

October 30, 2014

**SUBJECT: REQUEST FOR PROPOSALS #40258 (RFP) TO PROVIDE PERFORMANCE OF EXPERT PROFESSIONAL ENTERPRISE CONTENT MANAGEMENT (“ECM”) SERVICES AS REQUESTED ON A “CALL-IN” BASIS DURING 2015-2018**

Dear Sir or Madam:

The Port Authority of New York and New Jersey, (the "Authority") is seeking proposals in response to this RFP for providing expert professional ECM Services as requested on a “call-in” basis during 2015-2018, and as further described in Attachment A to the Authority’s Standard Agreement (the “Agreement”), included herewith. You should carefully review this Agreement as it is the form of agreement that the Authority intends that you sign in the event of acceptance of your Proposal and forms the basis for the submission of Proposals.

This solicitation is a combined outreach and contains both the scope of work to develop the overall ECM Services call in vendor list as well as proposed ECM Services Task Order #1, as further described in Attachment A-2 entitled “Open Text Content Suite Platform Integration Specialist Consultant”. The firm selected for performance of these services must be selected from the “call-in” vendor list.

**I. PRE-PROPOSAL MEETING**

The Pre-Proposal Meeting:

- **Date**-November 12, 2014, 10:00AM
- **Location**-The Port Authority of New York and New Jersey  
Two Montgomery Street, 5th Floor  
Jersey City, NJ 07302

- A. Except in limited circumstances, the Authority shall answer questions posed by Proposers at the Pre-Proposal meeting at a later date by written addenda.
- B. Attendance is recommended. Information conveyed may be useful to Proposers in preparing their proposals and Proposers not attending assume all risks, which may ensue from non-attendance.
- C. Proposers interested in attending should RSVP to Mrs. Donna West at [dwest@panynj.gov](mailto:dwest@panynj.gov) no later than 12 noon (EDT) of the business day preceding the scheduled date(s) to confirm their attendance and/or receive traveling directions.
- D. Maximum two (2) individuals per company are allowed to attend. Two (2) valid forms of photo ID are required with one form being a driver license/state identification card or passport to attend the pre-submittal meeting.
- E. Individuals should RSVP and must include **all** of the following information:
  1. Legal First and Last name
  2. Company Name
  3. Phone Numbers (office and/or cell)

4. Email address

Failure to provide complete and correct information may result in individuals being denied attendance.

**II. PROPOSER PREREQUISITES**

The Port Authority shall only consider proposals from Proposers demonstrating compliance with the following:

- A. The Proposer shall have had at least three (3) years of experience immediately prior to the date of the submission of its Proposal in providing ECM Services with OpenText Content Server or Microsoft SharePoint experience of a nature to that contained in Attachment A, "ECM Scope of Work".
- B. The Proposer may fulfill this prerequisite if it can demonstrate that the persons or entities owning and controlling the Proposer have had a cumulative total of at least the same number of years and type of direct continuous experience immediately prior to the submission of this proposal as is required of the Proposer, or has owned and controlled other entities which meet the requirement.
- C. The Proposer must demonstrate to the satisfaction of the Port Authority that it has a minimum of three (3) staff members currently employed, each with at least three years of demonstrated qualifications and experience in providing ECM Services with OpenText Content Server or Microsoft SharePoint experience of a nature to that contained in Attachment A, "ECM Call-In Scope of Work".
- D. During the time period stated in (A) above, the Proposer shall demonstrate satisfactory performance of at least three (3) contracts in providing ECM Services with OpenText Content Server or Microsoft SharePoint experience or similar ECM services.
- E. The Proposer shall demonstrate that it has earned gross revenues of at least two hundred thousand dollars (\$200,000.00) for each of the last three (3) fiscal or calendar years from the type of Services described herein.

In the event a proposal is submitted by a joint venture the foregoing prerequisites will be considered with respect to such Proposal as follows:

With respect to subparagraph (A), (B), and (C) above, the prerequisite will be considered satisfied if the joint venture itself, or any of its participants individually, can meet the requirements. With respect to subparagraph (D), the gross income of the joint venture itself may meet the prerequisites or the gross income of the participants in the joint venture may be considered cumulatively to meet the prerequisite.

If the Proposal is submitted by a common law joint venture, meaning a joint venture that has not been established as a distinct legal entity, each participant of the joint venture shall be held jointly and severally liable and must individually execute and perform all acts required by this proposal. Documents signed by a common law joint venture, in connection with this proposal, shall include the names of all participants of the joint venture followed by the

words “acting jointly and severally.” All joint venture Proposers must provide documentation of their legal status.

All Proposers must include documentation that they meet the above prerequisites. By furnishing this RFP to Proposers, the Port Authority has not made a determination that the Proposers have met the prerequisites or have otherwise been deemed qualified to perform the Services. In addition, a determination that a Proposer has met the prerequisites does not guarantee that such Proposer will be deemed qualified in connection with other proposal requirements included herein.

### **III. 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 of no more than **25** pages per proposal (single-sided using 12 point or greater font size). The page limit pertains only to Letters G and H in Section II below. Each resume shall be 2-page maximum, single-sided using 12 point or greater font size. The Proposal pages shall be numbered and bound, or in a 3-ring binder, with “Your Firm Name”, and **RFP #40258** clearly indicated on the cover.
- B. Each section of the Proposal shall be separated with a tab divider that is labeled in accordance with the letter of the requirements specified below.
- C. All Proposals must be delivered in sealed envelopes and/or packages. Address Proposal to: The Port Authority of New York and New Jersey, **Two Montgomery Street, 3<sup>rd</sup> Floor, Jersey City, NJ 07302, Attention: RFP Custodian.** Do not address your Proposal to any other name. You are required to submit one (1) reproducible original and seven (7) copies, along with eight (8) compact disc copies, of your Proposal for review. Notwithstanding retention of the compact disc, in case of conflict, the reproducible original of the Proposal, and the written hard copy Agreement, if awarded, shall take precedence over material on the compact disc.
- 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 requirement may lead to delays in contract award and contract payments, which shall be the responsibility of the Proposer.
- E. Your Proposal should be received in sufficient time so that the Authority receives it **no later than 2:00 p.m. on November 25, 2014.** The outermost cover of your submittal must be labeled to include the RFP Number and RFP title as indicated in “Subject” above. The Authority assumes no responsibility for delays caused by any delivery services.
- F. If your Proposal is to be hand delivered, please note that only individuals with proper identification (e.g. photo identification) will be permitted access to the Authority’s offices. Individuals without proper identification shall be turned away and their packages not accepted.

#### **IV. "CALL-IN" PROGRAM SUBMISSION REQUIREMENTS**

To respond to this RFP, provide the following information:

- A. In the front of your Proposal, a copy of Attachment B (Agreement on Terms of Discussion), signed by an officer of your company.
- B. Complete a copy of Attachment C (Company Profile).
- C. Resumes for the personnel who will be responsible for the performance of the requested Services, clearly indicating their relevant experience and specific areas of expertise. Each resume shall be two (2) pages maximum, single-sided using Times New Roman/Arial 12-point or greater font size and shall include education, professional credentials and employment histories. In addition, include the resumes of Subconsultants that will be involved in the provision of Services required under this Agreement.

Indicate the number of employees in each category set forth in Attachment A: Section III: "Description of Technical Skill/Specialty". Provide a separate listing that summarizes, in matrix format, which individuals, if any, are ECM Certified at the time of Proposal submission. The matrix shall include the specific type of certification, the name and date received along with any/all applicable versions. The Authority reserves the right to request copies of the actual certification documents for verification. If a certification cannot be verified by the Port Authority, that certification will not be considered for the purpose of evaluation.

- D. Complete a copy of Attachment D: "Hourly Labor Rate Price Sheet". All hourly rate pricing shall be "all inclusive" and firm during the term of the Agreement. Prices quoted shall include, but not be limited to, all labor, training, communications, insurance, and administrative services that you shall provide in order to deliver Services that meet or exceed the requirements stated herein.
- E. Specific relevant experience of your firm. This shall include, but not be limited to, a list of projects for which similar services have been provided. Provide a list of the projects, and a contact as required for the Port Authority to confirm said information as requested on Attachment E: "Project Description Form". If there are any other OpenText Content Server or Microsoft SharePoint Development & Support and Integration Services references beyond those submitted as part of the prerequisites requests on Attachment E: "Project Description Form", include Attachment F: "Proposer Reference Form."

Complete and submit the "Proposer Reference Form" annexed hereto as Attachment F: "Proposer Reference Form." The Port Authority may consult any references familiar with the Proposer regarding its current or prior operations and projects, financial resources, reputation, performance, or other matters. Submission of qualification information shall constitute permission by the Proposer for the Port Authority to make such inquiries and authorization to third parties to respond thereto.

- F. In your cover letter, indicate whether your firm is also submitting a proposal for services described in Attachment A-2 entitled “Records Management Specialist”.
- G. Include the resumes, including technical qualifications, of personnel and subconsultant(s), if any, who will be assigned to perform any services requested. If proposing the use of subconsultant(s), provide their Minority-Owned Business and/or Women-Owned Business Enterprise (M/WBE) status.
- H. Specific relevant experience of your firm. For each project referenced, include a description of the project objective and outcome, the name of the company, a contact person, current telephone number and email address.
- I. The Consultant’s proposed management approach to performing the required services, being responsive to the client’s needs, keeping the client apprised of the project status and ensuring the quality of the work product. Your attention is directed to Paragraph 27 of the Agreement in which the Authority has stated the MBE/WBE goals for participation in this project. Submit details on how you intend to meet these goals. (A listing of certified MBE/WBE firms is available at: <http://www.panynj.gov/business-opportunities/sd-mini-profile.html>.)
- J. A complete list of your firm’s affiliates.
- K. If the Proposer or any employee, agent or subconsultant of the Proposer may have, or may give the appearance of a possible conflict of interest, the Proposer shall include in its proposal a statement indicating the nature of the conflict. The Authority reserves the right to disqualify the Proposer if, in 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.
- L. The Proposer is expected to agree with the standard agreement and its terms and conditions. You should therefore not make any changes in this standard agreement, nor restate any of its provisions in your Proposal or supporting material. ***However, if the Proposer has any specific exceptions, such exceptions should be set forth in a separate letter included with its response to this RFP.*** The Authority is under no obligation to entertain or accept any such specific exceptions. The Port Authority will ***not*** consider exceptions raised at a time subsequent to proposal submission. The scope of the tasks to be performed by you are set forth in Attachment A to the Authority’s standard agreement.

**V. TASK ORDER SUBMISSION REQUIREMENTS**

If your firm is proposing on the task order for a “OpenText Content Suite Platform Integration Specialist, as set forth in Attachment A-2, the following information in your separate proposal for these services:

- A. A detailed description of the proposed technical approach to be taken for the performance of the required services for each task in Attachment A-2, and a schedule for completion of said tasks. Factors addressed in your technical approach shall include, but are not limited to, your proposed methodology and strategy for performing the services in

Attachment A-2 as well as any specific software or other technology you may employ in the performance of these services.

- B. A detailed description of the proposed management approach to performance of the required services described in Attachment A-2. Factors addressed in your management approach shall include, but are not limited to: your proposed organizational structure for delivery of the contemplated services; your proposed approach to ensuring the quality and timeliness of the required work products; and your proposed approach to keeping the client apprised of the project status.
- C. You are required to submit one (1) reproducible original and seven (7) copies, along with eight (8) compact disc copies, of your Proposal for review.

## **VI. ORAL PRESENTATIONS:**

After review of all proposal submissions, 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 brief advance notice. The presentation should be limited to 30 minutes, and include the material contained in your proposal. The presentation will be followed by an approximately 30-minute question and answer session. (Proposer's staff providing the presentation shall be led by the proposed Consultant's Project Manager, who may be supported by no more than five (5) other senior staff members who are also proposed to work on this project.)

## **VII. SELECTION PROCESS:**

### **EVALUATION CRITERIA AND RANKING**

All Proposals will be reviewed by the Port Authority to determine whether they: adhere to the format required in this RFP; contain all required submissions; and satisfy the preconditions required for submission of a Proposal. For Proposals meeting such requirements, the following criteria, set forth in order of importance, will be utilized in the evaluation of Proposals:

#### A. Cost:

The overall estimated cost to the Port Authority as submitted on the Attachment D, "Hourly Rate Price Sheet".

#### B. Technical and Staff Experience:

The degree and extent to which the Proposer and its management have relevant and successful experience in providing ECM Services with Open Text Content Server or Microsoft SharePoint experience or similar ECM services. Experience of Proposer and the Proposer's capability to meet the requirements of this RFP, including, but not limited to the number and quality of staff certified and experienced in implementing and managing similar services in a similar environment. The quality and depth of the experience and qualifications of the Proposer's staff including proposed Subconsultants, who will be performing services hereunder.

C. Staffing/Management Approach:

The clarity and feasibility of the Proposal, which shall include the Proposer's management philosophy, principles and programs to be utilized by the Proposer in performing the Services, which shall include but not be limited to the M/WBE Subconsultant's plan, ongoing training programs, support resources, vendor alliances, quality assurance programs, and certifications. The Proposer's plan in performing the service hereunder that will ensure that employees who performed similar roles under a previous Port Authority Agreement at the Facility suffer no diminution in wage rate under the new Agreement.

D. Background Check Plan:

The Proposer must submit a Background Check plan in accordance with this document, which will be considered **“pass/fail.”**

**VII. ADDITIONAL INFORMATION:**

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

If your firm is selected for performance of the subject services, the agreement you will be asked to sign, at that time, 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 his Proposal explaining why any such certification(s) cannot be made. Such statement shall be submitted in a separate envelope along with your Proposal, clearly marked “CERTIFICATION STATEMENT.”

It is Authority policy that its contractors and vendors comply with the legal requirements of the States of New York and New Jersey. Your attention is therefore called to New York State's requirements that certain contractors, affiliates, Subconsultants and Subconsultants' 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.

Following selection of a Consultant, the Authority will forward two (2) copies of the Agreement to the selected firm, which must sign and return both copies. The return to you of one copy executed by the Authority will effectuate the Agreement.

Should you have any questions, please contact Lesley Brown, Senior Buyer, by email at [lbrown@panynj.gov](mailto:lbrown@panynj.gov) no later than **November 14, 2014**. All such correspondence must have your name, title, company, mailing address, telephone number and state “RFP#40258” in the subject line. The Authority must receive all questions no later than 2:00 P.M., seven (7) calendar days before the RFP due date. No 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. Addenda to the RFP, if any, will be posted at <http://www.panynj.gov/business-opportunities/bid-proposal-advertisements.html?tabnum=6>.

You should therefore monitor the advertisement on said website, as appropriate, to ensure you are aware of changes, if any.

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

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

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

Sincerely,

David Gutiérrez  
Manager, Construction Procurements  
Procurement Department

Attachments

**ATTACHMENT A**  
**PERFORMANCE OF EXPERT PROFESSIONAL ENTERPRISE CONTENT**  
**MANAGEMENT (ECM) SERVICES AS REQUESTED ON A “CALL-IN” BASIS**  
**DURING 2015-2018**

**I. BACKGROUND**

The Port Authority of New York and New Jersey (the “Port Authority” or the “Authority”) is a municipal corporate instrumentality and political subdivision of the States of New York and New Jersey, created and existing by virtue of the Compact of April 30, 1921, made by and between the two States, and thereafter consented to by the Congress of the United States. It is charged with providing transportation, terminal and other facilities of trade and commerce within the Port District. The Port District comprises an area of about 1,500 square miles in both States, centering about New York Harbor. The Port District includes the Cities of New York and Yonkers in New York State, and the cities of Newark, Jersey City, Bayonne, Hoboken and Elizabeth in the State of New Jersey, and over 200 other municipalities, including all or part of seventeen counties, in the two States. The Port Authority manages and/or operates all of the region’s major commercial airports (Newark Liberty International, John F. Kennedy International, Teterboro, LaGuardia and Stewart International Airports), marine terminals in both New Jersey and New York (Ports Newark and Elizabeth, Howland Hook and Brooklyn Piers); and its interstate tunnels and bridges (the Lincoln and Holland Tunnels; the George Washington, Bayonne, and Goethals Bridges; and the Outerbridge Crossing), which are vital “Gateways to the Nation.”

In addition, the Port Authority operates the Port Authority Bus Terminal in Manhattan, the largest facility of its kind in the world, and the George Washington Bridge and Journal Square Transportation Center bus stations. A key link in interstate commuter travel, the Port Authority also operates the Port Authority Trans-Hudson Corporation (PATH), a rapid rail transit system linking Newark, and the Jersey City and Hoboken waterfronts, with midtown and downtown Manhattan. A number of other key properties are managed by the agency including but not limited to a large satellite communications facility (the Teleport) in Staten Island, and a resource recovery co-generation plant in Newark. Prior to September 11, 2001, the Port Authority’s headquarters were located in the World Trade Center, and that complex is still owned and being partially redeveloped by the Authority.

***Current Environment***

The Port Authority currently utilizes the Open Text Content Suite Platform suite of products to provide consistent Agency-branded solutions for electronic file management, collaboration, sharing, business process management, and overall document management scenarios.

The Port Authority Content Server (Livelihood) production environment consists of four (4) clusters, namely, Port Authority Content Services (PACS), Downtown Restoration Program (DRP), Project Website (PWS), and Archive. Each cluster consists of three (3) to five (5) Content Server (Livelihood) version 9.7.1 or version 10.0 instances running on different Windows Server platforms.

The Content Server (Livelihood) Administration and Support Team manages the Content Server (Livelihood) environment and is responsible for the overall implementation and support

of the environment. The team is in the process of upgrading the four Content Server (Livelink) clusters from version 9.7.1 to the new version 10.0, taking full advantage of the 64-bit architecture and faster CPUs. The Content Server Team has also worked with the Architecture Team to devise a plan to virtualize the entire Content Server (Livelink) production environment.

