice as to which tunnel portal they enter and as a result unknowingly imposed with potential access restrictions.
- n. Design Requirements: Prepare a summary of all design requirements to be used in the preparation of all required documents and analyses. Review and update design

- 2) Perform roadway pavement design for all Portland cement concrete (PCC) and asphalt concrete (AC) pavement roadways based on projected vehicular traffic flow for at-grade roadways.
 - 3) Conceptual design and layout of stormwater management plan and NJDEP and local municipal permit requirements.
 - 4) Concept(s) for at grade roadway areas, including proposed pavement and retaining walls (co-ordinate with structural).
- c. Structural
- 1) Develop notes, plans, sections, elevations and typical details for bridge structures (temporary and permanent) including decks, parapets, railings, superstructure, substructure, foundations and miscellaneous structures including retaining walls (temporary and permanent), light poles, sign structures removal of toll plaza structures, field offices and salt shed. Plans and details shall be based on proof of concept design of major structural elements.
 - 2) Prepare foundation plans and details as appropriate.
 - 3) Develop framing plans of existing, temporary, and new structures as necessary at each phase of the work, with enough detail to ensure an accurate cost estimate.
 - 4) Prepare details of existing conditions and structures including removal details during all stages of construction.
- d. Architecture
- 1) Aesthetics - Provide drawings (two and three-dimensional) depicting conceptual designs for the roadway structures. The concept drawings shall illustrate aesthetic characteristics of the structure and shall be used in Authority discussions with the State Historic Preservation Office.
- e. Landscape Architecture
- Design production and deliverables that describe the methods and locations for necessary protection of existing vegetation (trees, shrubs, groundcover). Development of opportunities for any revegetation, conceptual street tree plantings and green infrastructure enhancement toward the restoration of the work zone and the surrounding community.
- f. Electrical/Electronics
- 1) Provide electrical/electronic conceptual design drawings including, but not limited to: Plans, one-line diagrams, lighting, lighting calculation, lighting control and monitoring systems, lighting fixture schedules, cable/fiber and conduit schedules, emergency power, Low Voltage Power Supply details, Uninterruptible Power Supply (UPS)/Battery details, Fire Alarm System, CCTV (Traffic/Security) Systems, Access Control Systems, RF microwave communication systems, Weather Station Sensor Systems, layouts, elevations, sections and details, SCADA system, staging requirements, existing power distribution system etc.
 - 2) Provide conceptual one-line diagram to accommodate all required loads (power, lighting, signage, traffic, electronic, etc.).

- 3) Develop options for replacement and/or relocation of all electrical equipment (including light poles, fixtures, conduits, raceways, wiring, junction boxes, fire alarm system, power for electronic CCTV and security devices, roadway weather stations, RF microwave communication systems, etc.), UPS/Battery, emergency power, sign structures, utilities and their supports that interfere with the work of this project.
 - 4) Provide drawings to describe any and all temporary work associated with the phases of the project. Include documents to show any additional electrical requirements to support construction equipment needs, as required.
- g. Fire Protection and Plumbing
- 1) Prepare bridge drainage systems and fire protection system concept drawings including standpipe systems and zoning concepts.
 - 2) Prepare fire protection system drawings that describe the operation of the system throughout all phases of construction. Include any and all requirements for protection of lay down spaces and temporary structures.
- h. Geotechnical
- 1) Provide a preliminary geotechnical basis of design.
 - 2) Perform conceptual geotechnical designs for each foundation alternative.
 - 3) Provide geotechnical data report to summarize the subsurface conditions revealed from borings and test pits.
 - 4) Prepare conceptual geotechnical drawings with schematic foundation details.
- i. Traffic
- 1) Develop required geometric refinements based on previous conceptual roadway functional plans from the Scheme Evaluation Package.
 - 2) Develop conceptual Traffic Functional Plans which identify proposed traffic operations including lane utilization, direction of travel, pavement markings, regulatory traffic controls, XBL lane closures, XBL lane transitions, XBL operations, for conditions both with the XBL during the AM and without the XBL during the PM. Develop drawings for the roadway traffic elements.
 - 3) Develop conceptual Roadway Signing Plans for each of the three options.
 - 4) Develop conceptual Roadway Guide Rail/Barrier Designs.
 - 5) Develop conceptual Traffic Signal Designs.
 - 6) Develop conceptual ITS designs for construction monitoring.
 - 7) Develop conceptual ITS designs for permanent devices (DMS, CCTV, Vehicle Detection, VSLS, Overheight Detection and Prevention, RWIS, Travel Time).
 - 8) Develop conceptual drawings of temporary roadways.
 - 9) Develop a TMP as per the Authority's TMP Guidelines based on authority provided strategies and in coordination with other regional stakeholders.

- 10) Provide Functional Traffic Drawings for each construction phase which identify proposed traffic operations including lane utilization, direction of travel, pavement markings, regulatory traffic controls, XBL lane closures, XBL lane transitions, XBL operations, XBL transition through the toll plaza, etc. for conditions both with the XBL during the AM and without the XBL during the PM.
- 11) Provide traffic drawings which show construction detour routes and identify traffic impacts and the municipality/agency in which the impacts would occur.
- 12) Provide plans showing proposed traffic operations modifications to the NJ Turnpike, NJ Route 3, Routes 1&9, local street network, and other roadways as required. Identify agencies/municipalities in which impacts would occur.
- 13) Provide standard (according to AASHTO, the latest version) lane widths, shoulder widths, standard radii, stopping sight distances, acceleration/deceleration lane lengths on ramps, vertical clearance. If it is not feasible to meet the AASHTO standard, the consultant shall provide a detailed explanation why the standard cannot be met, and a description of how the proposed design will achieve the intent of the industry design standards and how it will not compromise operations and safety.
- 14) Provide detailed hours of work, lane closures, and duration of lane closures as part of the construction staging plans.
- 15) Provide vertical clearances within overlapping roadway sections for the selected preferred scheme that shall accommodate future overhead signage needs.

j. Security

Due to the sensitive nature of this particular analysis, documents produced, including all back-up calculations, data, and other materials, may be subject to confidentiality restrictions, and Port Authority Information Security requirements, and produced as separate packages.