## **II. SCOPE OF WORK**

The Technology Department has designated Content Server (Livelink) from Open Text as the Agency's standard platform for Enterprise Content Management (ECM) as well as corporate records management. While Content Server (Livelink) has been used to develop a number of ECM applications to date (mainly document repositories), it is anticipated that this tool will be exploited to a much greater extent in the near future to address all aspects of corporate document management, corporate records management, application-specific case management, SAP integration, and a variety of business workflows. The Port Authority is therefore seeking companies to support and assist with this expansion.

The services of the Consultant may generally consist of providing 'best practices' design principles in the development of specific Content Server-based applications. The Consultant may also be responsible for developing workflow-oriented applications that take full advantage of all the technical components of Content Server (and optional modules), including taxonomy classification of documents, as well as Application Programming Integration (API) with other sources of corporate data, including the use of Blubaker's DMC2 software for conversion projects.

Additionally, the Consultant's responsibilities may include, but not limited to:

A. Designing a wide range of business applications including:

1. Document classification/records management;
2. Legal case management; and
3. Construction project management collaboration.

B. Integrating a wide range of technologies including:

1. Workflow;
2. Information hierarchy/taxonomy;
3. Open Text Tempo Box;
4. Barcoding and/or Optical Character Recognition (OCR) technology;
5. SharePoint integration;
6. Electronic mail (e.g., Outlook);
7. Portal integration;
8. Other sources of corporate data through Content Server APIs (e.g., SAP, PeopleSoft, Primavera, etc.); and
9. Long-term electronic and paper records retention schedule.

C. Developing appropriate operational documentation to support developed applications.

### **III. DESCRIPTION OF TECHNICAL SKILL/SPECIALITY**

The Consultant shall provide expertise in ECM Services to address Content Server needs with experience in the following skills, education, experience and technical qualifications:

#### **A. Open Text Content Suite Platform Integration Specialist**

1. Minimum of three (3) years experience with installation and configuration of Content Server (LiveLink) in a cluster environment and “hands on” experience in performing Content Server (Livelink) upgrades and troubleshooting Content Server related problems;
2. Comprehensive knowledge of Content Server search and index engines configuration;
3. Possess analytical and critical thinking skills with technical problems of high complexity (i.e., ability to collect information to ascertain the root cause of a complex issue and make timely decisions when recommending corrective action);
4. Ability to prioritize and manage multiple tasks and assignments (i.e., maintenance of Content Server users, groups, permissions, security and system configuration) of varying complexity levels, working tenaciously to meet or beat deadlines;
5. Knowledge of quality assurance and testing procedures, as well as functional and system integration testing for software upgrades, customizations, patches, etc.; and
6. Ability to work effectively in a team environment to encourage collaboration, innovation, and continuous improvement, develop realistic plans needed to accomplish objectives and team goals.

#### **B. Open Text Content Server (Livelink) Workflow Designer**

1. Minimum of three (3) years experience with design and implementation of Content Server workflows to match complex business processes, specifically, experience with development and customization of workflows, LiveReports and eForms;
2. Effective interpersonal skills to determine and identify end user’s requirements and translate into technical specifications for enhancements and new designs;
3. Experience with comprehensive testing, quality assurance and documentation; and
4. Possess analytical and critical thinking skills with technical problems of high complexity.

#### **C. Records Management Specialist**

1. Minimum of three (3) years experience with implementation and configuration of Records Management Systems including Open Text RM and Open Text Physical Objects to support a corporate records management platform and retention schedules;
2. Provide expertise in the management of corporate records according to the organizational policies, thereby ensuring regulatory compliance and reducing the risks associated with audit and litigation;

3. Experience in data mapping, enterprise application migrations, object importer/exporter tools and the ability to adapt records management to changing needs of advanced technology with a focus on electronic records;
4. Solid understanding of electronic document management systems and best practices; and
5. Knowledge of classification of metadata for enhanced search capabilities.

D. Open Text Archive Server Specialist

1. Experience with installation, configuration, troubleshooting, and support of Open Text Archive Server and Apache Tomcat in a Microsoft Failover Cluster environment;
2. Experience with OpenText Directory Services (OTDS) and Enterprise Connect installation and configuration;
3. Knowledge of Content Server 10.0 administration and troubleshooting with previous upgrade and implementation experience;
4. Experience with metadata and classification methodologies and approach; and
5. Good understanding of IT infrastructure technologies including Windows servers and storage area network (SAN) systems.

E. Open Text Extended ECM (xECM) Specialist

1. Experience with the implementation, troubleshooting, and support of the Open Text xECM for SAP Solutions suite of applications;
2. Advanced technical and configuration proficiency with the xECM software system and its various modules;
3. Working knowledge of the implementation of records management systems including Open Text Records Management and Open Text Physical Objects;
4. Experience with the integration of Content Server with scanning technologies such as Open Text Enterprise Scan; and
5. Experience with OpenText Directory Services (OTDS) and Enterprise Connect installation and configuration.

F. Microsoft SharePoint Administrator

1. Minimum of three (3) years experience with administration of Microsoft SharePoint 2010 as well as experience with installation and configuration in a server farm environment;

2. Possess analytical skills for projects that install, upgrade and patch SharePoint and related services and expertise in SharePoint project initiatives to deploy new functionality and/or enhance existing SharePoint functionality;
3. Ability to deploy workflows, SharePoint sites, site collections and web applications and solutions, and, the ability to define SharePoint site architecture and overall site structure;
4. Ability to configure and troubleshoot critical SharePoint service applications such as search, user profiles, managed metadata, and SharePoint workflows; and
5. Ability to monitor and audit SharePoint environment activity (e.g. site usage and growth, disk space usage and growth).

G. Microsoft SharePoint Developer

1. Minimum of three (3) years experience with the design and development of Microsoft SharePoint sites and web parts for enterprise Portal Collaboration solutions;
2. Experience with customizations that include master pages, templates and themes in a .NET environment;
3. Expertise with building SharePoint workflow packages to meet user end requirements; and
4. Experience with programming languages such as JavaScript, HTML, and C#.

H. Open Text Content Server (Livelink) Taxonomy Specialist

1. Minimum three (3) years of “hands on” experience with enterprise taxonomy, metadata models, and the content object model; possess strong analytical and detailed design skills for plan, test, configuration, change management and support experience;
2. Experience with creation of document taxonomies for specific workgroups and knowledge transfer to a named content manager (e.g., configuring a taxonomy/metadata for a Law Department);
3. Experience with Content Server user and group management, permission schemes, folder structure and metadata; and
4. Possess knowledge to develop and implement document and records management taxonomies.

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**ATTACHMENT A-2**  
**PERFORMANCE OF EXPERT PROFESSIONAL ECM SERVICES**  
**AS REQUESTED ON A “CALL-IN” BASIS DURING 2015-2018**  
**TASK#1 ORDER REQUIREMENTS**  
**“OPEN TEXT CONTENT SUITE PLATFORM INTEGRATION SPECIALIST”**

**I. OBJECTIVE**

The Authority is seeking a firm (“the Consultant”) to provide an Open Text Content Suite Platform Integration Specialist Consultant.

**II. SCOPE OF WORK**

The ECM Consultant shall serve as the Open Text Content Suite Platform Integration Specialist of the ECM Support Team, which support a variety of ECM application servers in the development and production environments. This individual must be highly skilled, knowledgeable, experienced with Open Text’s Content Server (Livelink) suite of tools, and have strong experience in and the ability to troubleshoot Content Server-related problems. The Consultant shall work in a large corporate environment and under aggressive time lines supporting multiple concurrent projects.

A. The Consultant’s responsibilities shall include, but are not limited to the following:

1. Install, upgrade, configure, and support Open Text Content Suite Platform suite of applications including Content Server (Livelink), Directory Services, Archive Server and Records Management;
2. Optimize the effectiveness of Content Server Searching and Indexing Engines;
3. Install, configure, and support Open Text Extended ECM for SAP Solutions, eForms Management, and Brava Enterprise Servers;
4. Provide second-tier user support to Content Server (Livelink) user community; and
5. Provide technical support to various Content Server (Livelink) projects.

B. The successful candidate must be a ‘self-starter’ with the following education, experience, and technical qualifications:

1. Minimum of three (3) years experience with installation and configuration of Content Server (LiveLink) in a cluster environment and “hands on” experience in performing Content Server (Livelink) upgrades and troubleshooting Content Server related problems;
2. Comprehensive knowledge of Content Server search and index engines configuration;
3. Possess analytical and critical thinking skills with technical problems of high complexity (i.e., ability to collect information to ascertain the root cause of a complex issue and make timely decisions when recommending corrective action); and

4. Ability to prioritize and manage multiple tasks and assignments (i.e., maintenance of Content Server users, groups, permissions, security and system configuration) of varying complexity levels, working tenaciously to meet or beat deadlines;
  5. Knowledge of quality assurance and testing procedures, as well as functional and system integration testing for software upgrades, customizations, patches, etc.; and
  6. Ability to work effectively in a team environment to encourage collaboration, innovation, and continuous improvement, develop realistic plans needed to accomplish objectives and team goals.
- C. Other Toolset Skills or Soft skills listed below are optional but highly desirable, as these are the various technologies that Content Server interfaces with or used:
1. Two (2) years experience providing design and implementation for Content Server (Livelink) workflows with “hands-on” experience;
  2. Ability to work independently to provide full support to the Content Server (Livelink) environment;
  3. Working knowledge of Open Text Enterprise Connect and Office Editor;
  4. Knowledge of Records Management Systems;
  5. Microsoft MS-SQL Database and working knowledge of SQL queries;
  6. Working knowledge of Microsoft Windows Server Operating Systems and Microsoft Office;
  7. Effective oral and written communication skills;
  8. Good interpersonal skills; and
  9. Open Text certification.

### **III. WORK HOURS**

The normal workday for the Open Text Content Suite Platform Integration Specialist will be 9 AM to 5 PM, Monday through Friday except for observed holidays. The Consultant shall work an 8-hour workday, with a mandatory 45 minutes lunch break. Total billable hours per week shall not exceed 36.25 hours. All overtime must be pre-approved by the Project Manager before any work is performed.

### **IV. TIME FRAMES**

It is anticipated that the project shall start on 4/1/15 or sooner, and expire on 3/31/16.

### **V. EVALUATION CRITERIA**

Proposals will be evaluated based on the following criteria, listed in order of importance:

- A. The degree and extent to which the proposal for the services is cost effective for the Port Authority of NY & NJ.
- B. The degree and extent to which the proposed staff has the Content Server (Livelink) experience and qualifications as described in the SOW.
- C. The degree and extent to which the proposed firm has the resources available for the project at the time frame specified in the SOW.

## **VI. RESPONSE REQUIREMENTS**

Demonstrate your compliance with the prequalification requirements listed in Paragraph B and, if applicable, Paragraph C as noted in Section II of this document as well as the items listed below:

- A. Provide a detailed description, including Content Server (Livelink) versions of at least two (2) assignments where the proposed Open Text Content Suite Platform Integration Specialist had responsibilities for performing Livelink system administration tasks. References identifying telephone number and e-mail contact information must be provided for each reference.
- B. Provide detailed description of at least one (1) assignment where the proposed Open Text Content Suite Platform Integration Specialist had responsibility for designing and supporting workflow applications using Content Server (Livelink). A contact name, telephone number and e-mail information must be provided for each reference.
  - 1. Provide resumes of all proposed staff who are available for this project. Staff being proposed must have the following education, experience and technical management qualifications:
    - a. Bachelor's degree, preferably in Information Technology;
    - b. Demonstrated abilities to address the specific work requirements described above in Section 2;
    - c. Demonstrated abilities to provide administrative support for the Content Server (Livelink) toolset described above in Section 2; and
    - d. Demonstrated non-Content Server (Livelink) toolset skills as described above in Section 2.
- C. Provide hourly billing rate for the proposed Open Text Content Suite Platform Integration Specialist.

**ATTACHMENT B**  
**AGREEMENT ON TERMS OF DISCUSSION**

The Port Authority's receipt or discussion of any information (including information contained in any proposal, vendor qualification, 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. The foregoing applies to any information, whether or not given at the invitation of the Authority.

Notwithstanding the above, and without assuming any legal obligation, the Port Authority will employ reasonable efforts, subject to the provisions of the Port Authority Freedom of Information Code and Procedure adopted by the Port Authority's Board of Commissioners on March 29, 2012, which may be found on the Port Authority website at: <http://www.panynj.gov/corporate-information/pdf/foi-code.pdf>, not to disclose to any competitor of the undersigned, information submitted which are trade secrets or is maintained for the regulation or supervision of commercial enterprise which, if disclosed, would cause injury to the competitive position of the enterprise, and which information is identified by the Proposer as proprietary, as more fully set forth in the FOI Code, which may be disclosed by the undersigned to the Port Authority as part of or in connection with the submission of a proposal.

\_\_\_\_\_  
(Company)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Date)

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

**ATTACHMENT C**

**COMPANY PROFILE**

Fill out items 1 through 11 in the Company Profile. As part of your submission, attach your Certificate of Incorporation right after the Company Profile. If your company is a Port Authority certified M/W/SBE, also include a copy of your Port Authority certification after the Company Profile.

1. Company Name (print or type):

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

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3. Business Telephone Number:

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3. Business Fax Number:

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4. Firm website:

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5. Federal Employer Identification Number (EIN):

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6. Date (MM/DD/YYYY) Firm was Established: \_\_\_\_/\_\_\_\_/\_\_\_\_

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

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9. Officers or Principal of Company and Title:

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

Primary: \_\_\_\_\_

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Backup: \_\_\_\_\_

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

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

If your firm is an M/WBE not currently certified by the Port 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**  
**HOURLY RATE PRICE SHEET**

**ENTRY OF PRICES:**

- A. The prices quoted shall be written in figures, in ink, preferably in black ink where required in the spaces provided on the Pricing Sheet(s) attached hereto and made a part hereof.
- B. All Proposers are asked to ensure that all charges quoted for similar operations in the Contract are consistent.
- C. Prices must be submitted for each Item required on the Pricing Sheet(s). Proposers are advised that the Items on the Pricing Sheet(s) correspond to the required services set forth in the Specifications hereunder.
- D. Proposers are asked to ensure that all figures are inserted as required, and that all computations made have been verified for accuracy.
- E. The Proposer is advised that the Port Authority may verify only that RFP or those RFPs that it deems appropriate and may not check each and every RFP submitted for computational errors. In the event that errors in computation are made by the Proposer, the Port Authority reserves the right to correct any error and to recompute the Estimated Contract Price, as required, based upon the applicable hourly labor rate prices inserted by the Proposer, which amount shall govern in all cases.
- F. In the event that a Proposer proposes an amount in the Estimated Cost column but omits to propose an Hourly Labor Rate Price for that amount in the space provided, the Port Authority reserves the right to compute and insert the appropriate Hourly Labor Rate Price.
- G. The Total Estimated Contract Price is solely for the purpose of facilitating the comparisons of Proposals. Compensation shall be in accordance with the section of this Contract entitled "Payment".
- H. At the Authority's discretion, Contractor may be required to enter into a new agreement for each of the following three (3) years of the Program, at the same hourly labor rates, which agreements shall be identical to this Agreement, unless otherwise mutually agreed upon by the parties. Subsequent agreements shall be sent to the Contractor at least 30 days prior to the end of the current term.

**ATTACHMENT D  
HOURLY LABOR RATE PRICE SHEET**

It is the Authority’s requirement that all hourly rate pricing shall be “all inclusive” and firm during the term of the Agreement. Prices shall include, but not be limited to, all labor, equipment, training, communications, insurance, and administrative services that will be provided in order to deliver services that meet or exceed the requirements stated herein.

**Table 1**

	<b>A</b>		<b>B</b>		<b>C</b>
<b>Technical Skill /Specialty</b>	<b>Estimated # of Hours for 3 Years</b>		<b>Hourly Labor Rate Price</b>		<b>Estimated Cost</b>
<b>Open Text Content Suite Platform Integration Specialist</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C1</b>
<b>Open Text Content Server (Livelink) Workflow Designer</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C2</b>
<b>Records Management Specialist</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C3</b>
<b>Open Text Archive Server Specialist</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C4</b>
<b>Open Text Extended ECM Specialist</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C5</b>
<b>Microsoft SharePoint Administrator</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C6</b>
<b>Microsoft SharePoint Developer</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C7</b>
<b>Open Text Content Server (Livelink) Taxonomy Specialist</b>	<b>3000</b>	<b>X</b>		<b>=</b>	<b>C8</b>

(D) TOTAL ESTIMATED CONTRACT PRICE: \$ \_\_\_\_\_  
D = C1+C2+C3+C4+C5+C6+C7+C8

**CALCULATIONS:**

1. To calculate the Estimated Cost, multiply Column A times Column B.  
(C = A x B)
  
2. To calculate the Total Estimated Price, Add the Estimated Costs for the all Specialty Estimated Cost columns. (D = C1+C2+C3+C4+C5+C6+C7+C8)

**NOTES:**

4. Estimated number of hours is no guarantee of actual required hours for the duration of the Agreement. The estimated number of hours is for estimation and evaluation purposes only.
2. The actual number and category of positions to be staffed throughout the duration of the contract will be determined based on the individual subject task orders.
3. The Port Authority works an 8-hour day. A typical workday is 9 AM to 5 PM, with a mandatory 45 minutes lunch break, although any specific requirements shall be specified in the individual task orders.
4. All rates quoted in the Hourly Labor Rate Price Sheet are inclusive of travel & related expenses, and all related employee, and support costs, which shall not be compensated for separately.
5. Payment terms shall be as defined more fully in specific task orders.

**ATTACHMENT E  
PROJECT DESCRIPTION FORM**

Please provide a minimum of three (3) projects on the firm's performance of similar ECM Services, as referenced in Attachment A: ECM Services Scope of Work within the last three (3) years (2012-2014). Use additional sheets as necessary.