- 1) The Consultant shall retain a security consultant experienced with similar Authority security scope projects, to conduct an overall evaluation of security issues pertaining to the project (LT Helix structures and impact of LT Helix construction on Amtrak Ventilation Buildings and Tunnel), including a search and evaluation of current codes and standards regarding the enhancement of the safety and security against physical damage for all components of the project.
- 2) The security consultant shall prepare and submit a draft of the Security Design Report for the Authority's review and approval within a period of three (3) months after being authorized by the Authority to proceed. The Security Design Report shall include, but is not limited to, addressing possible types and characteristics of various security threats, perform blast analyses for specific areas/threats and provide practical and attainable recommendations and procedures for enhancement needs to eliminate or to mitigate such threats and vulnerabilities. Enhancement procedures may be selected and approved by the Authority to be incorporated in the design phase of the project. Recommendations and procedures shall be incorporated into the selected preferred scheme so that the costs are captured.

k. Prepare Construction Cost Estimates, Construction Schedules and Cost Loaded Construction Schedules for the selected preferred scheme for all alternatives in accordance with the Authority's estimating guidelines and procedures, included herewith and made a part hereof (See Section V, below). Provide an estimate of delivery time for all long lead-time items. Present the Construction Schedule in bar chart form, using weeks or months as appropriate for the unit of time. Update the construction cost estimates prepared under the Scheme Evaluation Package, which shall include the Pleasant Avenue Route 495 on and off ramp improvements as separate line items. Costs for property acquisition or easements shall not be included in the estimates.

l. Prepare Calculations

- 1) Civil - Conceptual drainage and utility system studies (including, but not limited to, storm drainage, water and gas) and supporting design calculations.
- 2) Electrical - Lighting calculations; Electrical load analysis including all power equipment from all disciplines to be installed in the new Helix structure.
- 3) Structural – Superstructure, substructure and foundation conceptual design and analysis calculations for all temporary and permanent elevated structures. Design and analysis for all temporary and permanent retaining walls show how structural stability is maintained at all stages of construction. Determination of quantities used in cost estimates.
- 4) Provide preliminary geotechnical design calculations.
- 5) Other disciplines – Preliminary calculations for supporting evaluation of design alternatives and conceptual design drawings including temporary and permanent structural elements.

m. Additional Requirements for NJDOT Bridges

Conceptual development package report of three (3) NJDOT bridge replacements and/or modifications shall comply with NJDOT's Capital Program Management Project Delivery Process and requirements. Accordingly, the main objective of the Conceptual Design Phase is to identify, develop and compare reasonable conceptual alternatives. Analyze alternatives and recommend a preferred scheme based on cost, major risks, impacts to ROW, the environment, utilities, community, constructability and access. Additional requirements are provided on the NJDOT website.

n. Risk Assessment

Identify all risk items (including causes, impact), develop a risk registry, perform a quantitative risk assessment, identify mitigations and provide support to the Authority to finalize the risk report in conformance with the Authority standards at the 50% and 100% design submittal.

3. CDP Report for the selected preferred scheme shall include deliverables, from the sub-tasks above, in addition to an Executive Summary, narrative sections elaborating, as a minimum, on each subtask (Task C through E, above), description of existing conditions, design requirements, alternatives matrix, recommendations, cost estimates, program schedules, and appendices. The appendices, as a minimum, shall include a listing of all available and gathered

documents and information and all codes and standards used to design the alternatives. The report shall be submitted on 11"x17" sheets with appropriate color printing of figures, illustrations, photographs and conceptual drawings for all disciplines for all scopes of work including staging drawings. The conceptual drawings and cost loaded construction schedules shall have sufficient details to perform a VE and constructability review in the 50% milestone under Task L. Prepare a PowerPoint Presentation of the CDP Report tasks and findings and present it to the Authority and LT facility staff. Submit a 50%, 90% and Final CDP and SDR reports. The CDP report of the three (3) NJDOT bridges shall comply with NJDOT standards and shall be a separate report for submittal to NJDOT for review. Provide electronic versions of all report submittals in pdf file format and in native file format.

TASK L. VALUE ENGINEERING AND CONSTRUCTABILITY REVIEW

The Authority will perform a VE review using the 50% CDP report prepared as part of Task K. The Consultant scope of work shall consist of performing a detailed constructability review including demolition and erection alternatives for all stages of construction, means and methods of construction, construction procedures, and construction equipment. The Consultant shall support the VE program including developing and submitting to the Authority five (5) days prior to the scheduled meeting with the VE Consultant and Authority Project team, a presentation in the latest version of PowerPoint format providing an overview of the project and relevant information from Tasks D, E and F for the Authority's review and comments, until finalized. The Consultant shall give the presentation at the scheduled meeting with the VE Consultant and Authority Project team. Submit to the Lead Engineer, in designated location and electronic format, one (1) copy of the draft PowerPoint Presentation for review and finalization. Following finalization, submit to the Lead Engineer two (2) days prior to the scheduled VE meeting, in designated location and electronic format, one (1) electronic copy of the final PowerPoint Presentation. The VE consultant shall produce minutes of the meeting for review by all attendees within two (2) weeks of the meeting. Within four (4) weeks of the meeting, the VE consultant shall address all comments and produce final meeting minutes.

Following the VE Consultant team's analysis, participate in a scheduled meeting with the VE Consultant and Authority Project team to review proposed VE recommendations, design suggestions, and/or added value ideas.

Following the VE Consultant recommendation presentation, participate in the stakeholder's review meeting to discuss VE recommendations providing guidance to the Authority's Project Team and at the Authority's direction, incorporate accepted recommendations, design suggestions, and/or added value ideas to design. Incorporate the VE recommendations in the 90% and Final CDP report under Task K.

TASK M. STAKEHOLDER PARTICIPATION

The Consultant shall review all the Advisory Committee and stakeholder participation requests established as part of the Environmental and Traffic study (see Section I) and identified in the Scheme Development Report. The scope of work will have impacts on the travelling public due to traffic closures and impacts on residents/communities closest to construction including daytime and nighttime testing/work activities and placement of large vehicle/equipment, changes to local street access, sidewalk closures, parking removal/relocation during street closures.

The Consultant's services shall include, but shall not be limited to:

- a. Preparing and submitting a draft technical memorandum outlining the proposed future Public Participation Program (PPP). Incorporate Authority comments as directed and resubmit the draft as Final.
- b. Supporting outreach efforts by scheduling stakeholders' meetings; preparing handouts, PowerPoint presentations, video renderings of schemes/alternatives and concepts, boards, printing materials, periodic updates, prepare external content for quarterly reports for Authority use if deemed necessary. Assume a total of twenty (20) stakeholder meetings of 2-hour duration each.
- c. Coordinating this task with stakeholder agencies and the other tasks.

TASK N. ADDITIONAL STAKEHOLDER REVIEWS AND OTHER MISCELLANEOUS SERVICES

1. Under this task, the Consultant shall identify and provide any additional supporting documents, studies, analyses, and/or reports, including preparation of agreement documents not identified in the Tasks above, as required, to obtain stakeholder approval.
2. The consultant shall retain specialized engineering expertise and appropriate multi-disciplinary team members, as may be requested, to supplement Authority staff for performing miscellaneous engineering services including but not limited to Conceptual Design (staged construction) of a NJ Transit elevated bus parking deck (over the existing NJ Transit bus lot) to be used as a single level temporary staging area for construction of the Helix and after construction to be used as a NJ Transit bus parking lot with direct access to the Helix. The area below the elevated parking deck will be used as future laydown areas, employee parking, salt sheds and for other miscellaneous activities to maintain Lincoln Tunnel facility operations.
3. The Consultant shall assume a total of 6,000 staff hours for this task. Additional work procured through these staff hours shall be submitted in writing

TASK O. PROJECT DELIVERY METHOD (PDM) ANALYSIS

The Authority will perform a PDM analysis for the three schemes. The Consultant shall provide the 50% and 100% SEP report for use by the Authority in evaluating and selecting the preferred PDM for each scheme, and defining the approach to the selected preferred PDM for the selected preferred scheme based off the 50% and 90% Conceptual Design Documents. The Consultant shall be available for meetings (assume 4 meetings) and provide the documents required for the Authority to perform this analysis.

TASK P. DOCUMENT CONTROL AND MANAGEMENT

The Consultant shall:

1. Develop a document control plan and procedures for securely managing project documentation.
2. Process all project document control records according to the procedures developed for the project and consistent with the document security protocols (related to sensitive, confidential and confidential privileged documents) in place.

3. Develop and manage the document and control phase document file structure and libraries within the Content Management system, SharePoint System and Content Server (formerly LiveLink) and maintain control of all document flows and archival information. The Authority's Content Server (formerly Livelink) portal will be the primary interface between all stakeholders/entities related to submissions, approvals, documentation, transfer and communication.
4. Upload and maintain all documents, disposition records, transmittals, memos, correspondence and meeting minutes/records to the document library within the SharePoint system and archive to the relative file structure (through metadata) within the dedicated Content Server (formerly Livelink) folder structure.

IV. SCHEDULE AND SUBMISSIONS

Base Work:

The Consultant shall submit the work identified above (see Section III) for review by the Chief Engineer within the number of calendar days stipulated in this Section after receipt, by the Consultant, of one copy of the Agreement executed by the Authority. The number of calendar days is stated with reference to the Agreement date.

- A. Submit the draft Project Schedule including a PowerPoint version and an updated specific QA/QC Program for the contemplated professional services in accordance with Section III within **7** calendar days. Authority comments will be forwarded within **5** calendar days thereafter. Resubmit the schedule after incorporating Authority's comments, as required, within **5** calendar days after receipt of the Authority's comments.
- B. Submit your Field Inspection / Verification Plan including Environmental Investigation Plan within **14** calendar days. Authority comments will be forwarded to the Consultant within **5** calendar days after receipt of said submission. Resubmit the schedule after incorporating Authority's comments, as required, within **5** calendar days after receipt of the Authority's comments.
- C. Submit **10 sets** of your Design Criteria Summary within **21** calendar days. Authority comments will be forwarded to the Consultant within **14** calendar days after receipt of said submission. Incorporate comments and re-submit as final within **7** calendar days.
- D. Submit **10-sets** of the 50% and 90% completed SEP report required under Section III, Task F, within **120** calendar days and **200** calendar days respectively. Authority comments will be forwarded within **14** calendar days after receipt of said submission. The Consultant shall annotate with a response to each comment within **14** calendar days after receipt of comments. Incorporate all comments including VE recommendations in the 100% SEP report, which is to be submitted after **240** calendar days.
- E. Assist Authority in obtaining stakeholder inputs and concurrence of Preferred Scheme within **300** calendar days
- F. Submit **10-sets** of the 50% and 90% completed Security Design Report and CDP report required under Section III, Task K, within **420** calendar days and **500** calendar days, respectively. Authority comments will be forwarded within **14** calendar days after receipt of said submission. The Consultant shall annotate with a response to each comment within **14** calendar days after receipt of comments. Incorporate all comments including VE

recommendations in the 100% SDR and CDPT reports to be submitted after **540** calendar days. VE recommendations will be forwarded within **14** calendar days after receipt of the 50% submission required hereunder. The Consultant shall annotate with a response to each comment within **14** calendar days after receipt of comments. Incorporate all comments including VE recommendations in the 90% and 100% CDP report.

G. Submit all minutes of meetings no later than 3 calendar days from the date of the meeting.

V. INFORMATION AND MATERIALS PROVIDED BY THE AUTHORITY

The Authority will make available, for the Consultant's information, certain documents specified below. The documents specified under Section A titled "Available Documents" below were not prepared for the purpose of providing information for the Consultant upon the present work but they were prepared for other purposes. The Authority makes no representation or guarantee as to, and will not be responsible for, their accuracy, completeness or pertinence and, in addition, will not be responsible for any conclusions drawn therefrom by the Consultant or its sub-consultants (if any). They are made available merely for the purpose of providing the Consultant with this 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.

The documents specified under Section B titled "Reference Documents" were prepared for the subject work, or otherwise, and form a part of this Agreement.

A. The Available Documents include:

1. Existing Traffic Studies conducted by the Authority in the project area.
2. Original Construction Drawings:
 - a. MHT-1 Land and River Borings;
 - b. MHT-5 New Jersey Land Sections and Plaza;
 - c. MHT-9 Weehawken Plaza Connections;
 - d. MHT-11 New Jersey Ventilation Building;
 - e. MHT-21 Toll Booths;
 - f. MHT-23 New Jersey Approach Pleasant Avenue to Hudson County Boulevard East;
 - g. MHT-24 New Jersey Approach East of Hudson County Boulevard East;
 - h. MHT-28 New Jersey Approach Paving and Incidental Construction Hudson County Boulevard East to Kings Bluff;
 - i. MHT-71 New Jersey Approach Bergenline Avenue to Pleasant Avenue;
 - j. MHT-72 New Jersey Approach Structures Paterson Plank Road to Bergenline Avenue;
 - k. MHT-73 New Jersey Approach Foundations Route No. 3 to Prospect Avenue;
 - l. MHT-74 Steel Superstructures Route No. 3 to Prospect Avenue;
 - m. MHT-75 Concrete Deck on Superstructure Route No. 3 to Prospect Avenue;