**Company Name:** \_\_\_\_\_

**Project Description:** \_\_\_\_\_

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**Contact Name:** \_\_\_\_\_

**Contact Phone#:** \_\_\_\_\_

**Contact Email:** \_\_\_\_\_

**Project Value:** \_\_\_\_\_

**Project Timeframe:** \_\_\_\_\_

**ATTACHMENT F  
PROPOSER REFERENCE FORM**

Name of Proposer: \_\_\_\_\_

Please provide a list of references on the firm's performance of similar work within the last five years, including all current agreements.

Customer Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Name and Title: \_\_\_\_\_

Phone and Fax Numbers of Contact: \_\_\_\_\_

Email \_\_\_\_\_

Agreement date(s): \_\_\_\_\_

Agreement cost: \_\_\_\_\_

Description of work:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Customer Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Name and Title: \_\_\_\_\_

Phone and Fax Numbers of Contact: \_\_\_\_\_

Email \_\_\_\_\_

Agreement date(s): \_\_\_\_\_

Agreement cost: \_\_\_\_\_

Description of Work:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Customer Name: \_\_\_\_\_

Address: \_\_\_\_\_

Contact Name and Title: \_\_\_\_\_

Phone and Fax Numbers of Contact: \_\_\_\_\_

Email \_\_\_\_\_

Agreement date (s): \_\_\_\_\_

Agreement cost: \_\_\_\_\_

Description of work: \_\_\_\_\_

**ATTACHMENT G**  
**M/WBE PARTICIPATION PLAN SUBMISSION FORMS**

(AN M/WBE PARTICIPATION PLAN SHALL BE SUBMITTED AND WILL BE EVALUATED AS PART OF THE MANAGEMENT APPROACH. PLEASE INCLUDE FORM **PA 3749B**, TO BE COMPLETED BY THE PROPOSER FOR THE M/WBE PARTICIPATION PLAN SUBMISSION REQUIREMENT. IN THE EVENT OF AN M/WBE PLAN MODIFICATION, PLEASE USE FORM **PA 3749C**.)

**ATTACHMENT G1  
STATEMENT OF SUBCONSULTANT PAYMENTS**

**INSTRUCTIONS FOR STATEMENT OF SUBCONSULTANT PAYMENT**

Attached is the Statement of Subconsultant Payments form, which shall be submitted with every invoice to be used in conjunction with the M/WBE Participation Plan.



## ATTACHMENT H

### CERTIFICATION OF RECYCLED MATERIALS PROVISION

Proposers shall submit, with their proposal, Attachment I1: the Certified Environmentally Preferable Products / Practices Form attesting that the products or items offered by the Proposer contain the minimum percentage of post-consumer recovered material in accordance with the most recent guidelines issued by the United States Environmental Protection Agency (EPA), or, for commodities not so covered, the minimum percentage of post-consumer recovered materials established by other applicable regulatory agencies.

#### Recycling Definitions:

For purposes of this solicitation, the following definitions shall apply:

- a. **"Recovered Material"** shall be defined as any waste material or by-product that has been recovered or diverted from solid waste, excluding those materials and by-products generated from, and commonly reused within, an original manufacturing process.
- b. **"Post-consumer Material"** shall be defined as any material or finished product that has served its intended use and has been discarded for disposal or recovery having completed its life as a consumer item. "Post-consumer material" is included in the broader category of "Recovered Material".
- c. **"Pre-consumer Material"** shall be defined as any material or by-product generated after the manufacture of a product but before the product reaches the consumer, such as damaged or obsolete products. Pre-consumer Material does not include mill and manufacturing trim, scrap, or broken material that is generated at a manufacturing site and commonly reused on-site in the same or another manufacturing process.
- d. **"Recycled Product"** shall be defined as a product that contains the highest amount of post-consumer material practicable, or when post-consumer material is impracticable for a specific type of product, contains substantial amounts of Pre-consumer Material.
- e. **"Recyclable Product"** shall be defined as the ability of a product and its packaging to be reused, reconditioned for use, or recycled through existing recycling collection programs.
- f. **"Waste Reducing Product"** shall be defined as any product that will result in less waste generated due to its use rather than another product designed to serve the same function with a greater waste generation rate. This shall include, but not be limited to, those products that can be reused, refilled or have a longer life expectancy and contain a lesser amount of toxic constituents.

**ATTACHMENT H1**  
**CERTIFIED ENVIRONMENTALLY PREFERABLE PRODUCTS/PRACTICES**

**Proposer Name:** \_\_\_\_\_ **Date:** \_\_\_\_\_

In line with the Port Authority’s efforts to promote products and practices which reduce our impact on the environment and human health, Proposers are encouraged to provide information regarding their environmentally preferable/sustainable business practices as they relate to this contract wherever possible. Proposers **must** complete this form and submit it with their response, if appropriate. Proposers **must** submit appropriate documentation to support the items for which the Proposer indicates a “Yes” and present this documentation in the proper sequence of this Attachment.

**1. Packaging**

Has the Proposer implemented any of the following environmental initiatives? (A checkmark indicates “Yes”)

- \_\_\_ Use of corrugated materials that exceed the EPA recommended post-consumer recycled content
- \_\_\_ Use of other packaging materials that contain recycled content and are recyclable in most local programs
- \_\_\_ Promotes waste prevention and source reduction by reducing the extent of the packaging and/or offering packaging take-back services, or shipping carton return
- \_\_\_ Reduces or eliminates materials which have been bleached with chlorine or chlorine derivatives
- \_\_\_ Eliminates any packaging that may contain polyvinyl chloride (PVC), or polystyrene or heavy metals

**If yes, a description of the practices being followed must be included with the submission.**

**2. Business Practices / Operations / Manufacturing**

Does the Proposer engage in practices that serve to reduce or minimize an impact to the environment, including, but not necessarily limited to, the following items? (A checkmark indicates “Yes”)

- \_\_\_ Recycles materials in the warehouse or other operations
- \_\_\_ Use of alternative fuel vehicles or vehicles equipped with diesel emission control devices for delivery or transportation purposes
- \_\_\_ Use of energy efficient office equipment or signage or the incorporation of green building design elements
- \_\_\_ Use of recycled paper (that meets federal specifications) in their marketing and/or resource materials
- \_\_\_ Other sustainable initiative

**If yes, a description of the practices being followed must be included with the submission.**

**3. Training and Education**

Does the Proposer conduct/offer a program to train or inform customers and employees of the environmental benefits of the products to be offered under this contract, and/or does the Proposer conduct environmental training of its own staff?

- Yes       No      If yes, Proposer must attach a description of the training offered and the specific criteria targeted by the training.

**4. Certifications**

Has the Proposer or any of its manufacturers and/or Subconsultants obtained any of the following product / industry certifications? (A checkmark indicates “Yes”)

- \_\_\_ ISO 14000 or adopted some other equivalent environmental management system
- \_\_\_ Other industry environmental standards (where applicable), such as the CERES principles, LEED Certification, C2C Protocol, Responsible Care Codes of Practice or other similar standards



**P.A. AGREEMENT # TSD-15-\*\*\***

DATE

FIRM

ADDRESS

CITY, ST ZIP

Attention: CONTACT, TITLE

**SUBJECT: PERFORMANCE OF EXPERT PROFESSIONAL ENTERPRISE  
CONTENT MANAGEMENT (ECM) SERVICES AS REQUESTED ON A  
“CALL-IN” BASIS DURING 2015-2018**

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 Enterprise Content Management (ECM) Services as requested on an "as needed" basis during 2015 - 2018 as more fully set forth in Attachment A, which is attached hereto and made a part hereof. The term of this Agreement may be renewed at the sole discretion of the Authority for up to two (2) additional one (1)-year periods. Said extension shall be sent by letter from the Chief Procurement Officer at least thirty (30) days prior to the end of the current term.

2. The term of the Agreement shall commence on the date of the Authority acceptance of the Contractor's Proposal and shall terminate on the date three (3) years after the date of the Authority's acceptance of the Contractor's Proposal. However, if a Task Order is issued prior to the date three (3) years after the date of the Authority's acceptance of the Contractor's Proposal that requires Work to be performed after the aforementioned three (3) year period, the Contractor shall perform such Work and the Agreement shall continue in full force and effect until the completion of such Task Order.

3. The Authority does not guarantee the ordering of any Services under this Agreement and specifically reserves the right, in its sole discretion, to use any person or firm to perform the type of Services required hereunder.

4. This Agreement shall be signed by you and the Chief Procurement Officer of the Authority or through duly authorized representatives, acting within the scope of the authority vested in them. As used herein, "Director" shall mean the Chief Technology Officer of the Authority, or his duly authorized representatives acting within the scope of the particular authority vested in him.

For the purposes of this Agreement, the Project Manager (or "Manager") shall be the individual with day-to-day responsibility for managing the project on behalf of the Port Authority. The Project Manager will be - <NAME>, Technology Service Department, (201) 395-\*\*\*, or email address \*\*\*@panynj.gov.

The term “days” or “calendar days” in reference to a period of time means consecutive calendar days, Saturdays, Sundays, and holidays included.

“Facility” means the Port Authority Facilities where the Services or Work will take place.

“Services” or “Work” - means all services, equipment and materials (including materials and equipment, if any, furnished by the Authority) and other facilities and all other things necessary or proper for, or incidental to the services to be performed or goods to be furnished in connection with the service to be provided hereunder, as set forth in the Scope of Work.

As used herein, the term “Work Day” means a day between Monday and Friday with Monday and Friday included.

As used herein the term “Specifications” means all requirements, technical and otherwise, for the performance of the Attachment A: Scope of Services and services hereunder.

4. You shall agree to allow all your employees assigned to the Authority to observe all holidays and official closings granted by the Authority.

The Authority observed, or will observe, the following holidays during 2015, however, other holidays may be observed in future years:

<b>DATE</b>	<b>HOLIDAY</b>	<b>DAY OF THE WEEK</b>
January 1, 2015	New Year’s Day	Thursday
January 19, 2015	Martin Luther King Jr. Day	Monday
February 16, 2015	Presidents Birthday	Monday
May 25, 2015	Memorial Day Observed	Monday
July 3, 2015	Independence Day	Friday
September 7, 2015	Labor Day	Monday
October 12, 2015	Columbus Day Observed	Monday
November 11, 2015	Veteran's Day	Wednesday
November 26, 2015	Thanksgiving Day	Thursday
November 27, 2015	Day After Thanksgiving	Friday
December 25, 2015	Christmas Day	Friday

Do not perform any Work unless authorized by the Authority on these days.

5. Your Services shall be performed as expeditiously as possible and at the time or times required by the Director. Time is of the essence in the performance of all your Services under this Agreement.

6. Purchases of services and tangible personal property by the Port Authority in the States of New York and New Jersey are generally exempt from state and local sales and compensating use taxes, and from most federal excises (Taxes). Therefore, the Port Authority’s purchase of

Contractor's services under this Agreement is exempt from Taxes. Accordingly, Contractor will not include Taxes in the prices to the Port Authority for its services under this Agreement.

7. Personnel provided by you shall be required to work at any location as mutually agreed upon prior to the performance of Services, but generally at the Authority's offices within the Port District, and generally at 2 Montgomery Street, Jersey City, New Jersey. Personnel shall work during the days and hours as ordered by the Chief Procurement Officer.

Requests to provide qualified technical personnel will be made in accordance with the following general procedures:

A. Any request by the Authority for you to provide IT or other qualified personnel will be either by e-mail, or telephone, as determined by the Authority. A job description, including any position requirements, will accompany each inquiry.

B. All personnel shall be prequalified by Contractor and only those candidates meeting the specifications of the Authority's task order description will be made available for the Authority's consideration.

C. You shall provide a resume and direct hourly labor rate quotation covering the services of each employee submitted for consideration.

D. You shall clearly indicate if the employee proposed by you is a former Authority employee.

E. Resumes will be reviewed by Authority staff and only personnel deemed most qualified, as determined by the Authority staff, will be interviewed by Authority staff.

F. The Authority will provide your firm with the name(s) of the proposed candidate(s) for assignment, at which time your firm shall contact an Authority designated firm, or firm proposed by you and approved by the Authority, for the purpose of performing a background check(s) on the proposed candidates. Once the appropriate background check(s) has been completed, the designated/approved firm will notify your firm of its findings, at which time your firm shall forward back to the Authority only the names of candidates who have received a satisfactory background check.

G. You shall confirm by letter the acceptance of any personnel selected. As required by the Authority, said letter shall state the individual's name, Social Security Number, anticipated start date, direct hourly labor rate, and the billing rate and include such documentation as required to demonstrate the validity of qualification information contained in the resume submitted by your firm (e.g. a list of telephone numbers and contact names actually contacted by you to verify the individual's work experience, etc.). If requested by the Authority, upon selection of your employee for performance of the required Services, said letter shall also include a statement from you confirming that you have verified the following information: true identity, criminal history, credential validation; and that you have disclosed your findings to the Authority.

The Authority reserves the right to hire any personnel placed by your firm, when said personnel have been continuously working at the Authority for a period of at least six (6) months. There

shall be no additional compensation due you in the event the Authority so hires said personnel. No contract between you and your employee shall prohibit such employment by the Authority.

8. All personnel shall work under Authority supervision but shall continue to be your employees and not those of the Authority, and you, as the employer, shall remain responsible for all compensation due to all said personnel and for all other payments, deductions from payments, benefits, actions, duties, responsibilities, taxes, obligations and the like, whether required by law or by contract, arising out of the employer-employee relationship.

9. 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 Director. 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.

10. Any Services performed for the benefit of the Authority at any time by you or on your behalf, even though 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 other rights or obligations shall arise out of such additional services.

11. Any assignment or other transfer by the Consultant of this Agreement or any part hereof or of any of his rights hereunder or of any monies due or to become due hereunder and any delegation of any of his duties hereunder without the express written consent of the Director shall be void and of no effect as to the Authority, provided, however, that the Consultant may subcontract portions of the Work to such persons as the Director, may, from time to time, expressly approve in writing. For each individual, partnership or corporation proposed by the Consultant as a subconsultant, the Consultant shall submit to the Authority a certification or, if a certification cannot be made, a statement by such person, partnership or corporation to the same effect as the certification or statement required from the Consultant pursuant to the clauses of the "Integrity" Section entitled "Certification of No Investigation Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information and "Non-Collusive Bidding and Code of Ethics Certification; Certification of No Solicitation Based on Commission, Percentage, Brokerage Contingent or Other Fee". All further subconsulting by any subconsultant shall also be subject to such approval of the Director.

No consent to any assignment or other transfer, and no approval of any subconsultant, shall under any circumstances operate to relieve the Consultant of any of his obligations; no subcontract, no approval of any subconsultant and no act or omission of the Authority or the Director shall create any rights in favor of such subconsultant and against the Authority; and as between the Authority and the Consultant, all assignees, subconsultants, and other transferees shall for all purposes be deemed to be agents of the Consultant. Moreover, all subconsultants and all approvals of subconsultants, regardless of their form, shall be deemed to be conditioned

upon performance by the subconsultant in accordance with this Agreement; and if any subconsultant shall fail to perform the Agreement to the satisfaction of the Director, the Director shall have the absolute right to rescind his approval forthwith and to require the performance of the Agreement by the Consultant personally or through other approved subconsultants.

12. Subject to the provisions of this Agreement, the Port Authority agrees to pay to the Consultant and the Consultant agrees to accept from the Port Authority as full and complete consideration for the performance of all its obligations under this Agreement and as sole compensation for the Services performed by the Consultant hereunder, a compensation calculated from the actual hours of Services performed and the respective unit prices inserted by the Consultant in the Hourly Labor Rate Pricing Sheet(s), forming a part of this Agreement.

From time to time a Consultant may be requested to conduct work on a lump sum basis, using the monthly total lump sum Agreement prices therefor proposed by the Consultant and accepted by the Authority.

The manner of submission of all bills for payment to the Consultant by the Port Authority for Services rendered under this Agreement shall be subject to the approval of the Manager in all respects, including, but not limited to, format, breakdown of items presented and verifying records. All computations made by the Consultant and all billing and billing procedures shall be done in conformance with the following procedures:

A. Payment shall be made in accordance with the prices for the applicable service (during the applicable Agreement year) as they appear on the Hourly Labor Rate Pricing Sheet(s), minus any deductions for Services not performed and/or any liquidated damages to which the invoice may be subject and/or any adjustments as may be required pursuant to increases and decreases in areas or frequencies, if applicable. All Services must be completed within the time frames specified or as designated by the Manager. Consultant shall submit to the Manager by the fifth day of each month following the month of commencement of this Agreement and on or by the fifth day of each month thereafter (including the month following the termination, revocation or expiration of this Agreement) a complete and correct invoice for the Services performed during the preceding month accompanied by such information as may be required by the Manager for verification. The invoice must show the Consultant's Federal Tax Identification Number. Payment will be made within thirty- (30) days of Port Authority verification of the invoice. No certificate, payment, acceptance of any Services or any other act or omission of any representative of the Port Authority shall operate to release the Consultant from any obligation under or upon this Agreement, or to estop the Port Authority from showing at any time that such certificate, payment, acceptance, act or omission was incorrect or to preclude the Port Authority from recovering any monies paid in excess of those lawfully due and any damage sustained by the Port Authority.

B. In the event an audit of received invoices should indicate that the correct sum due the Consultant for the relevant billing period is less than the amount actually paid by the Port Authority, the Consultant shall pay to the Port Authority the difference promptly upon receipt of

the Port Authority's statement thereof. The Port Authority may, however, in its discretion elect to deduct said sum or sums from any subsequent payments payable to the Consultant hereunder.

"Final Payment", as the term is used throughout this Agreement, shall mean the final payment made for Services rendered in the last month of the Agreement Term. However should this Agreement be terminated for any reason prior to the last month of the Agreement Term, then Final Payment shall be the payment made for Services rendered in the month during which such termination becomes effective. The Consultant's acceptance of Final Payment shall act as a full and complete release to the Port Authority of all claims of and of all liability to the Consultant for all things done or furnished in connection with this Agreement and for every act and neglect of the Port Authority and others relating to or arising out of this Agreement, including claims arising out of breach of contract and claims based on claims of third persons. No payment, however, final or otherwise shall operate to release the Consultant from any obligations in connection with this Agreement.