- n. LT-11 Connections to N.J. Turnpike Borings;
 - o. LT-130.018 Connection to N.J. Turnpike Foundations;
 - p. LT-160.005 New Jersey Tunnel and Approach Borings;
 - q. LT-160.006 River Tunnel New Jersey Rock Tunnel and Ventilation Shaft;
 - r. LT-160.012 Widening of Helix Roadway from Hudson County Boulevard to Kings Bluff, N.J.;
 - s. LT-160.013 Alterations to New Jersey Plaza Toll Booths to East Side of Hudson County Boulevard East;
 - t. LT-160.014 Widening of Roadway from Kings Bluff to Hudson County Boulevard East, N.J.;
 - u. LT-160.015 Widening of Viaduct in North Bergen, N.J. Superstructure;
 - v. LT-160.026 New Jersey Ventilation Building; and
 - w. LT-160.052 Widening of Viaduct in North Bergen, N.J. Foundations.
3. Contract Drawings (electronic file format)
- a. LT-CB3-952.300 Fiber Optic Left Lane Close Sign over XBL;
 - b. LT-234.092 Exclusive Bus Lane Fiber Optic Blank Out Signs;
 - c. LT-110.068A Installation of Conduit System at NJ Plaza;
 - d. LT-234-084 Replacement of Drum Signs with VMS at NJ and Dyer Plazas;
 - e. LT-358B NJ. Helix and Ramps Electrical and Structural Repairs;
 - f. LT-386A Exclusive Bus Lane Over-lane Signal Modifications;
 - g. LT-387 Variable Message Sign Control System Replacement;
 - h. LT-395 Lincoln Tunnel Modernization of CCTV Surveillance System; and
 - i. LT-234.026 Structural Rehabilitation and Repaving of the Helix.
4. Authority Reports, Studies, etc.
- a. LT New Jersey Approach Roadways 2013, 2015, 2017 Biennial Inspections;
 - b. Seismic Study of Lincoln Tunnel Approaches – Helix Structure dated January 2004;
 - c. Pre-Stage 1 Structural Assessment Report for Ten Lincoln Tunnels Helix Bridges dated September 2006; and
 - d. “Structural Rehabilitation and Repaving of the New Jersey Approach Helix” Stage II Report dated April 2009, construction cost estimates dated July 2009 and drawings, including AutoCAD files, dated September 2009;
5. Subsurface data obtained from previously drilled borings:
- a. DWG LT-SL-010 bearing the title of “The Port of New York, Lincoln Tunnel, Geological Profiles, Third Administration Building, Exploratory Borings”;

- b. DWG LT-SL-011 bearing the title of “The Port of New York”, Lincoln Tunnel, NJ Land Building, Geological Profiles”;
- c. DWG LT-SL-014 bearing the title of “The Port of New York”, Lincoln Tunnel, NJ Administration Building, Geological Profiles”;
- d. DWG LT-SL-24 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, West Wall, Location Plan and of Boring Presentation”;
- e. DWG LT-SL-25 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel Helix, NJ Approach at Piers 11 and 15, Location Plan and of Boring Presentation”;
- f. DWG LT-SL-27 bearing the title of “The Port Authority of NY & NJ, Lincoln Retaining Wall for Town of Weehawken Ramp, Boring Location Plan”;
- g. DWG LT-SL-28 bearing the title of “The Port Authority of NY & NJ, Lincoln Retaining Wall for Town of Weehawken Ramp, Presentation of Borings”;
- h. DWG LT-SL-38 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, Toll Plaza Rehabilitation, Stage II, Boring Location Plan”;
- i. DWG LT-SL-39 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, Toll Plaza Rehabilitation, Stage II, Presentation of Borings”;
- j. DWG LT-SL-43 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, New Jersey Plaza, Rehabilitation and Upgrade, Boring Location Plan and Presentation of Borings”;
- k. DWG LT-SL-47 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, LT-480, Additional Bulk Storage Building under the Helix, Project Site Map, Boring Location Plan, Legend, General Notes, Abbreviations, Soil Classifications and Presentation of Borings”;
- l. DWG LT-SL-50 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, LT-480, Additional Parking Facility for Lincoln Tunnel Stage II Administration Building, Project Site Map, Boring Location Plan, Legend, General Notes, Abbreviations and Soil Classifications”;
- m. DWG LT-SL-51 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, LT-480, Additional Parking Facility for Lincoln Tunnel Stage II Administration Building, Presentation of Borings”;
- n. DWG LT-SL-53 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, LT-488, Vehicle Storage Building under the Helix, Presentation of Borings”;
- o. DWG LT-SL-58 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, All Electronic Tolls, Project Site Map, Boring Location Plan, Legend, General Notes, Abbreviations and Soil Classifications”; and

- p. DWG LT-SL-59 bearing the title of “The Port Authority of NY & NJ, Lincoln Tunnel, All Electronic Tolls, Project Site Map, Presentation of Borings.”
6. Other Information:
- a. Topographic Aerial Survey Plan of LT Toll Plaza and Route 495 Corridor (electronic AutoCAD drawing format)
- B. The Reference Documents include:

The documents specified below are available as Reference Documents for the subject work and form a part of this Agreement.

1. Survey Base Map CAD files showing site features, topography, and title info.
2. Lincoln Tunnel Helix Replacement Scheme Development Report, dated July, 2019.
3. Stormwater Management Supplemental Analysis for Scheme H – Lincoln Tunnel Helix Replacement, dated May 2, 2018.
4. LT Helix Replacement Feasibility Study Report, dated November 30, 2012.
5. As-Built plans of existing roadway structures in the project area including the three (3) NJDOT bridges.
6. Stormwater Management Memorandum, dated April 12, 2013.
7. Central Survey Group CAD Standards (Current Version) (<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-csg-cad-standard.pdf>)
8. Specifications for Design of Bridges Carrying Highway and Electric Rail Passenger Traffic, prepared by the Port Authority Engineering Department and dated July 1, 1929.
9. Port Authority Transportation Management Plan Guidelines.
10. Port Authority CADD Standards (<http://www.panynj-cadstandards.com>).
11. Port Authority Engineering Department Estimating Procedures, dated 2009. (<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-estimating-guidelines.pdf>)
12. Sustainable Infrastructure Guidelines prepared by the Port Authority Engineering Department and dated March 23, 2011 (http://www.panynj.gov/business-opportunities/pdf/PANYNJ_sust_infra_guidelines.pdf)
13. Envision guidelines (Institute for Sustainable Infrastructure) (<https://sustainableinfrastructure.org/envision/>)
14. Port Authority Index of Standard Technical Specifications, June 9, 2016. (<http://www.panynj.gov/business-opportunities/pdf/engineering-consultants-standard-specifications-index.pdf>)
15. Port Authority Contracts Unit Review Standards. (<http://www.panynj.gov/businessopportunities/pdf/contracts-unit-review-standards.pdf>)

16. Port Authority Engineering Department Design Guidelines – Architecture.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/architecture.pdf>)
17. Port Authority Engineering Department Design Guidelines – Civil.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/civil.pdf>)
18. Port Authority Engineering Department Design Guidelines – Electrical.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/electrical.pdf>)
19. Port Authority Engineering Department Design Guidelines – Environmental.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/environmental.pdf>)
20. Port Authority Engineering Department Design Guidelines – Geotechnical.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/geotechnical.pdf>)
21. Port Authority Engineering Department Design Guidelines – Mechanical.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/mechanical.pdf>)
22. Port Authority Engineering Department Design Guidelines – Structural.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/structural.pdf>)
23. Port Authority Engineering Department Design Guidelines – Traffic.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/traffic.pdf>)
24. Port Authority Engineering Department Design Guidelines – Climate Resilience.
(<http://www.panynj.gov/business-opportunities/pdf/discipline-guidelines/climate-resilience.pdf>)
25. Port Authority Life Cycle Cost Analysis Guidelines, March 2016.
26. Port Authority Guidance for Conducting Cost-Benefit Analysis, April 2019
27. Lincoln Tunnel Intelligent Transportation System Master Plan, May 2017
28. Authority Engineering Architectural Design Division Report Templates.
29. Authority Engineering Architectural Design Data Collection and Drafting Standards.
30. Other information, material, and/or documentation related to the project will be made available to the Consultant as needed and as deemed appropriate by the Authority to assist the Consultant with the performance of requested services.

VI. CONDITIONS AND PRECAUTIONS

A. General

1. All Engineering drawings and documents are to be handled, transmitted and destroyed in accordance with Authority guidelines. The Consultant must designate a Security Information Manager (SIM) for the subject Authority project. Information on SIM training can be found at <http://www.panynj.gov/business-opportunities/information-security-requirements.html>. The SIM will oversee the collection of required non-disclosure agreement documents and will submit original signed forms, such as General Firm Non-Disclosure Agreement, Exhibit A – Individual Acknowledgment, Exhibit B – Sub-Consultant, if required, and Engineering Security Education and Awareness Training sign-in sheets to the Authority’s identified Department Information Security Officer.
2. All electronic drawings and documents must be transmitted through the Authority’s designated Content Management system, SharePoint System and Content Server (formerly Livelink) for electronic file transfer. Upon receipt of the fully executed agreement, the Consultant must provide, to the Authority, a list of staff who will require access to the Content Server (formerly Livelink). Authority staff will submit the required account access forms on behalf of the Consultant staff. Upon review and approval, a Content Server account will be established and a token, with instructions, will be sent to the Consultant’s identified SIM office for distribution to staff.
3. The Consultant shall ensure Items 1 and 2 above are performed upon commencement of work to ensure successful on-time submissions in accordance with the schedule identified in Section IV.
4. The Consultant shall immediately inform the Authority of any unsafe work conditions discovered at any time during the course of this work. Notify the Authority immediately of any distress encountered during field inspection that presents a safety hazard or hazardous conditions that require emergency repairs or immediate action. If encountered, the compensation for the preparation of any emergency repair designs 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. Non-compensable work is related to repairs that are already included in the Scope of Work (Section II), Description of Consultant Tasks (Section III) and also any emergency repairs needed due to design errors.
5. The Consultant shall follow access, personnel identification and security requirements at the site. These requirements include, but are not limited to, daily notification to the LT Operations Staff when entering and exiting the site, obtaining identification placards for all vehicles on site and police-issued badges for all site personnel.
6. The Consultant shall provide equipment, as required, to access all areas for the Consultant’s inspection. Protect pedestrian and vehicular traffic at all times during field verification, field testing and investigation.
7. The Consultant shall provide a site specific Health and Safety Plan for Consultant staff engaged in fieldwork.
8. Vehicular traffic on the Helix and associated roadways shall always have priority over any and all of the Consultant's operations.

9. All electronic and hard copy drawing files shall be in compliance with the Authority's CAD/Revit standards. All drawings developed as part of this contract shall be done using the latest version of AutoCAD Civil 3D (Civil and Traffic) and AutoCAD or BIM/Revit (for all other disciplines).

B. Work Areas

1. The Consultant shall limit its work operations to the areas necessary for the performance of such work and shall not interfere with the operation of the Helix without first obtaining specific approval from the Authority.
2. During all periods of time when the Consultant is not performing operations at the work site, it must store all equipment being used for the inspection in areas designated by the Authority, and the Consultant must provide all security required for such equipment.
3. The Consultant must not permit any objects or pieces of equipment to lie unattended on sidewalks, roadways or structures at any time.

C. Work Hours

1. Field Verification not requiring lane closures within Authority jurisdiction must be performed at the site between the hours of 8:00 A.M. and 4:00 P.M., Monday through Friday, unless otherwise directed by the Authority.
2. In any case, no work shall be performed at the site on any holidays observed by the Authority.
3. Field verifications requiring lane closures within Authority jurisdiction must be conducted between the hours of 10:45 P.M. and 4:40 A.M. for single lane closures and of 12:45 A.M. and 4:30 A.M. for multiple lane closures.

D. Security

1. At the facility's direction, personnel accessing the facility may be required to obtain a High Level access clearance by first obtaining an ID card from the Secure Workers Access Consortium (SWAC) at <http://www.secureworker.com/>. Additionally, all personnel reviewing or receiving marked "Confidential Privileged" drawings must also obtain an ID card from SWAC. Personnel who obtain an ID must renew said ID every three years. The cost of obtaining an ID and renewals will be a reimbursable expense as provided in the provisions of this Agreement relating to out-of-pocket expenses.
2. For site access, all personnel must obtain a LT facility ID, subject to quarterly renewal, issued by the Authority Police. To obtain LT facility IDs, all personnel must first obtain a Membership ID from the SWAC. All personnel accessing the facility and/or receiving Protected Information must comply with all Authority security procedures and facility security rules and requirements. Failure to comply with these requirements will result in loss of access to the facility and/or protected information as well as other remedies, including, but not limited to, civil or legal actions as the Authority may deem appropriate.