13. The Consultant shall observe and obey (and compel its officers, employees, guests, invitees, and those doing business with it, to observe and obey) the rules and regulations of the Port Authority now in effect, and such further rules and regulations which may from time to time during the effective period of this Agreement, be promulgated by the Port Authority for reasons of safety, health, preservation of property, or maintenance of a good and orderly appearance of the Facilities, or for the safe and efficient operation of the Facilities. The Port Authority agrees that, except in cases of emergency, it shall give notice to the Consultant of every rule and regulation hereafter adopted by it.

14. This Agreement does not constitute the Consultant as an agent or representative of the Port Authority for any purpose whatsoever. The Consultant shall perform all Services hereunder as an independent Consultant and the Consultant, its officers, and employees shall not be deemed to be agents, servants, or employees of the Port Authority.

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

16. Except as provided below: as between the Port Authority and the Consultant all process flows, codes including, but not limited to scripts, programs, routines, processes, procedures, documentation, estimates, reports, records, data, charts, documents, models, designs, renderings, drawings, specifications, photographs, computations, computer tapes or discs, and other documentation of any type whatsoever, whether electronic or in the form of writing, figures or delineations, which are prepared or compiled in connection with this Agreement, shall become the exclusive property of the Authority, and the Authority shall have the exclusive right to use or permit the use of them and any ideas or methods represented by them for any purpose and at any

time without other compensation than that specifically provided for herein. With regard to training manuals or any other knowledge transfer documentation, communication or presentation prepared under this Agreement the Authority shall expressly have the right to use, alter and reproduce including electronically, said manuals for its internal business purposes. 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. Any information given to the Port Authority before, with or after submission of the Agreement on Terms of Discussion, either orally or in writing, is not given in confidence and may be used, or disclosed to others, for any purpose at any time without obligation or compensation and without liability of any kind whatsoever except as otherwise set forth in the Agreement On Terms of Discussion.

A. All preexisting information or documentation including computer programs or code including source code, of the Consultant, utilized by the Consultant hereunder in the performance of his Services hereunder shall be deemed licensed to the Authority for the duration and purposes of this agreement, but shall remain the property of the Consultant.

B. When in the performance of Services the Consultant utilizes passwords or codes for any purpose, at any time during or after the performance of such Services, upon written request by the Authority, the Consultant shall make available to the designated Authority representative all such passwords and codes.

C. Third party software not specially prepared for the purpose of this agreement but utilized by the Consultant hereunder in the performance of his Services hereunder shall be licensed to the Consultant and the Authority for the duration and purposes of this agreement but shall remain the property of said third party.

D. The above-described software shall be furnished by the Consultant without additional compensation.

17. If in accordance with this Agreement the Consultant furnishes research, development or consultative services in connection with the performance of the Work and if in the course of such research, development, or consultation patentable or copyrightable subject matter or trade secrets or other proprietary matter is produced by the Consultant, its officers, agents, employees, subconsultants, or suppliers, not custom software, and not covered under clause 6 entitled Intellectual Property, the Authority shall 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 Consultant and the Authority 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 may be transferred by the Authority to its

successors, immediate or otherwise, in the operations of or ownership of any facility now or hereafter operated by the Authority or the Authority but such license shall not be otherwise transferable.

The right of the Authority as well as the Consultant to use all patented material, compositions of matter, manufactures, apparatus, appliances, processes of manufacture or types of construction as well as any copyrightable matter, trade secrets or other proprietary matters, shall be obtained by the Consultant without separate or additional compensation whether the same is patented or copyrighted before, during or after the performance of the Work.

18. 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.

19. The Consultant shall indemnify the Authority against and save it harmless from all loss and expense incurred in the defense, settlement or satisfaction of any claims in the nature of patent, copyright, or other proprietary rights infringement arising out of or in connection with the Authority's use, in accordance with the preceding clause of such patentable subject matter or patented material, compositions of matter, manufactures, apparatus, appliances, processes of manufacture or types of construction, or copyrighted matter or other matter protected as intellectual property. If requested by the Authority and if notified promptly in writing of any such claims, the Consultant shall conduct all negotiations with respect to and defend such claim without expense to the Authority. If the Authority be enjoined from using any of the facilities which form the subject matter of this Agreement, and as to which the Consultant is to indemnify the Authority against proprietary rights claims, the Authority may, at its option and without thereby limiting any other right it may have hereunder or at law or in equity, require the Consultant to supply, temporarily or permanently, facilities not subject to such injunction and not infringing any proprietary rights and if the Consultant shall fail to do so, the Consultant shall, at its expense, remove all such facilities and refund the cost thereof to the Authority and otherwise equitably adjust compensation and take such steps as may be necessary to ensure compliance by the Authority with such injunction, to the satisfaction of the Authority.

The Consultant shall promptly and fully inform the Director of any claims or disputes for infringement or otherwise, whether existing or potential, of which it has knowledge relating to any Intellectual Property used, developed or licensed in connection with the performance of the Work or otherwise in connection with this Agreement.

20. Subject to all of the provisions of this Agreement including, without limitation, the obligations of the Consultant under the section hereof entitled "Indemnification", the Consultant shall, and shall compel its employees, agents and subconsultants, to strictly abide by and comply with the policies established by the Authority governing the use of the Authority's web sites as set forth in the Authority web sites Terms of Use and Privacy Statement as the same may be supplemented or amended. The Consultant shall immediately implement all procedures in connection with such policies and in furtherance thereof as directed by the Authority.

21. The Consultant shall furnish sufficiently trained management, supervisory, technical and operating personnel to perform the Services required of the Consultant under this Agreement. If, in the opinion of the Director, any of the Consultant's personnel are not satisfactory in the performance of Services to be furnished hereunder, the Consultant shall remove such personnel and replace them with personnel satisfactory to the Director.

At the time the Consultant is carrying out its operations, there may be other persons working physically in the vicinity or in the same logical or technical infrastructure. The Consultant shall so conduct its operations as to work in harmony and not endanger, interfere with or delay the operations of others, all to the best interests of the Authority and others and as may be directed by the Director.

22. The Consultant represents and warrants:

A. That it is financially responsible and experienced in, and competent to perform this Agreement; that no representation, promise or statement, oral or in writing, has induced it to submit its Proposal, saving only those contained in the papers expressly made part of this Agreement; that the facts stated or shown in any papers submitted or referred to in connection with his Proposal are true; and, if the Consultant be a corporation, that it is authorized to perform this Agreement;

B. That it has carefully examined and analyzed the provisions and requirements of this Agreement, that from its own investigations it has satisfied itself as to the nature of all things needed for the performance of this Agreement, the general and local conditions and all other matters which in any way affect this Agreement or its performance, and that the time available to it for such examination, analysis, inspection and investigations was adequate;

C. That the Agreement is feasible of performance in accordance with all its provisions and requirements and that it can and will perform it in strict accordance with such provisions and requirements;

D. That no Commissioner, officer, agent or employee of the Authority is personally interested directly or indirectly in this Agreement or the compensation to be paid hereunder;

E. That, except only for those representations, statements or promises expressly contained in this Agreement, no representation, statement or promise, oral or in writing, of any kind whatsoever by the Authority, its Commissioners, officers, agents, employees or consultants has induced the Consultant to enter into this Agreement or has been relied upon by the Consultant, including any with reference to: (1) the meaning, correctness, suitability or completeness of any provisions or requirements of this Agreement; (2) the nature, existence or location of materials, structures, obstructions, utilities or conditions, which may be encountered at the installation sites; (3) the nature, quantity, quality or size of the materials, equipment, labor and other facilities needed for the performance of this Agreement; (4) the general or local conditions which may in any way affect this Agreement or its performance; (5) the price of the Agreement; or (6) any other matters, whether similar to or different from those referred to in (1) through (5) immediately above, affecting or having any connection with this Agreement, the bidding thereon, any discussions thereof, the performance thereof or those employed therein or connected or concerned therewith.

F. That, notwithstanding any requirements of this Agreement, any inspection or approval of the Consultant's Services by the Authority, or the existence of any patent or trade name, the Consultant nevertheless warrants and represents that the Services and any intellectual property supplied to the Authority hereunder shall be of the best quality and shall be fully fit for the purpose for which they are to be used. The Consultant unconditionally guarantees against defects or failures of any kind, including defects or failures in design, workmanship and materials, excepting solely defects or failures which the Consultant demonstrates to the satisfaction of the Authority have arisen solely from accident, abuse or fault of the Authority occurring after issuance of Final Payment hereunder and not due to fault on the Consultant's part. In the event of defects or failures in said Services, or any part thereof, then upon receipt of notice thereof from the Authority, the Consultant shall correct such defects or failures as may be necessary or desirable, in the sole opinion of the Authority, to comply with the above guaranty.

Moreover, the Consultant accepts the conditions at the sites of work as they may eventually be found to exist and warrants and represents that it can and will perform the Agreement under such conditions and that all materials, equipment, labor and other facilities required because of any unforeseen conditions (physical or otherwise) shall be wholly at its own cost and expense, anything in this Agreement to the contrary notwithstanding.

Nothing in the Scope of Work or any other part of the Agreement is intended as or shall constitute a representation by the Authority as to the feasibility of performance of this Agreement or any part thereof. Moreover, the Authority does not warrant or represent either by issuance of the Scope of Work or by any provision of this Agreement as to time for performance or completion or otherwise that the Agreement may be performed or completed by the times required herein or by any other times.

The Consultant further represents and warrants that it was given ample opportunity and time and by means of this paragraph was requested by the Authority to review thoroughly all documents forming this Agreement prior to execution of this Agreement in order that it might request inclusion in this Agreement of any statement, representation, promise or provision which it

desired or on which it wished to place reliance; that it did so review said documents; that either every such statement, representation, promise or provision has been included in this Agreement or else, if omitted, that it expressly relinquishes the benefit of any such omitted statement, representation, promise or provision and is willing to perform this Agreement without claiming reliance thereon or making any other claim on account of such omission.

The Consultant further recognizes that the provisions of this clause (though not only such provisions) are essential to the Authority's consent to enter into this Agreement and that without such provisions; the Authority would not have entered into this Agreement.

23. The Authority shall have the following rights in the event the Director shall deem the Consultant guilty of a breach of any term whatsoever of this Agreement:

- A. The right to take over and complete the Work or any part thereof as agent for and at the expense of the Consultant, either directly or through other Consultants;
- B. The right to cancel this Agreement as to any or all of the Work yet to be performed;
- C. The right to specific performance, an injunction or any other appropriate equitable remedy;
- D. The right to money damages.

For the purpose of this Agreement, breach shall include but not be limited to the following, whether or not the time has yet arrived for performance of an obligation under this Agreement: a statement by the Consultant to any representative of The Authority indicating that he cannot or will not perform any one or more of his obligations under this Agreement; any act or omission of the Consultant or any other occurrence which makes it improbable at the time that he will be able to perform any one or more of his obligations under this Agreement; any suspension of or failure to proceed with any part of the Work by the Consultant which makes it improbable at the time that he will be able to perform any one or more of his obligations under this Agreement; any false certification at any time by the Consultant as to any material item certified pursuant to the clauses hereof entitled "Certification of No Investigation (Criminal or Civil Anti-Trust), Indictment, Conviction, Debarment, Suspension, Disqualification and Disclosure of Other Required Information" and "Non-Collusive Bidding and Code of Ethics Certification; Certification of No Solicitation Based on Commission, Percentage, Brokerage, Contingent or Other Fee", or the willful or fraudulent submission of any signed statement pursuant to such clauses which is false in any material respect; or the Consultant's incomplete or inaccurate representation of its status with respect to the circumstances provided for in such clauses.

The enumeration in this numbered clause or elsewhere in this Agreement of specific rights and remedies of the Authority shall not be deemed to limit any other rights or remedies which the Authority would have in the absence of such enumeration; and no exercise by the Authority of any right or remedy shall operate as a waiver of any other of its rights or remedies not inconsistent therewith or to stop it from exercising such other rights or remedies

Neither the acceptance of the work or any part thereof, nor any payment therefor, nor any order or certificate issued under this Agreement or otherwise issued by the Authority, or any officer,

agent or employee of the Authority, nor any permission or direction to continue with the performance or work, nor any performance by the authority of any of the Consultant's duties or obligations, nor any aid provided to the Consultant by the Authority in his performance of such duties or obligations, nor any other thing done or omitted to be done by the Authority, its Commissioners, officers, agents or employees shall be deemed to be a waiver of any provision of this agreement or of any rights or remedies to which the Authority may be entitled because of any breach hereof, excepting only a resolution of its Commissioners, providing expressly for such waiver. No cancellation, rescission or annulment hereof, in whole or as to any part of the work, because of any breach hereof, shall be deemed a waiver of any money damages to which the Authority may be entitled because of such breach. Moreover, no waiver by the Authority of any breach of this Agreement shall be deemed to be a waiver of any other or any subsequent breach.

24. Inasmuch as the Consultant can be adequately compensated by money damages for any breach of this Agreement which may be committed by the Authority, the Consultant expressly agrees that no default, act or omission of the Authority shall constitute a material breach of this Agreement, entitling him to cancel or rescind it or (unless the Director shall so direct) to suspend or abandon performance.

25. Title to all equipment to be furnished hereunder by the Consultant shall be transferred to the Authority upon its delivery to the installation site.

The Consultant shall furnish such bills of sale and affidavits of title as the Authority shall reasonably request.

26. No claim against the Authority shall be made or asserted in any action or proceeding at law or in equity, and the Consultant shall not be entitled to allowance of such claim, unless the Consultant shall have complied with all requirements relating to the giving of written notice and of information with respect to such claim as provided in this clause. The failure of the Consultant to give such written notice and information as to any claim shall be conclusively deemed to be a waiver by the Consultant of such claim, such written notice and information being conditions precedent to such claim. As used herein "claim" shall include any claim arising out of this agreement (including claims in the nature of breach of Agreement or fraud or misrepresentation before or subsequent to execution of this Agreement and claims of a type which are barred by the provisions of this agreement) for damages, payment or compensation of any nature or for performance of any part of this Agreement.

The requirements as to the giving of written notice and information with respect to claims shall be as follows:

A. In the case of any claims for which requirements are set forth elsewhere in this Agreement as to notice and information, such requirements shall apply.

B. In the case of all other types of claims, notice shall have been given to the Director, as soon as practicable, and in any case within forty eight (48) hours after occurrence of the act, omission, or other circumstances upon which the claim is or will be based, stating as fully as

practicable at the time all information relating thereto. Such information shall be supplemented with any further information as soon as practicable after it becomes or should become known to the Consultant, including daily records showing all costs which the Consultant may be incurring or all other circumstances which will affect any claim to be made which records shall be submitted to the Authority.

The above requirements for notices and information are for the purpose of enabling the Authority to avoid waste of public funds by affording it promptly the opportunity to cancel or revise any order, change its plans, mitigate or remedy the effects of circumstances giving rise to a claim or take such other action as may seem desirable and to verify any claimed expense or circumstance as they occur and the requirements herein for such notice and information are essential to this Agreement and are in addition to any notice required by statute with respect to suits against the Authority. The above referred to notices and information are required whether or not the Authority is aware of the existence of any circumstances which might constitute a basis for a claim and whether or not the Authority has indicated it will consider a claim.

No act, omission or statement of any kind shall be regarded as a waiver of any of the provisions of this clause or may be relied upon as such waiver except only either a written statement signed by the Executive Director of the Authority or a resolution of the Commissioners of the Authority expressly stating that a waiver is intended as to any particular provision of this clause, and more particularly, no discussion, negotiation, consideration, correspondence or requests for information with respect to a claim by any Commissioner, officer, employees or agent of the Authority shall be construed as a waiver of any provision of this clause or as authority or apparent authority to effect such a waiver

Since merely oral notice or information may cause disputes as to the existence or substance thereof, and since notice, even if written, to other than the Authority representative above designated to receive it may not be sufficient to come to the attention of the representative of the Authority with the knowledge and responsibility of dealing with the situation, only notice and information complying with the express provisions of this clause shall be deemed to fulfill the Consultant's obligation under this Agreement.

27. The Authority has a long-standing practice of encouraging Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) to seek business opportunities with it, either directly or as subconsultants or subcontractors. "Minority-owned business" or "MBE" means a business entity which is at least fifty-one percent (51%) owned by one (1) or more members of one or more minority groups, or, in the case of a publicly held corporation, at least fifty-one percent (51%) of the stock of which is owned by one (1) or more members of one (1) or more minority groups; and whose management and daily business operations are controlled by one (1) or more such individuals who are citizens or permanent resident aliens. "Women-owned business" or "WBE" means a business which is at least fifty-one percent (51%) owned by one 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 twelve (12%) percent participation by qualified and certified MBEs and 5 percent to qualified and certified WBEs on technical service projects.

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

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

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

28. Services under the Agreement may be required in high security areas, as the same may be designated by the Manager from time to time. The Port Authority shall require the observance of certain security procedures with respect to the high security areas, which may include the escort to, at, and/or from said high security areas by security personnel designated by the Consultant or any subconsultant's personnel required to work therein.

Twenty-four (24) hours prior to the proposed performance of any work in a high security area, the Consultant shall notify the Manager. The Consultant shall conform to the procedures as may be established by the Manager from time to time and at any time for access to high security areas and the escorting of personnel hereunder. Prior to the start of work, the Consultant shall request a description from the Manager of the high security areas which will be in effect on the commencement date. The description of high security areas may be changed from time to time and at any time by the Manager during the term of the Agreement.

## 29. 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, and to sensitive security sites and facilities (including rental spaces) to any person that declines to abide by Authority security procedures and protocols, and to any person with a criminal record with respect to certain crimes or who may otherwise poses 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, and to 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, you shall have your employees, subconsultants and their employees execute Authority approved non-disclosure agreements.

- Consultant/Subconsultant identity checks and background screening.

The Consultant may be required to have its staff, and any subconsultant's staff, 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 subconsultant may also be required to use an organization designated by the Authority to perform the background checks.

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 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.