VII. LIABILITY INSURANCE AND WORKERS' COMPENSATION INSURANCE

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:

- a. Contractual Liability to cover liability assumed under the Agreement;
- b. Independent Contractor's Coverage;
- c. Premises-Operations, Products and Completed Operations Liability Insurance;
- d. 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;
- e. Excess/umbrella policies shall "follow form" to the underlying policies;
- f. Excess/umbrella policies shall have a liberalization clause with drop down provision;
- g. Excess/umbrella policies shall have a liberalization clause with drop down provisions by the Consultant and subcontractor(s);
- h. 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;
- i. All insurance policies shall include a waiver of subrogation, as allowed by law, in favor of the additional insureds;
- j. Defense costs must be outside of policy limits. Eroding limits policies are not permitted;
- k. 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;

1. 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", 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 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 Authority requirement. All certificates of insurance shall be turned over to the 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. Consultant (s) and its/their Sub-consultant (s) (including Contractors) shall be prepared to provide all insurance and documentation required for permits. 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. Coverage for work within fifty (50) feet of railroad.
- b. Amendments to Coverage B, Federal Employers' Liability Act in limits of not less than \$1,000,000 per occurrence.

4. Professional Liability Insurance:

The Consultant(s) shall take out, maintain and pay premiums on Professional Liability Insurance in limits of not less than **\$10,000,000** 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 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 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 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 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 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.

P.A. AGREEMENT # *-19-*****

DATE

Lillian D. Valenti
Chief Procurement Officer

FIRM
ADDRESS
CITY, ST ZIP

Attention: CONTACT, TITLE

**SUBJECT: PERFORMANCE OF EXPERT PROFESSIONAL SERVICES FOR THE
ADVANCEMENT OF CONCEPTUAL DESIGN WITH OPTION FOR “AS-
NEEDED” TECHNICAL ADVISORY SERVICES FOR THE LINCOLN
TUNNEL HELIX REPLACEMENT PROJECT**

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 Services for the Advancement of Conceptual Design with an option for “As-Needed” Technical Advisory Services for the Lincoln Tunnel Helix Replacement Project, as more fully set forth in Attachment A, which is attached hereto and made a part hereof.

This Agreement shall be signed by you and by the Authority’s Chief Procurement Officer. As used herein, “Chief Engineer” shall mean the Chief Engineer, or the Deputy Chief Engineer of the Authority, or his duly authorized representatives.

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

2. Time is of the essence. Your services shall be performed as expeditiously as possible and at the time or times required by the Chief Engineer.

3. In response to a request for specific services hereunder and prior to the performance of any such services, you shall submit, in writing, to the Chief Engineer for approval, an estimated cost and staffing analysis of such services. You shall begin performing services under this Agreement upon your receipt of the Chief Engineer’s written (1) approval of such cost and (2) direction to proceed. At the point at which your expenditures for such services reach such approved estimated cost, you shall not continue to render any such services. Preparation of cost estimates and staffing analysis mentioned in this paragraph and in Paragraph 9 shall not be a compensable service hereunder.

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 any service to be performed herein. Any Contract Drawings, Technical Specifications and/or 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, sound engineering principles or accepted professional standards or are impractical, uneconomical or unsuited in any way for the purpose for which the contemplated construction or services is intended. If any of the said items or any portion thereof are so disapproved, the Consultant shall forthwith revise them until they meet the approval of the Chief Engineer, but the Consultant will 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 the requested services in accordance with an agreed upon schedule, a complete, practical, economical design and Contract Drawings and Technical Specifications (and corrections and changes thereto) which are best suited for the contemplated construction, or services, 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 Control/Assurance 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 Control/Assurance 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 revision of Autodesk's "AUTOCAD" software or as directed by the Chief Engineer prior to the performance of specific services. All drawings shall be prepared in strict conformance to the Port Authority CAD Standards. All submissions of CAD 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 CAD 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 combined total of each of the approved estimated costs, 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.

FIRM NAME

- PAGE 3 -

DATE

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 provisions set forth in Paragraphs 3 and 8 above. Subject to the terms and conditions below, travel time is not reimbursable under subparagraphs A, B, and C hereunder.

A. For work performed at the Consultant's offices, 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; for work performed at Authority office(s), as mutually agreed upon, 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, subconsultants, or subcontractors 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 cost 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) warranted by increased costs of providing services under this Agreement, c) based upon increases in salaries and billing rates which are generally applicable to all of Consultant's clients and d) 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 in all cases be finally determined by the Chief Engineer or his designee, in his sole and absolute discretion.

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

B. The Consultant will be compensated at an amount equal to the 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 will be reimbursed by the Authority when they 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 will not be given under this Agreement.

C. The Consultant will be compensated at an amount equal to the 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. The Consultant will be compensated at an amount equal to the 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.

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 under 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 Fax, 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 advanced 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 shall provide said receipts with the appropriate billing.

E. As used herein:

"Port District" is a geographical area 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, 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 multipliers referred to in Subparagraph A above.

9. 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 provision of this Agreement, failure to do so shall constitute 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.

FIRM NAME

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DATE

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 three years after completion of services to be performed under this Agreement.

10. 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 the sum certified minus all prior payments to you for your account.

11. 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.

12. Under no circumstances shall you or your subconsultants communicate in any way with any consultant, 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

13. 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.

14. 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.

15. 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 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.

16. 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, its 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.

17. 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 of any ideas or methods represented by them for any purpose and at any time without compensation other than that specifically provided for herein. You agree to contract with your employees for the benefit of the Authority to ensure 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.

18. 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.

19. 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, to impose any obligation on the Authority to such subconsultant or give the subconsultant any rights against the Authority.

20. The Authority has a long-standing practice of encouraging Minority Business Enterprises (MBEs) and Women-owned Business Enterprises (WBEs) to seek business opportunities with it, either directly or as subconsultants or subcontractors. "Minority business enterprise" 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 enterprise" 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 Authority has set a goal of twenty percent (20%) participation by qualified and Authority certified MBEs and ten percent (10%) for qualified and Authority certified WBEs on technical service projects.

MBE/WBE participation goals may be subject to change during the duration of this Agreement and any options or extensions thereof. Any new participation goals determined by the Authority shall be applicable to and considered a part of this Agreement. The current participation goals will be posted on the Authority's website at <https://www.panynj.gov/business-opportunities/become-vendor.html> as PA Form 4250, "MBE/WBE Participation-Professional Services Call-In". You must consult PA 4250 prior to proposing on any Task Orders issued under this Agreement.

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

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

Good faith efforts to include and facilitate participation by MBE/WBEs shall include, but not be limited to the following:

- A. Dividing the services and materials to be procured into smaller portions, where feasible.
- B. Giving reasonable advance notice of specific contracting, subcontracting and purchasing opportunities to such MBE/WBEs as may be appropriate.
- C. Soliciting services and materials from Authority certified MBE/WBE firms. To access the Authority's Directory of MBE/WBE certified firms, go to <http://www.panynj.gov/business-opportunities/sd-mwsdbe-profile.html>.
- D. Ensuring that provision is made to provide progress payments to MBE/WBEs in accordance with prompt payment provisions of the Agreement under which services are being provided, if applicable.
- E. Observance of reasonable commercial standards of fair dealing in the respective trade or business.

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 OBDCR for certification the names of MBE/WBE firms it proposes to use who are not on the list of certified MBE/WBE firms.

The Consultant shall include their MBE/WBE Participation Plans (Form PA 3760C) with their task order proposals, to be reviewed and approved by the Authority's OBDCR.

The Consultant must submit an MBE/WBE Participation Plan for each MBE/WBE subconsultant. Each Participation Plan shall contain, at a minimum, the following:

- Identification of the MBE/WBE: Provide the name and address of the MBE/WBE. If no MBE/WBEs are identified, describe the process for selecting participant firms in order to achieve the good faith goals under this Agreement.
- Level of Participation: Indicate the dollar value and percentage of MBE/WBE participation expected to be achieved.
- Scope of Work: Describe the specific scope of work the MBE/WBEs will perform.

The MBE/WBE subconsultant listed on each of the MBE/WBE Participation Plans 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/sd-mwsdbe-profile.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 any of the MBE/WBE Participation Plans 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 any of its approved MBE/WBE Participation Plans or substitute MBE/WBE subconsultants or suppliers for those named in their approved plans 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, 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/subconsultant 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 an 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 Consultant, other subcontractors/subconsultants on the Agreement, 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 Agreement, 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/consultant 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 an 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 an MBE/WBE. Work that an MBE/WBE subconsults to a non-MBE/WBE firm does not count toward MBE/WBE goals.

2. **Material Suppliers:** Sixty percent (60%) of the expenditure to an 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 Agreement that the MBE/WBE performs with its own forces. Contact OBDCR at (201) 395-3958 for more information about requirements for such joint ventures.

21. 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.”

22. 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 who 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 and Acknowledgments.

- 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; 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 a personal identity verification check. 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.

In accordance with the Authority's Information Security Handbook, background screening is required when a person has an established need to know or has access to any one of the following types of information or physical locations:

- 1) Confidential Privileged Information
- 2) Confidential Information related to a security project and/or task
- 3) Secure Area of an Authority or PATH facility
- 4) Mission critical system

The Consultant shall perform background checks through the Authority's personnel assurance program provider. 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.). 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 may be reimbursable to the Consultant (and its subconsultants) as

an out-of-pocket expense as provided herein. Costs for background checks for 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 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 identity 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 Photo Identification credential by the personnel assurance program provider.

If any questions should arise as to when a Personnel Assurance Program background check is required, the Authority Manager or contract administrator should be contacted for assistance.

- 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 any 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 request 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, subcontractor 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 15, 2008, revised as of April 2, 2018, 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. Protecting sensitive information requires the application of 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>.

- 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.

23. 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 (dated October 15, 2008, revised as of April 2, 2018, and as may be further amended)*, 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.

24. The Consultant assumes the following distinct and several risks to the extent they may arise from the negligent or willful intentional acts or omissions of the Consultant or its subconsultants/subcontractors 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 of loss or damage to any property of the Consultant or its subconsultants/subcontractors 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/subcontractors or against 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/subcontractors or 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/subcontractors or against the Authority for the payment of workers' compensation, whether such claims are made and whether such injuries, damage or 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 the 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.

25. The Port Authority has adopted a Code of Ethics for Port Authority Vendors (the "Code"). The Code is hereby made a part of this Agreement. The Code can be found at <https://www.panynj.gov/business-opportunities/become-vendor.html>.

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 contract for failure to meet standards related to the integrity of the Consultant;

C. received a less than satisfactory rating on a public or government contract;

D. had an agreement terminated by any governmental agency for breach of contract or for any cause based in whole or in part on an indictment or conviction;

E. ever used a name, trade name or abbreviated name, or an Employer Identification Number different from those inserted in the Proposal;

F. 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;

G. 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

H. 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), 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 "29G.", 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. 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 and the term of the Agreement or any extension of such period, if Consultant is awarded the 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 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.). Consultants are 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 it will be required to take certain specified actions, including compensating an independent Monitor to be selected by the Authority. Said Monitor to 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.

28. CONSULTANT ELIGIBILITY FOR AWARD OF AGREEMENTS - DETERMINATION BY AN AGENCY OF THE STATE OF NEW YORK OR THE STATE OF 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 at all times during the Agreement term remain responsible. The Consultant agrees, if requested by the Authority, to present evidence of its continuing legal authority to do business in the States of New Jersey or New York, integrity, experience, ability, prior performance, and organizational and financial capacity.

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. In the event of such suspension, the Consultant will be given written notice outlining the particulars of such suspension. Upon issuance of such notice, the Consultant must comply with the terms of the suspension order. Agreement activity may resume at such time as the Authority issues a 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 to be 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 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, discounts not available to the general public, offers or promises of employment, loans or the cancellation thereof, preferential treatment or business opportunity. Such term 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. The Consultant shall include the provisions of this clause in each subcontract entered into under this Agreement.

31. OBLIGATION TO REPORT

In the event that the Consultant becomes aware of the occurrence of any conduct that is prohibited by the section entitled “No Gifts, Gratuities, Offers of Employment, Etc.”, or if the Consultant knows or should reasonably know that a principal, employee, or agent of the Consultant or of its subconsultants or subcontractors has committed a violation of federal, New York or New Jersey law addressing or governing anti-trust, public contracting, false claims, fraud, extortion, bribery, bid rigging, embezzlement, prevailing wage or minority, woman, small or disadvantaged business enterprises, it shall report such information 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 how to report information to the Office of Inspector General). Failing to report such conduct may be grounds for finding of non-responsibility. The Consultant shall not take any Retaliatory Action against any of its employees for reporting such conduct.

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).