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

- Issuance of Photo Identification Credential

No person shall be permitted on or about the non-public areas of the Authority's 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 Consultant to immediately report to the Authority the loss of any staff member's or subconsultant's individual facility-specific identification credential. The Consultant will be billed for the cost of the replacement identification credential. Staff shall display Identification badges in a conspicuous and clearly visible manner, when entering, working at, or leaving an Authority construction site or facility.

Staff may be required to produce not less than two forms of valid/current government issued identification having an official photograph and an original, non-laminated social security card for identify and SSN verification.

- 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 the procedures as may be established by the Project Manager from time to time and at any time for access to Secure Areas and the escorting of personnel hereunder. Prior to the start of work, the Consultant shall request a description from the Project Manager of the Secure Areas, which will be in effect on the commencement date. 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 sites or facilities (including rental spaces) access control, inspection and monitoring by Port Authority Police or Authority retained consultant security guards. However, this provision shall not relieve the Consultant of its responsibility to secure its equipment and work and that of its subconsultant's and service suppliers at the Authority construction sites or facilities (including rental spaces). In addition, the Consultant, subconsultant or service provider is not permitted to take photographs, digital images, electronic copying and/or electronic transmission or video recordings or to make sketches on any other medium at the Authority construction sites or facilities (including rental spaces), except when necessary to perform the Work under this Agreement, without prior written permission from the Authority. Upon request, any photograph, digital images, video recording or sketches made of the Authority construction sites or facilities 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

The Agreement may require access to Port Authority information considered Protected Information (“PI”) as defined in the Port Authority Information Security Handbook (“Handbook”), dated October 15, 2008, corrected as of November 14, 2013, and as may be further amended. The Handbook and its requirements are hereby incorporated into this agreement and will govern the possession, distribution and use of PI if at any point during the lifecycle of the project or solicitation it becomes necessary for the Consultant to have access to PI. 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 Port Authority or when released by the Port Authority to outside entities. The Handbook can be obtained upon request or 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 and the Handbook in order to assess the extent of compliance with security requirements, PI procedures, protocols and practices, which may include, but which are not necessarily 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.

### 30. CONFIDENTIAL INFORMATION

A. Confidential information shall also mean and include collectively, as per *The Port Authority of New York & New Jersey Information Security Handbook (October 15, 2008, corrected as of November 14, 2013)*, Protected 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.

B. The Consultant shall hold all such confidential 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 Director/General Manager 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.

C. The Consultant shall not issue nor permit to be issued any press release, advertisement, or literature of any kind, which refers to the Port 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 vendor first obtains the written approval of the Port Authority. Such approval may be withheld if for any reason the Port Authority believes that the publication of such information would be harmful to the public interest or is in any way undesirable.

31. You shall not issue or permit to be issued any press release, advertisement, or literature of any kind, which refers to the Authority or to the Services performed in connection with this Agreement, unless you first obtain the written approval of the Director. Such approval may be withheld if for any reason the Director believes that the publication of such information would be harmful to the public interest or is in any way undesirable.

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

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

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

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

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

The Consultant shall indemnify the Authority against all claims described in subparagraphs A through D above and for all expense incurred by it in the defense, settlement or satisfaction thereof, including expenses of attorneys. If so directed, the Consultant shall defend against any claim described in subparagraphs B, C and D above, in which event the Consultant shall not without obtaining express advance permission from the General Counsel of the Authority raise any defense involving in any way jurisdiction of the tribunal, immunity of the Authority, governmental nature of the Authority or the provisions of any statutes respecting suits against the Authority, such defense to be at the Consultant's cost. The provisions of this clause shall also be for the benefit of the Commissioners, officers, agents and employees of the Authority, so that they shall have all the rights which they would have under this clause if they were named at each place above at which the Authority is named, including a direct right of action against the Consultant to enforce the foregoing indemnity, except, however, that the Authority may at any time in its sole discretion and without liability on its part cancel the benefit conferred on any of them by this clause, whether or not the occasion for invoking such benefit has already arisen at the time of such cancellation.

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

### 33. LIABILITY INSURANCE AND WORKERS' COMPENSATION INSURANCE

#### A. Commercial Liability Insurance:

1) The Consultant shall take out and maintain at his own expense Commercial General Liability Insurance including but not limited to Premises-Operations, Completed Operations and Independent Consultant coverages in limits of not less than \$5,000,000 combined single limit per occurrence for Bodily Injury Liability and Property Damage Liability. And if vehicles are to be used to carry out the performance of this Agreement, then the Consultant 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. Any/all activities performed airside must, at all times, be performed

while under security escort as approved in advance, and in writing by the Project Manager. If at any time, the Consultant is unescorted in the performance of any field services airside, or if so directed by the Authority, the Commercial General Liability Insurance and Automobile Liability Insurance must contain limits of not less than \$25,000,000 combined single limit per occurrence, as provided in item 2) (a) below. In addition, the liability policies (other than Professional Liability) shall include the "Port Authority of New York and New Jersey and its related entities" as additional insured(s) and shall contain an endorsement that the policy may not be canceled, terminated or modified without thirty (30) days written advance notice to the Project Manager as noted below. Moreover, the Commercial General Liability policy shall not contain any provisions (other than a Professional Liability exclusion, if any) for exclusions from liability other than provisions or exclusions from liability forming part of the most up to date ISO form or its equivalent, unendorsed Commercial General Liability Policy. 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. Furthermore, the Consultant's insurance shall be primary insurance as respects to the above additional insured(s), its representatives, officials, and employees. Any insurance or self-insurance maintained by the above additional insured(s) shall not contribute to any loss or claim. These insurance requirements shall be in effect for the duration of the Agreement to include any warrantee/guarantee period.

Further, the certificate of insurance and the liability policy(ies) shall be specifically endorsed that *"The insurance carrier(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) Additional Coverages: The Consultant shall have the policy endorsed when required by the Director for specific Services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

- a. If the Services of the Consultant, as directed by the Authority, require the performance of Services airside, the Commercial General Liability and Automobile Liability coverage limits stipulated in subparagraph 1, above, shall be increased to an amount not less than \$25,000,000 per occurrence as provided herein.
- b. Endorsement to eliminate any exclusions applying to the explosion, collapse, and underground property damage (XCU) hazards.
- c. Endorsement to eliminate any exclusions on account of ownership, maintenance, operation, use, loading or unloading of watercraft.
- d. Coverage for work within fifty (50) feet of railroad.

B. Workers' Compensation Insurance:

1) The Consultant shall take out and maintain Workers' Compensation Insurance in accordance with the requirements of law and Employer's Liability Insurance with limits of not less than \$1,000,000 each accident. A waiver of subrogation in favor of the Authority and its related entities, as allowed by law, shall be included.

2) Additional Coverages: The Consultant shall have the policy endorsed when required by the Director for specific Services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

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

C. Professional Liability Insurance:

The Consultant shall take out and maintain Professional Liability Insurance in limits of not less than \$5,000,000 each occurrence, covering acts, errors, mistakes, and omissions arising out of the Work or Services performed by Consultant, or any person employed by Consultant. 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.

D. Compliance:

Prior to commencement of work at the site, the Consultant shall deliver a certificate from its insurer evidencing policies of the above insurance stating the title of this Agreement, the P. A. Agreement number and containing a separate express statement of compliance with each of the requirements above set forth, via e-mail, to the Project Manager.

1) Upon request of the General Manager, Risk Management/Treasury, the Consultant shall furnish to the Authority a certified copy of each policy itself, including the provisions establishing premiums.

2) Renewal certificates of insurance or policies shall be delivered via e-mail to the Authority's Project Manager at least fifteen (15) days prior to the expiration date of each expiring policy. The General Manager, Risk Management 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 shall promptly obtain a new and satisfactory certificate and policy.

3) 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, if the General Manager shall so direct, the Consultant shall suspend performance of the Agreement at the premises. If the Agreement is so suspended, no extension of time shall be due on account thereof. If the

Agreement is not suspended (whether or not because of omission of the General Manager to order suspension), then the Authority may, at its option, obtain insurance affording coverage equal to the above required, the cost of such insurance to be payable by the Consultant to the Authority.

4) The requirements for insurance procured by the Consultant shall not in any way be construed as a limitation on the nature or extent of the contractual obligations assumed by the Consultant 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. CITS#4667NN

38. To the extent permitted by law, the Consultant shall indemnify and hold harmless the Port Authority, its Commissioners, officers, representatives and employees from and against all claims and demands, just or unjust, of third persons (including employees, officers, and agents of the Port Authority) arising out of or in any way connected or alleged to arise out of or alleged to be in any way connected with the Agreement and all other Services and activities of the Consultant under this Agreement and for all expenses incurred by it and by them in the defense, settlement or satisfaction thereof, including without limitation thereto, claims and demands for death, for personal injury or for property damage, direct or consequential, whether they arise from the acts or omissions of the Consultant, of the Port Authority, of third persons, or from the acts of God or the public enemy, or otherwise, including claims and demands of any local jurisdiction against the Port Authority in connection with this Agreement.

39. The Consultant and any subconsultants shall follow the Port Authority attached Technology Standard and Guidelines for the Port Authority Technology Services Department attached hereto and made a part hereof, and shall comply with any updates to or changes in best practices related to such.

40. This Agreement shall be construed in accordance with the laws of the State of New York. The Consultant hereby consents to the exercise by the courts of the States of New York and New Jersey of jurisdiction in personam over it with respect to any matter arising out of or in connection with this Agreement and waives any objection to such jurisdiction which it might otherwise have; and the Consultant agrees that mailing of process by registered mail addressed to it at the address of the Consultant set forth in the Proposal, shall have the same effect as personal service within the States of New York or New Jersey upon a domestic corporation of said State.

41. Inasmuch as the public interest requires that the Project to which this Agreement relates shall be performed in the manner which the Authority, acting through the Director deems best, the Director shall have absolute authority to determine what is or is not necessary or proper for or incidental thereto and the Specifications shall be deemed merely the Director's present determination on this point. In the exercise of this authority, the Director shall have power to alter the Specifications, to require the performance of Work not required by them in their present form, even though of a totally different character from that not required, and to vary, increase and diminish the character, quantity and quality of, or to countermand any Work now or

hereafter required. If at any time it shall be, from the viewpoint of the Authority, impracticable or undesirable in the judgment of the Director to proceed with or continue the performance of the Agreement or any part thereof, whether or not for reasons beyond the control of the Authority, the Director shall have authority to suspend performance of any part or all of the Agreement until such time as the Director may deem it practicable or desirable to proceed. Moreover, if at any time it shall be, from the viewpoint of the Authority impracticable or undesirable in the judgment of the Director to proceed with or continue the performance of the Agreement or any part thereof for reasons within or beyond the control of the Authority, the Director shall have authority to cancel this Agreement as to any or all portions not yet performed and as to any materials not yet installed even though delivered. Such cancellation shall be without prejudice to the rights and obligations of the parties arising out of portions already satisfactorily performed, but no allowance shall be made for anticipated profits. To resolve all disputes and to prevent litigation, the parties to this Agreement authorize the Director to decide all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Agreement (including claims in the nature of breach of Agreement or fraud or misrepresentation before or subsequent to acceptance of the Consultant's Proposal and claims of a type which are barred by the provisions of this Agreement) and such decision shall be conclusive, final and binding on the parties. The Director's decision may be based on such assistance as he may find desirable. The effect of the decision shall not be impaired or waived by any negotiation or settlement offers in connection with the question decided, whether or not he participated therein, or by any prior decision of her or others, which prior decisions shall be deemed subject to review, or by any termination or cancellation of this Agreement.

All such questions shall be submitted in writing by the Consultant to the Director for a decision together with all evidence and other pertinent information in regard to such questions, in order that a fair and impartial decision may be made. In any action against the Authority relating to any such question the Consultant must allege in the complaint and prove such submission, which shall be a condition precedent to any such action. No evidence or information shall be introduced or relied upon in such an action that has not been so presented to the Director.

In the performance of the Agreement, the Consultant shall conform to all orders, directions and requirements of the Director and shall perform the Agreement to his satisfaction at such times and places, by such methods and such manner and sequence as he may require, and the Agreement shall at all stages be subject to his inspection. The Consultant shall employ no equipment, materials, methods or men to which he objects, and shall remove no materials, equipment or other facilities from the Authority site without permission. Upon request, he shall confirm in writing any oral order, direction, requirements or determination.

The enumeration herein or elsewhere of particular instances in which the opinion, judgment, discretion or determination of the Director shall control or in which the Agreement shall be performed to her satisfaction or subject to her inspection, shall not imply that only the matters of a nature similar to those enumerated shall be so governed and performed, but without exception the entire Agreement shall be so governed and performed.

This provision shall be construed in accordance with the laws of the State of New York excluding its conflict of law provisions.

42. The approval by the Director of any service required hereunder, shall be construed merely to mean that at that time the Director knows of no good reason for objecting thereto and no such approval shall release the Consultant from its full responsibility for the satisfactory performance of the Services to be supplied. "Approved equal" shall mean approved by the Director.

43. The Consultant, and any subconsultants, shall provide system access and reasonable assistance to the Authority's External and Internal Audit staff or its consultants in their performance of work under the Agreement, including producing specific requested information, extraction of data and reports. The Consultant, and any subconsultants, shall support requests related to audits of the agreement and administration tasks and functions covered by this Agreement.

The Authority reserves the right to use and load security and system software to evaluate the level of security and vulnerabilities in all systems which control, collect, dispense, contain, manage, administer, or monitor revenue "owned" by the Port Authority.

44. The Authority shall have access during normal business hours to all records and documents of the Consultant relating to any service provided under this Agreement, amounts for which it has been compensated, or claims he should be compensated, by the Authority above those included in the lump sum compensation set forth elsewhere herein. All Consultant records shall be kept in the Port District. The Consultant shall obtain for the Authority similar access to similar records and documents of subconsultants. Such access shall be given or obtained both before and within a period of three (3) years after Final Payment to the Consultant, provided, however, that if within the aforesaid one year period the Authority has notified the Consultant in writing of a pending claim by the Authority under or in connection with this Agreement to which any of the aforesaid records and documents of the Consultant or of his subconsultants relate either directly or indirectly, then the period of such right of access shall be extended to the expiration of six (6) years from the date of Final Payment with respect to the records and documents involved.

The Consultant shall provide, at no cost to the Authority, access for and reasonable assistance to such auditors from the Authority or the Authority's external auditors that may, from time to time, be designated to audit detail records which support Consultant charges to the Authority. The Authority shall have access to the detail records that support Consultant charges to the Authority for up to three (3) years following the termination of the Agreement.

No provision in this Agreement giving the Authority a right of access to records and documents is intended to impair or affect any right of access to records and documents that the Authority would have in the absence of such provision.

45. The Consultant undertakes to pay all claims lawfully made against him by subconsultants, materialmen and workmen, and all claims lawfully made against him by other third persons

arising out of or in connection with or because of the performance of this Agreement and to cause all subconsultants to pay all such claims lawfully made against them.

46. During the performance of this Agreement, the Consultant agrees as follows:

A. The Consultant is advised to ascertain and comply with all applicable Federal, State and Local statutes, ordinances, rules and regulations and Federal Executive Orders pertaining to equal employment opportunity, affirmative action and non-discrimination in employment.

B Without limiting the generality of any other term or provision of this Agreement, in the event of the Consultant's non-compliance with any such statutes, ordinances, rules, regulations or orders, this Agreement may be canceled, terminated, or suspended in whole or in part.

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

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

A. been indicted or convicted in any jurisdiction;

B. been suspended, debarred, found not responsible or otherwise disqualified from entering into any agreement with any governmental agency or been denied a government agreement for failure to meet standards related to the integrity of the Consultant;

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

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

E. had any business or professional license suspended or revoked or, within the five years prior to proposal opening, had any sanction imposed in excess of \$50,000 as a result of any judicial or administrative proceeding with respect to any license held or with respect to any violation of a federal, state or local environmental law, rule or regulation;

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

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

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

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

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

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

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

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

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

F. the Consultant has not offered, promised or given, demanded or accepted, any undue advantage, directly or indirectly, to or from a public official or employee, political candidate, party or party official, or any private sector employee (including a person who directs or works for a private sector enterprise in any capacity), in order to obtain, retain, or direct business or to secure any other improper advantage in connection with this Agreement; and

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

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

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

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

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

In any case where the Consultant cannot make the certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information", the Consultant shall so state and shall furnish with the signed proposal a signed statement, which sets forth in detail the reasons therefor. If the Consultant is uncertain as to whether it can make the foregoing certifications, it shall so indicate in a signed statement furnished with its proposal, setting forth in such statement the reasons for its uncertainty. With respect to the foregoing certification in paragraph "25G.", if the Consultant cannot make the certification, it shall provide, in writing, with the signed proposal: (i) a list of the name(s), address(es), telephone number(s), and place(s) of principal employment of each such individual or organization; and (ii) a statement as to whether such individual or organization has a "financial interest" in this Agreement, as described in the Procurement Disclosure policy of the Authority (a copy of which is available upon request to the Chief Procurement Officer of the Authority). Such disclosure is to be updated, as necessary, up to the time of award of this Agreement. As a result of such disclosure, the Authority shall 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-responsibility.

Notwithstanding that the Consultant may be able to make the certifications in this Section and the Section entitled "Certification of No Investigation (Criminal or Civil Anti-trust), Indictment, Conviction, Debarment Suspension, Disqualification and Disclosure of Other Information" at the time the proposal is submitted, the Consultant shall immediately notify the Authority in writing during the period of irrevocability of proposals on this Agreement or any extension of such period, or during the term of this Agreement, of any change of circumstances which might under this clause make it unable to make the foregoing certifications 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 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, Consultants are 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 a 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 this Agreement award 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 shall be charged with, among other things, auditing the actions of the Consultant to determine whether its business practices and relationships indicate a level of integrity sufficient to permit it to continue business with the Authority.

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

Consultants are advised that the Authority has adopted a policy to the effect that in awarding its agreements it will honor any determination by an agency of the State of New York or 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 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.

#### 50. CONSULTANT RESPONSIBILITY, SUSPENSION OF WORK AND TERMINATION

During the term of this Agreement, the Consultant shall 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 shall 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 where 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 may pursue available legal or equitable remedies for breach, including recovery of costs from Consultant associated with such termination.

#### 51. 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.

In the event that the Consultant becomes aware of the occurrence of any conduct that is prohibited by this section entitled "No Gifts, Gratuities, Offers of Employment, Etc.", it shall

report such occurrence to the Authority's Office of Inspector General within three (3) business days of obtaining such knowledge. (See "<http://www.panynj.gov/inspector-general>" for information about reporting information to the Office of Inspector General). Failing to report such conduct shall be grounds for a finding of non-responsibility.

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

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

## 52. 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 any other 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 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 Director in writing of such situation giving the full details thereof. Unless the Consultant receives the specific written approval of the Director, 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 Director 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 Director to be no longer appropriate because of such preclusion, then the Director 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, which result, directly or indirectly, from the Services provided by the Consultant hereunder. The Authority's determination regarding any conflict of interest shall be final.

### 53. DEFINITIONS

As used in sections 47 to 52 above, the following terms shall mean:

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

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

Investigation - Any inquiries made by any federal, state or local criminal prosecuting 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.

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.

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

55. Each and every provision of law and clause required by law to be inserted in this Agreement shall be deemed to be inserted herein and the Agreement shall be read and enforced as though it were included therein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Agreement shall forthwith be physically amended to make such insertion.

56. If any provision of this Agreement shall be such as to destroy its mutuality or to render it invalid or illegal, then if it shall not appear to have been so material that without it the Agreement would not have been made by the parties, it shall not be deemed to form part thereof but the balance of the Agreement shall remain in full force and effect.

57. The Authority shall not be precluded or estopped by any acceptance, certificate or payment, final or otherwise, issued or made under this Agreement or otherwise issued or made by it, the Director or any officer, agent or employee of The Authority, from showing at any time the true amount and character of Work performed, or from showing that any such acceptance, certificate or payment is incorrect or was improperly issued or made; and The Authority shall not be precluded or estopped, notwithstanding any such acceptance, certificate or payment, from recovering from the Consultant any damages which it may sustain by reason of any failure on his part to comply strictly with this Agreement, and any monies which may be paid to him or for his account in excess of those to which he is lawfully entitled.

58. 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.

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

60. 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.

Sincerely,

THE PORT AUTHORITY OF  
NEW YORK AND NEW JERSEY

Lillian D. Valenti  
Chief Procurement Officer  
Procurement Department

FIRM NAME.

- PAGE 33 -

AUGUST 6, 2014

Date \_\_\_\_\_

ACCEPTED:

FIRM NAME

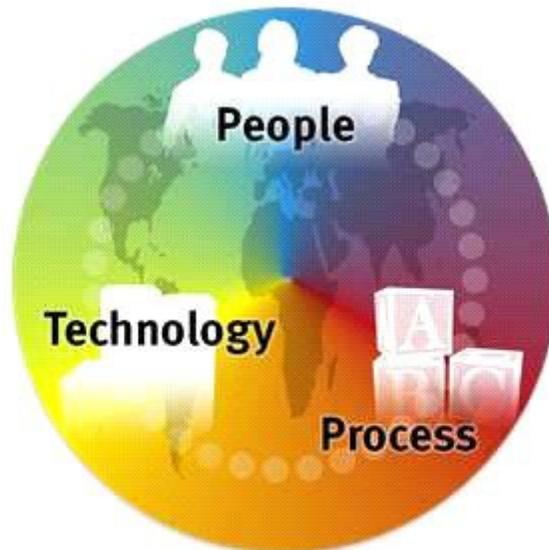
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Title: \_\_\_\_\_

Date: \_\_\_\_\_

# **STANDARDS AND GUIDELINES FOR PORT AUTHORITY TECHNOLOGY**

(Non-Confidential Sections for use in  
preparation/distribution with RFP's)



**Technology Department**

Version 7.5  
8/22/14

**(PREPARED FOR RFP: ENTERPRISE CONTENT MANAGEMENT DEVELOPMENT &  
SUPPORT SERVICES FOR OPEN TEXT CONTENT SERVER (LIVELINK) AND MICROSOFT  
SHAREPOINT CALL-IN PROGRAM DURING 2015-2018)**

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## Introduction

The purpose of this document is to communicate the standards established by the Technology Department (TEC) and provide guidance in proposing Information Technology (IT) solutions for the Port Authority of New York & New Jersey (PANYNJ), the Agency.

To that end, these guidelines intend to help RFP Submitters do the following:

- Implement computing and networking solutions that ensure the utmost reliability, availability and security.
- Procure hardware and software that advances business needs in a manner that is compatible in an ever-changing IT environment that enables departments to work with each other more effectively.
- Easily and efficiently communicate and exchange information throughout the agency.
- Achieve greater systems integration so that the application will be interoperable resulting in cost effectiveness and quality control.
- Adherence to these standards ensures that IT investments achieve Enterprise connectivity, interoperability, consistency, and will enhance performance in a cost-effective way.

### 1.0 The Port Authority Wide Area Network (PAWANET)

#### 1.1 PAWANET Overview

The Port Authority has a modern distributed computing network, called the Port Authority Wide Area Network (PAWANET), which is managed as an enterprise resource. It connects all the various Port Authority facilities and transportation systems using high-speed voice, data, and video lines or links.

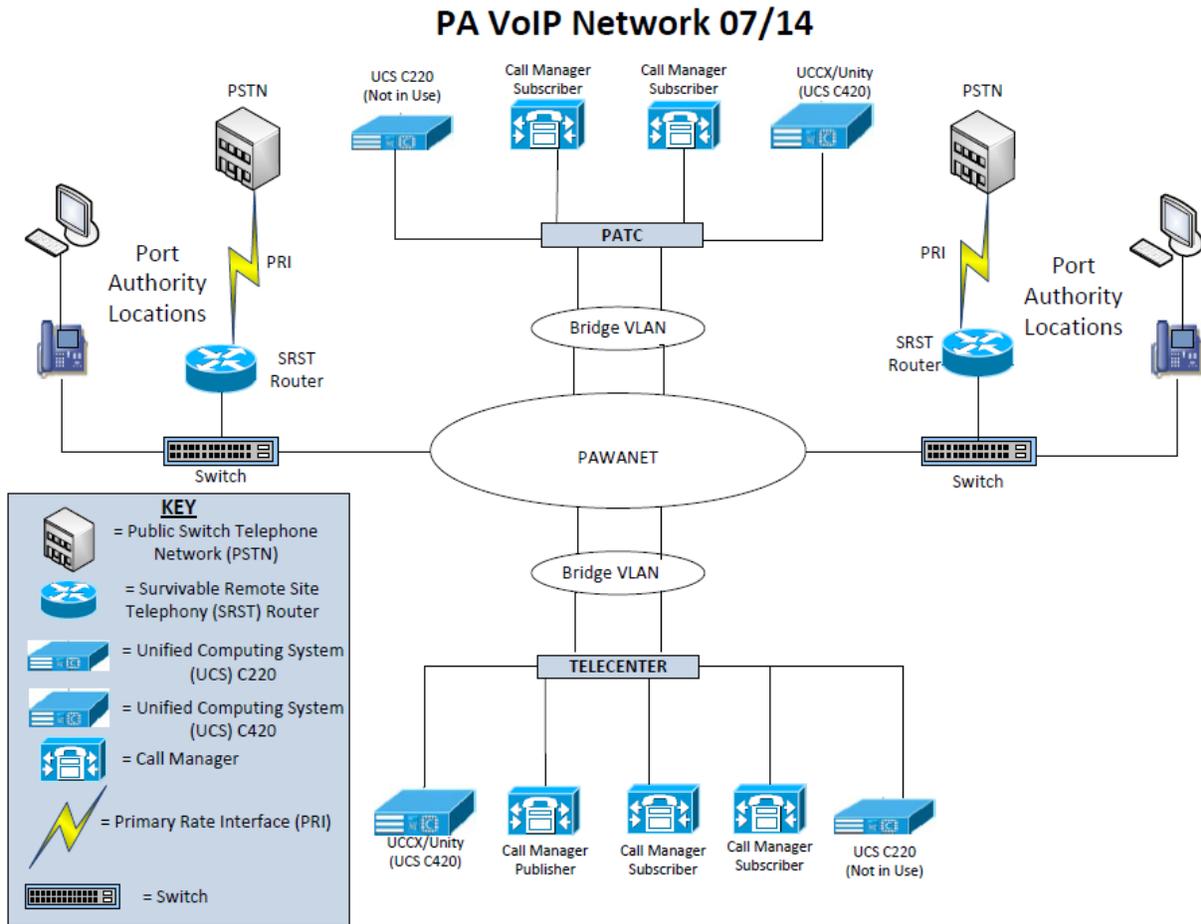
This network is crucial to all Port Authority businesses because it provides the connections for applications such as e-Mail, Internet and Intranet access, SAP, PeopleSoft, Electronic Toll Collection, Computer Aided Design and Drafting (CADD), Lease Image, Closed Circuit Television (CCTV) surveillance systems, and in the future, videoconferencing, and more.

PAWANET consist of a Managed Fiber Optic Dense Wave Division Multiplexed (DWDM) Network, provided by Verizon Select Services, as an Integrated Optical Service (IOS) network. This network consists of eleven separate and distinct (1) Gbps lightwave networks, each interconnecting with the data centers at Telecenter and the Port Authority Technical Center (PATC). Site-to-Site interconnectivity is achieved via the "hub and spoke" topology through the data centers. Additional high-speed Ethernet Private Lines (EPL) have been deployed to support key Port Authority off-ring facilities. Remote locations are linked using redundant high-speed dedicated point-to-point leased communication lines.

Remote locations are linked using redundant high-speed dedicated point-to-point leased communication lines. Wireless connectivity also supported when hardwired connections are not practical.

The network consists of state-of-the-art Cisco Systems equipment and services, such as, high performance Cisco Catalyst switches and routers. The Port Authority uses Bluewater Network Monitoring Services to monitor PAWANET, and Cisco Systems SMARTnet hardware/software maintenance services, and Cisco's Technical Assistance Center (TAC) to support and maintain the network.

## 1.2 VoIP Circuit Diagram



### 1.3 Inter-site Services Providers

The Technology Department (TEC) has contracted with a variety of companies to provide inter-site services. Companies providing communications services for the Wide Area Network are listed below.

- AT&T Local Services
- Verizon

### 1.4 PAWANET Functions

Currently PAWANET is used to transport the following:

Data	Supports the low and high volume transfer of data used for applications, such as SAP and PeopleSoft, and for network communications, such as e-mail. Provides a data path for off-site, mainframe data backup of file, print and application servers. Enables the use of Storage Area Network (SAN) for network storage of user files and routing jobs to shared network printers.
Video	The transfer of Closed Circuit TV (CCTV) data is supported across the entire network to provide security for the Port Authority's key facilities.
Voice	The network provides the hardware capabilities for voice and VoIP transmission.
Videoconferencing	The network switches and transmission lines are used for videoconferencing to enable diversely located staff participate in meetings across large geographic area.
VoIP	Voice over Internet Protocol (VoIP), which currently serves the majority of Port Authority users, is in the process of being implemented for the agency to replace the legacy Nortel system.

### 1.5 Features of PAWANET

PAWANET provides a high performance and reliable fail-safe communications network. These are its key features:

- Alternate paths of communication
- Support of high volume traffic such as CADD, CCTV and others
- Catalyst 3000, 4000 and 6500 switches at all the major sites, and at the Teleport
- Cisco high performance 2000, 3000 and 7200 router family products with redundant power supplies

### 1.6 Supported Protocols

The network supports the following network protocols, allowing dissimilar platforms to communicate within PAWANET:

TCP/IP:	TCP/IP is the universal protocol that allows communications between all systems within the Port Authority's network, as well as other networks.
IPX/SPX:	This protocol allows communications between all Novell platforms.
SNA/SDLC:	This protocol allows communications between all IBM systems and other systems that support System Network Architecture (SNA).

## 1.7 PAWANET Switches and Routers

The current standard switches and routers used on PAWANET are:

- Tellabs Reconfigurable Optical Add Drop Multiplexers (ROADMS) are the DWDM nodes on the Verizon Managed IOS Network.
- Cisco High performance 3000, 4000, and 6000 series switches
- Cisco High performance 2000, 3000 series routers for intermediate connectivity.
- Cisco 7200 high performance routers  
Provide high-speed connectivity and routing capabilities across the network in support of TCP/IP, IPX/SPX and bridging functions, and provides routing capabilities for Port Authority Internet access.
- A pair of fault tolerant 10 Gbps links on IOS are established on IOS to provide the required band with between the data centers at Telecenter and PATC.

## 1.8 Approved Servers

Only IBM File & Print and Application servers may be connected to PAWANET.

This includes turnkey and distributed systems where File & Print or Application servers are used. Any replacement File & Print or Application servers must be IBM servers. Deviation from this policy will not be allowed, without prior approval of the Chief Technology Officer or their designee.

## 1.9 Enterprise Addressing Scheme (including IP addressing)

The Port Authority's enterprise network is a TCP/IP Class B network allowing for a maximum of 255 subnet assignments. Subnets assigned on a geographical basis according to the number of resources required. Workstations are configured for dynamic assignment of IP addresses via Dynamic Host Configuration Protocol (DHCP).

TEC will assign static IP addresses for servers, printers and faxes that are to be connected to PAWANET.

## 1.10 Enterprise Network Monitoring Software

The Port Authority has selected Bluewater Network Monitoring Services to continually provide real time monitoring of PAWANET, and its data and voice link availability. To provide for real time network monitoring, the following software utilities are used by Bluewater and the Port Authority, respectively:

- Remedy Network Management software used by Bluewater
- Cisco Works for Switched Internetworks used by Port Authority

## 2.0 Network Resources

### 2.1 Network Overview

The Port Authority has a modern distributed computing network, which is managed as an Enterprise resource. The network connects all individual PCs, servers, printers, and other devices in a unified computing infrastructure that makes it possible for the Port Authority to conduct its business.

The Enterprise Network consists of the PAWANET (see Section 1.1) and connected Local Area Networks (LAN's). The line of demarcation between the cable and wiring is the responsibility of the carrier and the Port Authority's area of responsibility is usually a wiring closet. The Port Authority's Enterprise Network consists of the following components on the Port Authority side of demarcation:

### Enterprise Devices

- Cabling
- Routers
- Switches
- Wiring Closets
- Communications Equipment Racks
- Server Racks
- File and Print Servers
- Application Servers
- Storage Area Networks (SAN)
- Network Printers
- Security Devices (Video Encoders, IP Cameras, ACS Panels)

## LAN Devices

- Desktop PCs
- Workstations
- Voice Over IP Phones
- Laptops
- Video Conference Units
- Local Printers
- Scanners
- Copiers
- PC Peripherals

## 2.2 Enterprise Network Architecture

The Port Authority operates an extensive network of Enterprise file, print and application servers. These devices are linked to an Enterprise Wide Area Network. The flexibility provided by the use of multiple servers, server clusters and Storage Area Networks (SAN) offers users improved network response, greater reliability, increased data security and reduced operating cost. Adherence to the standards outlined in this section allows the Port Authority to manage their systems, applications and data in a way that best meets our business needs while maintaining interoperability and safeguarding Port Authority's information assets.

### 2.2.1 Server Operating System and Software

All Enterprise File & Print services in the Port Authority are currently, based on the Windows Operating System. Microsoft Windows, Linux and Sun Solaris are supported as application servers when required for functionality.

In addition to the base operating system, all servers must include the following components:

- Virus Protection (minimum: McAfee Engine 8.5.0i, with current DAT files)
- Network Security
- Remote Monitoring and Management
- Intrusion Detection
- Mainframe Systems Backup (minimum: Upstream 3.5.0c)
- Uninterrupted Power Supply (If central UPS is not installed at the location)
- Current Service Packs and security patches (minimum: SP1)

Note: All operating system and server software shall be provided and configured by the Technology Department prior to connection to PAWANET.

### 2.2.2 Configuration

All network devices--including servers, workstations, network printers, and network faxes--must use IP addresses which conform to the standards outlined in sections, 1.9 Enterprise Addressing Scheme, and 2.3.1, Server Names. System Administrators may refer to the [Guide to System Administration](#) for specific instructions on how to install and configure the Windows operating systems.

### 2.2.2.1 Drive Mapping Conventions and Organization

Mapping of workstation drive pointers to SAN or server disk volumes or folders is accomplished through a Windows Active Directory Login Script or the Microsoft equivalent. The following drive letters are reserved for Windows Active Directory installations:

Pointer	Volume or Folder
M:	Reserved
P:	Public Applications
Q:	Installation and Upgrade Utilities
S:	Departmental shared directories and files
T:	Reserved
U:	Users Private Home Directory

- Public (Shared) application software installed on a file and print server cluster must reside on a separate volume named "APPS".  
Example: P:\APPS
- Each software application installed on the file and print server, or server cluster, must have its own sub-folder.  
Examples: P:\APPS\EXCEL  
P:\APPS\WORD
- Shared Data stored on a file and print server cluster, shall reside in a volume named Data, and shall be mapped to the "S:" drive pointer.  
Example <Cluster\_name>:\DATA\<Department\_NAME>\SHARE on a server cluster
- Each Department's SHARE folder will contain at least three sub-folders titled Org, Everyone and Projects.
- Under the Projects folder will be two additional folders, one called "Active" and one called "Completed". Active projects reside in the "Active" folder.
- When staff identifies a project as being completed, the project folder will be moved to the "Completed" folder and all rights, except for "Browse" will be removed from the folder. This will ensure that the final project documents remain unchanged, while still allowing authorized staff to review the old documents and use them as templates for new documents if desired. The "Completed" folder will be set to archive its data.
- Under the "ORG" folder will be subfolders with names corresponding to the various divisions within the department. By default, only staff within a division will have access to a division's folder. These folders are intended to hold data for a specific division that would not normally be shared departmentally. Staff from other divisions would not have access to these folders unless the division manager of the owning division gives their approval. Having folders setup by divisions will simplify the process of identifying who is responsible for the contents of a folder.
- The "S" and "U" drives should only be used to store business related files.
- The Systems Administrator, at the direction of the Director, may from time to time remove any data deemed to be non-business related.
- A folder called "Everyone" will be created in the Share folder. All staff in the department will have full access to this folder to store and retrieve files that are not related to a project or a division's day-to-day operations.
- Additional shared folders, with access restricted to only specific users, if required, will be created in the Share folder. Access will be restricted through the use of Inherited Rights Filters and access will be granted through the use of groups. These groups will be named using the

same name as the folder name.