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

32. 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, or 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 the Consultant or potential consultant of the Authority or if the Consultant has an arrangement for future employment or for another business relationship with said 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 conflict of interest on its part. If the possibility of such an 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 such an arrangement may be the subject of future discussion, or if the Consultant has any financial interest, substantial or not, in a consultant or potential consultant of the Authority, and if the Consultant's participation in the preparation, negotiation or award of any agreement with such a consultant or the review or resolution of a claim in connection with such an agreement is contemplated 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 Chief Procurement Officer in writing of such situation giving the full details thereof. Unless the Consultant receives the specific written approval of the Chief Procurement Officer, the Consultant shall not take the contemplated action which might be viewed as or give the appearance of a conflict of interest. The Chief Procurement Officer may require the Consultant to submit a mitigation plan addressing and mitigating any disclosed or undisclosed conflict, which is subject to the approval of the Chief Procurement Officer and shall become a requirement as though fully set forth in this Agreement. In the event the Chief Procurement Officer 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 a portion of the Consultant's said services is determined by the Chief Procurement Officer to be no longer appropriate because of such preclusion, then the Chief Procurement Officer 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.

33. INTEGRITY MONITOR

In the event that the Authority hires an Integrity Monitor in connection with the work under this Agreement, the Consultant and any subcontractors/subconsultants shall cooperate fully with the Monitor and the Authority, which includes, but is not limited to, providing complete access to all personnel and records in any way related to the work performed pursuant to this Agreement. Any failure to cooperate may result in the termination of this Agreement. The Consultant shall include the provisions of this clause in each subcontract entered into under this Agreement.

34. RIGHT TO AUDIT

Notwithstanding anything to the contrary, the Authority, including its Inspector General, Audit Department and Integrity Monitor, or its designee(s) each shall have the right to audit all of the records of the Consultant with respect to the work and the Agreement, including, without limitation, records pertaining to any compensation paid, payable, or to be paid under the Agreement. The Consultant shall not be entitled to any reimbursement or other compensation for costs associated with such audit, investigation, or certification. The Consultant shall include the provisions of this clause in each subcontract entered into under this Agreement.

The Consultant agrees to pay for the cost of any audit or investigation conducted by the Authority, in which any criminal activity, ethics violations, or professional misconduct by the Consultant or any of its employees, or subconsultants or any of its employees, are discovered. The Consultant shall further agree that should it fail or refuse to pay for any such audit or investigation, the Authority is authorized to deduct from any sum owing the Consultant an amount equal to the cost of such audit and the damages resulting therefrom. The determination of the value of any such costs and decision to withhold any such payments are at the sole discretion of the Authority (including its Inspector General).

35. DEFINITIONS

As used in sections 26 to 36, 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 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, the Port Authority of New York and New Jersey and its wholly owned subsidiaries and others.

Investigation - Any inquiries made by any federal, state or local criminal prosecuting and/or law enforcement agency and any inquiries 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 investigations for employment, or federal, state and local inquiries into tax returns.

FIRM NAME

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DATE

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.

Retaliatory Action - Any adverse action taken by, or at the direction of, the Consultant, against any of its employees for reporting any information as set forth in the clause entitled "Obligation to Report," above.

36. 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 by his duly authorized representative, provided, however, that termination in the manner hereinbefore expressly provided shall be effective as so provided.

37. 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.

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

39. 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.

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

41. 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 and principles.

FIRM NAME

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DATE

Sincerely,

THE PORT AUTHORITY OF
NEW YORK AND NEW JERSEY

Lillian D. Valenti
Chief Procurement Officer

Date _____

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.

ACCEPTED:

FIRM NAME

By: _____

Print Name: _____

Title: _____

Date: _____

ATTACHMENT B

REQUEST FOR PROPOSALS FOR THE PERFORMANCE OF EXPERT PROFESSIONAL SERVICES FOR THE ADVANCEMENT OF CONCEPTUAL DESIGN WITH OPTION FOR “AS-NEEDED” TECHNICAL ADVISORY SERVICES FOR THE LINCOLN TUNNEL HELIX REPLACEMENT PROJECT (RFP#58219)

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 SERVICES FOR THE ADVANCEMENT OF CONCEPTUAL DESIGN
WITH OPTION FOR “AS-NEEDED” TECHNICAL ADVISORY SERVICES FOR THE
LINCOLN TUNNEL HELIX REPLACEMENT PROJECT
(RFP#58219)**

1. Company Legal 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 (MBE/WBE/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/SBE 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.

ATTACHMENT D

PERFORMANCE OF EXPERT PROFESSIONAL SERVICES FOR THE ADVANCEMENT OF CONCEPTUAL DESIGN WITH OPTION FOR "AS-NEEDED" TECHNICAL ADVISORY SERVICES FOR THE LINCOLN TUNNEL HELIX REPLACEMENT PROJECT (RFP# 58219)

PHASE 1

<INSERT PROPOSER/FIRM NAME>

Task A - Project Schedule, QA/QC Program and Monthly Progress Reports (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task A: 0 Total Cost Task A: \$0.00

Task B - Meetings (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task B: 0 Total Cost Task B: \$0.00

Task C - Document Review (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task C: 0 Total Cost Task C: \$0.00

Task D - Field Services (insert additional lines as required)

Total Hours Task H: 0				Total Cost Task H: \$0.00			

Task I -Traffic Analysis and Study (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost
Total Hours Task I: 0				Total Cost Task I: \$0.00			

Task J-Traffic Simulation Model (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost
Total Hours Task J: 0				Total Cost Task J: \$0.00			

Task K-Conceptual Design Package (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost
Total Hours Task K: 0				Total Cost Task K: \$0.00			

Task L - Value Engineering & Constructability Review (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost
Total Hours Task L: 0				Total Cost Task L: \$0.00			

Task M - Stakeholder Participation (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task M: 0 Total Cost Task M: \$0.00

Task N - Additional Stakeholder Approval and Other Misc. Services (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task N: 0 Total Cost Task N: \$0.00

Task O - Project Delivery Method Evaluation Support (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task O: 0 Total Cost Task O: \$0.00

Task P- Document Control and Management (insert additional lines as required)

Name	Title	Company	Hours	Hourly Rate	Multiplier (if applicable)	Billing Rate	Cost

Total Hours Task P: 0 Total Cost Task P: \$0.00

Anticipated Itemized Expenses

Description of Expense	Cost

Reimb. Total Cost: \$0.00

TOTAL PROJECT

Hours = 0

Cost = \$0.00