- In general, rights to any folder will be granted through the use of a group having the same name as the folder. The group would have trustee rights to the folder, and users would be added to or removed from the group as needed. All rights would be granted or revoked through the use of form PA-3624A. Designated staffs in each department are required to approve these requests.
- A user “U” drive will be assigned to each standard Windows Active Directory account for use by each individual user to store business related data on the network. Access to the “U” drive is restricted to the account owner only. Users receive all rights to this folder”. Users cannot share data on their “U” drive. Files should be shared only by using the Share, (“S”) drive.
- Access to a user’s home directory, by anyone other than the owning user is prohibited and will be removed after notifying the end-user.
- Installation files used in the installation of desktop software must reside in a sub-folder under the “APPS” volume

Example P:\APPS\Psoft

### 2.2.2.2 Connecting LAN Devices to the Enterprise Network

The Technology Department (TSD) is responsible for connecting all LAN devices to the Enterprise Network (PAWANET) provided they meet the Port Authority’s standards. The following system components must meet the standards in order to connect department devices:

#### Type of Device or Software

- Primary Network Operating System (NOS)
- Application Server Operating System
- Network Interface Card (NIC)

### 2.2.3 Server Network Resources Security

#### 2.2.3.1 Server Physical Security

All servers and communication equipment must be located in locked rooms or secured with a cable and lock with the keyboard secured to prevent tampering and unauthorized usage.

#### 2.2.3.2 Server Logical Security

To safeguard the Port Authority’s Information Technology (IT) systems and data, TEC has implemented a number of processes and procedures, including the requirement that all users accessing the Port Authority’s networks authenticate to the Microsoft (MS) Windows Active Directory (Active Directory). The Active Directory Service is a database containing descriptions of all network devices including servers, workstations and user accounts.

In plain English, this means that by executing a login when you first power on your PC you are telling the network who you are. This is accomplished by providing your Windows Username and password. Just as you are issued an ID card for access to certain facilities, buildings or rooms you need to visit to perform your job, your Windows authentication grants you access to network resources, such as shared data volumes, software applications and network printers you use in performing your assigned tasks.

TEC, or its contracted vendor, is responsible for providing all enterprise servers with the following protection of their logical resources:

- Guard against unauthorized access.
- Perform daily incremental backups of servers and authorized workstations and full backups weekly.
- Store all monthly backups off site at a secure location and secure daily and weekly

- backups on-site in a locked area.
- Test recovery procedures annually.

- Use system and application passwords that conform to the Technology Department standards.
- Configurations must conform to security parameters identified by NetVision and Quest Intrust Suite software.
- Control all remote access using the Port Authority's Remote Access System.
- Maintain current patch levels and critical security updates.

## 2.2.4 Network Access and User Account Security

### 2.2.4.1 Account Creation

User accounts are created and managed in MS Windows Active Directory Services for the Windows network resources. Documentation for the creation of user accounts and authority for access is maintained by the Customer Service Desk Manager.

### 2.2.4.2 Time Restrictions

Due to the fact that The Port Authority serves its clients 24 hours a day, we do not have Login Time Restrictions on our File & Print servers. All staff may access their account 24 X 7.

### 2.2.4.3 Concurrent Logins

Login sessions will be limited to one connection per user. User accounts should not have the ability to login to multiple workstations after establishing one active connection to the network.

### 2.2.4.4 Intruder Detection

These system-monitoring features must be active:

- Restrict the count of incorrect login attempts to three before the account is locked out.
- The time for which unsuccessful login attempts are retained to determine a possible intruder attack should be a minimum of 30 minutes before the counter is reset to zero.
- The time for which a user account remains disabled before the account can be used again should be a minimum of 30 minutes.

### 2.2.4.5 Passwords

All user accounts must have passwords conforming to the following standards:

- Minimum length is six (6) characters.
- The password should not be easily guessed. It should not be related to one's job and should not be a word in the dictionary or a proper name.
- Should be set to expire at least every 90 days and 30 days for accounts with system or application administrator access
- Grace Logins should be activated and limited to three
- Users should be notified several days in advance of password expiration.
- Users should be forced to change their password on initial login and once it expires.
- Unique passwords should be required when changed. Users should be prevented from reusing a previous password for a minimum of one-year.
- Users should not be permitted to change their passwords more than once a day.
- Passwords should be encrypted in storage.
- Passwords must be entered in a non-display field with a re-enter verify function for new passwords.
- Passwords must not be available on hard copy.
- Passwords used in system startup files and login scripts must be encrypted.
- If an application uses a default password, change it on installation.
- Do not use cyclical passwords, such as the word, February, during the month of February.

- Do not reveal your password to anyone except authorized persons.
- Use both upper and lower case characters and special characters where possible.
- Change password if it has been disclosed or compromised.
- Protect by using a screen saver password with a recommended 15-minute time-out period.
- Passwords should not be the same as the user ID

Passwords are considered confidential data. They protect the Port Authority's network resources and grant system privileges and access. Disclosure may result in unauthorized access to data, system files and transactions. Passwords are also your signature and identify you as the individual who is responsible for the system activity.

#### **2.2.4.6 Modems and Switches**

Staff is prohibited from connecting dial-up modems and switches including wireless switches (e.g. Linksys wireless switches) to workstations that are simultaneously connected to PAWANET or another internal communication network unless approved by the Technology Department (TEC).

Where modems have been approved, users must not leave modems and/or switches connected to personal computers in auto answer mode, such that they are able to receive in-coming dial-up calls.

#### **2.2.5 Remote Access System**

The use of local modems to establish direct dial connections to devices on the Port Authority's network is prohibited. Exceptions to this policy require the approval of the Technology Department's Director.

The approved mechanism for remote access to the Port Authority network is through the Remote Access System (RAS). The Remote Access System utilizes an Internet-based Virtual Private Network (VPN) tunnel established over the Internet linking remote users to the Port Authority Wide Area Network (PAWANET) (remote client to PA site). It is designed to provide authorized Port Authority users with secure access to corporate applications and to files available on their departmental file servers. This access to applications and resources is delivered through a thin-client environment consisting of a farm of Citrix MetaFrame/Microsoft Terminal Services servers capable of supporting 200 or more simultaneous users each. There is no provided access to the user's office PC desktop. Port Authority offices without direct connection to the Port Authority Wide Area Network (PAWANET) can use this system to establish remote access to corporate applications located on PAWANET.

RAS provides multiple security mechanisms to ensure that only authorized users gain access to the Port Authority's computing resources and systems. Through multiple security steps, the user must respond to security challenges. After successful authentication verification, authorized users are provided with access to corporate applications and their departmental network resources through the thin-client environment.

The Port Authority also supports corporate site-to-site VPN connections and utilizes Cisco equipment for these connections.

Remote access is authorized on a case-by-case basis by the Chief Technology Officer.

## 2.2.6 Hardware Standards

The TEC Enterprise Architecture team is responsible for setting the agency hardware standards. As of October 2012, the hardware standards are as follows:

- Desktop, Laptop, CAD\* Lenovo
- High End Multimedia Workstation\* Apple
- Mobile Devices BlackBerry
- Printers\* Hewlett Packard
- Routers and Switches Cisco
- Servers\* IBM and NEC
- Smart Devices iPhone/iPad
- Storage Area Network (SAN) IBM (Entry Level and Mid-Range)

\* Note: To maintain optimal operating efficiency of the computing environment a standard “refresh” age has been adopted. The agency standard refresh age is greater than 5 years. TEC is responsible for the automatic replacement/upgrade of hardware that has exceeded the agency standard age limit.

### 2.2.6.1 Standard Servers

A representative sample of standard servers is as follows:

<b>Server Description</b>	<b>IBM Model</b>
WEB Server, Small applications server	xSeries 3550M4
Medium applications server	xSeries 3650M4
Database Server, Multiple and Large application server	xSeries 3850M4
Virtual Clusters	NEC Express 5800 series or IBM as stated above

Each server shall have at least three (3) network interface ports to support a production, management and backup network, and redundant power supplies.

The Port Authority manages servers models via a lifecycle process with a minimum ‘in service’ life of three (3) years.

## 2.3 Network Naming Conventions

### 2.3.1 Server Names

The Port Authority employs a naming convention for all servers within PAWANET. That convention will be discussed during a solution implementation phase.

## 2.4 Directory Services and Structure

The Port Authority uses Windows Active directory to manage network resources and user access. Port Authority departments are designated as organizational units (OU) and servers are network objects contained within the OU.

All network printers should be created using Printer Properties Pro utility.

Applications are distributed using Microsoft System Center Configuration Manager (SCCM).

Applications are distributed based on the type of workstation and user definitions.

Scheduling of distributions is performed in conjunction with client departments.

## 2.5 System Backup and Recovery

There are two Port Authority approved standard software products, used to perform scheduled server backups:

- **Upstream Reservoir** is a centralized backup tool used to create data backups for all distributed systems.
- **FDR Upstream** is a Mainframe based tool used to backup all Mainframe data.

Backup data is stored on disk storage for prompt backup and restore. Encrypted tape backup is stored remotely at a secure facility, and is required to assure off-site disaster recovery data storage. All backup media and records must be treated with the same level of security and confidentiality as the original data.

The System Administrator is responsible for verifying that system backups, both local and remote backups, can be used to restore the data. Tests of the ability to successfully restore from both backup systems should be performed annually. It is recommended that:

- Tests of the ability to restore system and application files will be performed on a non-production server.
- When incremental or differential backups are routinely used, the test restore procedure should incorporate both.
- Immediately prior to performing the test restore procedure, do a special full backup on the directories being tested.

### 2.5.1 Backup Logs

The System Administrator will maintain the following logs for a period of two years:

- Back-up activity
- Rotation of back-ups
- Usage/rotation of back-up media
- Off-site data storage

### 2.5.2 Backup Scheduling

The System Administrator is responsible for performing back-ups of data, application and system files. This must be as follows:

- Weekly full back up of each server. A full back-up is a back up of all files on the server.
- Daily differential, incremental or full back up of each server or server cluster. The type of back-up performed is dependent on time constraints and the amount of data to be backed up. Incremental back ups are back-ups of all files changed since the last back up. Differential back ups are back-ups of all files changed since the last full back-up.
- A Grandfather, Father, Son (GFS) scheme based on a 33 tape rotation should be used to ensure complete back-up and recovery.

## 2.6 Business Resumption Plan

The vendors, providing IT services to the PA, shall work with the Technology Department (TEC) to develop a disaster recovery and contingency plan. The System Administrator will participate in the planning, design, implementation, testing, updating and documentation of the plan. [Appendix 1](#) shows a recommended outline for such a plan. The Business Resumption Plan will be reviewed quarterly and tested at least annually.

## 2.7 Telecommunications Standards for Enterprise Network Resources

To see the standards and guidelines for the following telecommunications components, please see the Appendix.

[Appendix 2](#) - Communication Rooms/Closets Standards

[Appendix 3](#) - Standard Cabling Schemes

[Appendix 4](#) - Unified Wiring Specifications

[Appendix 5](#) - Telephone Closet / IDF Termination Blocks

[Appendix 6](#) - Workstation Jacks

[Appendix 7](#) - Standard Switches

[Appendix 8](#) - Workstation and Lateral Cable Identification Management

[Appendix 9](#) - Fiber Optics Specifications for Network Services - PAWANET

### 2.7.1 Closet and Telecommunications Room Access

The following standards must be followed regarding access to closets and communication rooms:

- All telecommunications rooms must be physically secured. Remote locations, which are not secured, by a guard or within line of sight of personnel, must be secured by a card access system and/or video cameras.
- The Network Connections (NC) group is responsible for installing routers, switches (along with Cisco Staff when applied) and station drops. They also patch connections and troubleshoot LAN cabling.
- System Administrators requiring routine maintenance of data communications equipment should call the Customer Support Desk when new devices or reconfigurations are required.

### 2.7.2 Telecommunications Installation Contractor's Responsibilities

1. Adherence to all of the above specifications
2. Assurance of labor harmony by providing installation technicians whom currently maintains appropriate union membership
3. The contractor must supply all cable, blocks, brackets, connectors, jacks, housings, face plates, special tools, etc., as necessary to perform an installation which is satisfactory to the Port Authority.
4. The contractor must label every workstation (jack faceplate) and the corresponding cross connect point (punch down block or patch panel) in accordance with the cable identification management plan, as previously described.
5. Install all Category 5e cabling in the proper manner, with the appropriate number of twists, to maintain Category 5e integrity and capabilities, as outlined in the TIA/EIA 568-B.2 standard.
6. The contractor must ensure that cable connections are in accordance with

standard telecommunications practices and that all cabling maintains normal connectivity and continuity.

7. All materials must be agreed upon by PA Network Services prior to the start of installation.
8. All computer or network communication rooms and closets are to be isolated, locked, and secured. No other equipment, storage area, or smoking area are to be located in this room. This room must provide appropriate cooling and ventilation. Access to this room will be reserved to TEC staff and an agreed upon Facility Manager or designee of the site where the PAWANET equipment is located. This procedure is to ensure the security and the integrity of the Port Authority's computer network and its users.

### 2.7.3 Electrical Requirements

The following power and receptacles should be installed to support different equipment requirements such as:

- Standard 110/120 volt power receptacles
- Standard and/or NEMA 5L630P 220/240 volt 30 amp power receptacles
- Dedicated circuit breaker per AC feed, with alternate power source.
- Server rack electrical requirements are specified in the appropriate design document.

Currently, services obtained through the PA's contract are required to have the APC (American Power Conversion) UPS included in the delivered service.

### 2.7.4 Telephone Company Interface

The following items are needed for the telephone company interface, if needed for a specific vendor solution:

- a) Install a dedicated wallboard for Telco demarcs (if none available for implementation)
- b) Standard Telco demarcs:
  - P66 Block
  - Network Termination Unit (Rj48 interface) Smartjacks
  - Network Termination Unit (DB15-pin female interface)
  - Network Termination Unit (V.35/V.36 female interface)
  - Digital Signal X-connect (DSX)
  - Basic T1 CSU/DSU
  - Basic DS3 handoff coax/HSSI unit
  - High-speed dialup modems for network trouble-shooting when needed

## 2.8 Documentation

It is the responsibility of the System Administrator to update and maintain a library of all documentation designated as standard by the Port Authority. These include archived system files and system backups. Vendors will be provided our "Guide to Systems Administration" during the implementation phase of a project. The "Guide to Systems Administration" covers the provisioning and setup of computing & networking resources to successfully implement a project within the Port Authority.

## 3.0 Virus Scanning & Management

### 3.1 Overview

This section describes the standards and guidelines for the prevention, detection and removal of computer viruses, (malware). Its purpose is to minimize the risk and negative impact of computer virus infections in the work environment by establishing clearly defined roles, responsibilities and

procedures for the effective management of computer viruses.

### 3.2 Standards

Standard virus protection software must be installed on all network servers and personal computers, and updated on a regular basis. The Port Authority currently uses McAfee ePolicy Orchestrator (ePO) v4.5 to monitor, manage and maintain the virus definition (DAT files) of the Agency desktop computing platform. The McAfee ePO Management Agent (v4.6), and VirusScan / AntiSpyware Enterprise (v4.8), are part of the standard desktop core image.

### 3.3 Acquisition and Installation

The Technology Department maintains current versions of standard virus protection software and virus detection files, (DATs), including configuration-specific instructions for downloading and installing the software on network servers and desktops

### 3.4 Virus Detection and Response

The Port Authority's IT support vendor is responsible for responding to all virus outbreaks, as well as eradicating them and, where possible, preventing them.

The speedy reporting of all computer viruses is essential for the protection of the information stored on Port Authority LANs. Much of that information is important to the safety of the public, as well as the day-to-day business of the PA.

If the anti-virus software has detected a virus and cleaned it, no further action is required on the end user's part. If the virus is not cleaned, or the end-user suspects that a virus still exists, the end-user should immediately contact the Customer Support Desk, and they will work to remove the virus.

The Port Authority IT support vendor will respond quickly to all such alerts by doing the following:

#### **Assess the risk**

- Confirm the existence of a virus.
- Take appropriate measures to quarantine the virus so that it does not infect other Port Authority devices.

#### **Notify Appropriate Parties**

- Contact the originating party who introduced the virus to the Port Authority.
- If it is a new virus, contact our antivirus vendor, McAfee, for further assistance.

#### **Remove the virus**

- Work with appropriate parties until the virus is removed.

In addition, the Port Authority's IT support vendor will report on all such outbreaks on a weekly basis. The report must include:

- Support Ticket Number
- User Name
- Virus Name
- Information which was lost, (if any)
- Time to correct the problem, (lost staff time)
- Virus Origin, (if this can be determined; Diskette, CD, Internet)

## 4.0 Electronic Mail

### 4.1 E-Mail Overview

The Port Authority's Electronic Mail System (E-Mail) is designed to facilitate business communication among employees, job shoppers, contractors, consultants, and outside business associates. This E-Mail system is comprised of Microsoft Outlook desktop software accessing e-mail stored on Microsoft Exchange servers. This solution also includes group calendaring and workgroup collaboration.

## 4.2 E-Mail System Architecture

The Port Authority's E-Mail system is hosted by AT&T Corp, who acquired USinternetworking, a managed application service provider; and consists of Microsoft Exchange servers connected to the Port Authority's enterprise network. Authorized Port Authority staff access their corporate e-mail through Microsoft Outlook desktop software on the network. The system has multiple Exchange servers containing mailboxes and Public Folders. Additional servers host Outlook Web Access, BlackBerry services, and perform Internet-based e-mail services including anti-spam and anti-virus e-mail checking.

The hosted Exchange site is on a Windows resource domain with a one-way trust to the Port Authority's corporate user account Windows domain located on the Port Authority network. This Port Authority Windows domain is used for Windows authentication services when the Outlook client is opened. In addition, the Port Authority hosts DNS servers to satisfy requests from the Outlook client as needed.

High-speed, secure, and redundant network connections connect the AT&T's data center and network to the Port Authority network.

## 4.3 E-Mail Environment: Design Considerations and Infrastructure

The E-mail environment is further described below:

- The E-Mail system is comprised of Microsoft Outlook 2007 desktop software accessing e-mail (via MAPI mail protocol) stored on several Microsoft Exchange 2007 servers
- E-mail is protected by TrendMicro's InterScan Messaging Security Suite and ScanMail for Microsoft Exchange virus protection software products on the Exchange servers.
- Incoming Internet-based e-mail is also scanned for Spam and for viruses through McAfee (MX Logic), a web-based service provider.
- The servers are currently configured for the following messaging protocols:
  - o MAPI (Microsoft's Messaging Mail protocol) and SMTP
- IMAP4 and POP3 mail protocols, NNTP news protocol, and LDAP directory protocol are disabled.
- Front-end Exchange servers running TrendMicro's InterScan Messaging Security System (IMSS) are being used to send and receive Internet SMTP mail. No other mail system connectors (such as Lotus Notes) are in place.
- RIM's BlackBerry Enterprise Server software for Exchange provides wireless e-mail and calendar access to BlackBerry wireless handheld device users.
- There are several forms of SMTP addresses used at the Authority. Exchange Active Sync is used to provide email and calendar access to Apple iPads/iPhones and Windows Mobile devices.
- Exceptions are governed by the Authority's directory services structure and user account requirements.
- Each individual e-mail message and its file attachments have a combined limit of 10MB.
- Each regular user mailbox has the following size limits:
  - 80 MB - user receives warning notice
  - 90 MB - user is prohibited from sending
  - 100 MB - user is prohibited from sending or receiving
  - Other mailbox sizes exist on an exception basis.
- This E-Mail system also includes group calendaring and workgroup collaboration.
- Public Folders are supported based on departmental and agency-wide requirements and, in general, are used for dynamic items for a form of workgroup collaboration. Static documents like corporate

policy statements are placed on the corporate intranet (EmployeeNet) and not on the Public Folders. Documents requiring long-term storage are stored elsewhere such as on Windows file servers.

#### 4.4 Integrating Applications Server with Port Authority Email System

##### 4.4.1 Requesting SMTP Services

The vendor will request SMTP services from and coordinate its work with the Technology Department

Port 25 needs to be available to utilize it for SMTP services.

##### 4.4.2 Email Restrictions

The following restrictions are in place to protect the SMTP system and the “reputation” of Agency mail servers on the Internet:

- Forged email headers are STRONGLY discouraged, but applications for circumvention will be entertained, and valid business justifications must be included. The “From” and “Reply-to” fields should be valid users on the system sending email.
- Settings: The maximum number of recipients per email is currently 90. This includes “To”, “cc”, and “bcc”; maximum size with attachments is 10MB. Emails that do not conform to these restrictions will be rejected by the SMTP servers.
- Mail will be relayed only if your server has an entry in the SMTP access database.

Note: SMTP logs are checked periodically for policy violations. Repeated violations and failure to correct them will result in SMTP services being disabled for the offending system.

## 5.0 Intranet

### 5.1 Intranet Overview

The Port Authority EmployeeNet (eNet) is intended to provide timely information and resources to employees via the web browser on their desktops. eNet is a decentralized collection of web pages, data lookup services and applications that are managed as if they were a centralized enterprise resource. It is accessible to all personal computer workstations on the Port Authority Wide-Area Network (PAWANET). eNet is housed on servers at the Teleport.

Examples of business information hosted on eNet include:

- Departmental Websites
- Directories
- Corporate Announcements
- Reference Materials
- Document Collections
- Library Services
- News Displays
- Enterprise and Departmental Applications

### 5.2 Direction of eNet Development

eNet is intended to provide a convenient, timely and accurate source of information for Port Authority employees as well as providing access to enterprise and departmental applications. The

owner of content on eNet is responsible for authorizing its publication, its accuracy and timeliness. Technology provides a common infrastructure and technical support for those departments that electronically publish agency information or make available electronic resources. Infrastructure standards and guidelines are recommended to ensure compatibility and facilitate maintenance. Departments requesting specific applications should discuss their requirements with eNet staff to determine a solution that best meets the department's business needs.

### 5.3 eNet Software Infrastructure Standards & Guidelines

<b>Category</b>	<b>Software Name</b>	<b>Minimum Version</b>
Browser:	Microsoft Internet Explorer	7.0
Browser Plug-in:	Windows Media Player	10.0
	Adobe Acrobat Reader	9.0
	Macromedia Shockwave Player	9.0
Web Server Software:	Sun One Web Server	6.1
	Microsoft IIS	5.0
Media Server Software	Microsoft Media Server	9.0
Application Server Software:	Adobe Cold Fusion 9	7.0
Development and Design Tools:	Adobe CS5	11.0
Database	Oracle Database	9i
	MS SQL Server	2008
	MS Access	2007
Programming Language/Scripts	ColdFusion MX	7.0
	Java	6.0
	PERL for Windows	5.0
	JavaScript	1.0
Search Engine Software:	UltraSeek	5.7
Web Performance Monitoring:	WebTrends Marketing Lab 2	2.0

Category	Software Name	Minimum Version
Content Management:	Stellent	7.5
	Open Text Website Management	10.1

### 5.3.1 Design Guidelines

We have developed the following guidelines to ensure that all web pages on eNet have a consistent look, feel and navigation scheme, while providing creative flexibility.

#### Departmental Web Site Standards and Guidelines

Prescribed standards are assigned to only the following items:

Resolution:	Pages are designed for optimal viewing at the 1024x768 setting.
Page Width:	Each page has a fixed page width of 960 pixels.
Page Justification:	The entire page is center-justified within the browser window.
Page Layout:	Each web page will follow the same, basic layout: A Global Navigation strip; A Masthead; A Local Navigation strip; A Body area (with a 1-column, 2-column or 3-column layout); A Footer.

### 5.3.2 Accessibility Guidelines

TEC's eBusiness Unit is committed to making all eNet content accessible to persons with disabilities. In order to ensure that all eNet web content is in compliance with accessibility guidelines and applicable legal requirements, contact the Webmaster via email at [webmaster@panynj.gov](mailto:webmaster@panynj.gov), or call 212-435-3294.

## 6.0 Workstation Hardware and Operating System Software

### 6.1 Overview

The Port Authority makes extensive use of computers (workstations) networked into an Enterprise Wide Area Network to accomplish its business objectives. For the purpose of this section, the term computer and/or workstation will be used to reference desktop, laptop and CAD computing devices. In order to ensure compatibility with the agency's enterprise network and to make optimal use of its resources, this section defines the standards governing workstations and their configuration and use.

### 6.2 Workstation Operating System Standard

The Port Authority's standard operating system for workstations is Microsoft's Windows XP Professional. . The following are operating systems used within the Agency:

- Microsoft Windows XP SP3
- Microsoft Windows 7
- Apple OS X

## 6.3 Workstation Configuration

### 6.3.1 Workstation Naming Conventions

All departmental workstations must contain a unique computer name which is the machine's serial number.

Example: Workstation name: 23AAH86

System Administrators are responsible for naming workstations and maintaining an up- to-date inventory of equipment and names used.

### 6.3.2 Automated Software Distribution for Computers

The Port Authority currently uses Microsoft System Center Configuration Manager (SCCM) 2012 to, at a minimum, do the following:

- Install new, or upgrade existing, software on Agency desktop, laptop, and CAD computers.
- Create packages to automate system tasks (e.g. data migrations of desktop computers, eDiscovery requests, etc.).
- Bare Metal Provisioning of Servers.

### 6.3.3 Remote Workstation Management

The Port Authority also distributes software applications and upgrades via Novell's ZENworks. Each workstation should have Novell's Workstation Management module installed as part of the NetWare workstation client. This will enable remote distribution and updates of software, hardware inventory and workstation troubleshooting.

### 6.3.4 Drive Mappings

Computer drive mappings are automatically accomplished using a Microsoft login script. The script is executed upon successful login to the Agency's Microsoft domain.

### 6.3.5 Standard Workstation Hardware Configurations

There are standard configurations established for workstations and laptops. The standards specify the product approved for the following devices: processor, memory, storage, CD/DVD-ROM/multimedia and monitor. The following is current workstation standard:

**Lenovo ThinkStation D30 4223-CC9** - Custom PA configuration based on Lenovo Model 4223-69U; (1) Intel Xeon E5-2650 2.0Ghz 8core – (2) x 8GB RAM - (2) 500GB SATA HDD - NVIDIA Quadro 4000 2GB - Windows 7 Professional x64.

**Lenovo ThinkPad T430 2347-EZ4** - Custom PA configuration based on Lenovo Model 2347-G6U; i5-3320M, (2) x 4GB RAM, 14.0" High Definition+ Wide Screen Display, 720p Camera, 500GB 7200rpm Hard Drive, Backlit Keyboard-None, Intel 6205 PCIe mini card, PCIe WWAN upg, Finger Print Reader, Blue Tooth, Battery Cells 9, Intel vPro, Windows 7 Professional x64.

**Lenovo ThinkCentre M92p 3212-C14** - Tower - Custom PA configuration based on Lenovo Model 3212-C7U; 4x5 i5-3550, (2) x 4GB RAM 1600MHz, 250GB 7200 rpm hard drive, Bay DVD±RW, Media Reader-None, High Definition 2500 Graphics Card, Display Port Dongle-None, Chassis Intrusion Switch-None, Energy Star 5.2, Intel vPro, Global Program-None, Windows 7 Professional x64.

**NEC AccuSync AS191WM-BK** Flat Panel display- TFT-19 " widescreen1440 x 900 /250 cd/m2 1000:1 5ms 56 - 75 Hz Analog RGB 0.7 Vp-p/75 Ohms DVI-D and VGA 15-pin D-Sub

**NEC MultiSync EA243WM-BK** - LED monitor - 24" - 1920 x 1200 - TN - 250 cd/m2 - 1000:1 - 25000:1 (dynamic) - 5 ms - HDMI, DVI-D, VGA, DisplayPort - speakers - black

### 6.3.6 Standard Workstation Software

The following software is the standard Port Authority software for departmental workstations. New computer installations should conform to the existing standard.

#### 6.3.6.1 Standard Workstation Software

The following list is a compilation of the core software components found on the computer Arc Build (commonly referred to as an image).

- Windows XP, Professional Edition
- Lumension Patchlink
- System Center Configuration Manager - SCCM
- McAfee Antivirus
- Internet Explorer
- Microsoft Office Professional

Because technology is rapidly changing, TEC should be consulted to obtain the most recent versions of standard software.

### 6.3.7 Enterprise Software

The following is a list of standard enterprise application software used in the Agency. The applications supported by third party service providers are: PeopleSoft, SAP and Livelink Content Management

### 6.3.8 Other Business Applications

Other Enterprise applications are deployed on occasion to user workstations. This includes systems like the Business Expenses system, (BEAM) and BudgetPro. System Administrators are responsible for deploying the workstation clients and network server software according to standards and guidelines provided by the Technology Department.

Current list of Enterprise applications, is shown below –

AutoCAD	Oracle
BudgetPRO	PeopleSoft
Cognos Client Software	Primavera
Livelink	SAP
Microsoft Server	Schedulesoft
MS SQL	TRIM

## 6.4 Workstation Security

Workstation users and their managers are responsible for the security of computer equipment and safeguarding critical corporate data and access to Port Authority network resources. This includes both the physical securing of equipment as well as logical safeguarding equipment and data.

### 6.4.1 Physical Security

The method of control should be based on the value of the equipment, the sensitivity of the data, its portability and the degree of exposure to theft. The department's Business Manager should make the appropriate determination of physical security required based on their best business judgment.

The graph below provides general guidance to Business Managers in determining the level of physical security required.

In all cases, laptops must be secured with a Lock/Cable product (e.g., Kensington).

### 6.4.2 Logical Security

The Technology Department (TEC) is responsible for providing for the security of computer resources and devices:

- Workstations are protected with Novell and Microsoft directory security mechanisms.
- Screen saver passwords are implemented with a maximum of a fifteen (15) minute time-out.
- All critical data are backed up nightly onto either external media or a network drive.

## 7.0 Distributed Systems Environment

### 7.1 Overview

A number of enterprise servers provide critical application and system services. Different operating systems and configurations may be required for specific applications. This section provides information on the standards and guidelines for supported systems within the Port Authority.

### 7.2 Microsoft Windows Servers

The standard for general-purpose application servers and File and Print Computing is IBM servers. Microsoft Windows 2003 & 2008 Server (Enterprise) are supported Operating Systems for application servers.

#### 7.2.1 Virtual Environment

The standard for Virtualization Computing is both IBM and NEC FT host servers. The Port Authority will provide a VMware ESX-based Guest Virtual Machine (VM) to operate all Contractor-provided applications software on one of the above host computing platforms depending on the critical nature of the application.

All applications software shall be capable of operating in a virtual environment under VMware ESX server and shall operate in a VMware ESX-based Guest Virtual Machine (VM) on a 'shared' host-computing platform for Contractor application, unless performance or other requirements mandate a dedicated system.

### 7.2.2 Windows Data Encryption

For those applications that require additional data security measures, TEC offers additional tools that provide encryption services to protect the data stored in the application's database, even from authorized individuals that have physical access to the applications and database servers but not the decryption key.

## 7.3 Unix

Sun/Oracle Solaris is the currently supported UNIX operating system for infrastructure (e.g., SMTP services) and corporate servers. RedHat Enterprise Linux Server is the supported operating system for infrastructure and corporate servers (e.g., SAP, Peoplesoft).

### 7.3.1 Unix Security

Unix and Linux servers must be physically and logically secured from unauthorized access. Operating system logical security is defined by the Technology Department (TEC).

### 7.3.2 Backup

Critical system backup must be performed regularly (daily and/or weekly) utilizing our centralized backup strategy and associated tools. Extra copy of backup is kept offsite for disaster recovery purposes if required.

### 7.3.3 Download Scripts in the Unix/Linux Environment

- The script must be written in a generally supported language: Perl, Korn shell and Powershell. Powershell should be consistent with Microsoft standards and best practices.
- The script must be limited in access, as well as the script's owner's user account. The owner of the script should be able to read, edit, and execute the script, but no one else (with the exception of the root or administrator accounts).
- If the content being downloaded is public information or widely available on the Internet, File Transfer Protocol (FTP) may be used.
- For all other content, Secure FTP must be used, and a key exchange made with the entity who is providing the content. A username and password must be used when retrieving the content.
- If the entity cannot accommodate the use of SFTP, ftp may be used as long as the content is encrypted with a secure, widely used utility like PGP.
- Information and guidance on securing passwords should follow Recommendations of the National Institute of Standards and Technology.

## 7.4 z/OS

z/OS (currently release 1.5) is the IBM-supplied operating system on the IBM 2096-R07. This hardware/software supports multiple users and multiple applications. Provided on this platform for transaction-processing applications are TSO/E, ISPF, and CICS. The database is DB2, although other file structures are also supported.

### 7.4.1 Databases

Oracle 10.2.0.5 or higher and MS/SQL 2005 Server or higher are the supported database platforms for Port Authority systems. Auditing trail enabled for all database accounts with administrator privileges.

#### 7.4.2 Geospatial Databases

This GIS environment is built on an ESRI platform using ArcSDE for the spatial database. ArcGIS Server 10 and ArcSDE Version 10 are the supported platforms for the current GIS environment.

#### 7.5 Application Security

TEC recognizes the critical importance of application security and maintains a Best Practices document containing rules and recommendations for purchased applications, and those developed in-house.

#### 7.6 Server Physical Security

All servers and communication equipment must be located in locked rooms or secured with a cable and lock with the keyboard secured to prevent tampering and unauthorized usage. The Business System Manager is responsible for determining the appropriate access control method (receptionist, metal key lock, magnetic card door locks, etc.) This person must also maintain a list of persons authorized to enter secured areas. Technology Department staff is available to provide technical assistance in making this determination.

#### 7.7 Load Balancing – Failover Architecture

Depending on the requirements of the application, load balancing and failover architectures are supported.

### 8.0 Vendor Provided Dedicated Systems

#### 8.1 Overview

Vendor Provided Dedicated Systems refers to the application software and possibly the computer hardware that may be furnished and/or installed by an outside contractor. These systems are usually procured through either a Request for Proposal (RFP), or a “Low Bid” contract and are specifically engineered to support a dedicated application.

These systems generally support Capital Projects, which are usually large scale, multi-year engagements, requiring specialized technical and management staff, as well as, Systems Integration support. These projects normally have significant construction components and require the coordination, design and support from many diverse Engineering and Technology disciplines.

On all technology related projects a representative from the Technology Department (TEC) provides a single point of contact for technology oversight, accountability, adhering to standards and systems integration, which is required under the Roles and Responsibilities of the Director and is expected by our client departments.

To ensure a successful project implementation and honoring our responsibility to the Agency and our customers, one of the steps undertaken by TEC is to provide guidance and focus attention on, adherence to and compliance with the Port Authority Technology Standards and Guidelines.

By following the Standards and Guidelines, it enables the Port Authority to

- Leverage large discounts negotiated in the various requirements contracts.
- Ensure that the seamless integration of equipment with other existing systems.
- Ensure that long-term maintenance and systems administration contracts are focused on the same product lines.
- Ensure that the relevant sections of the Standards and Guidelines are included in either, the basic design of a low bid contract or as requirements in an RFP. Responses to RFP's shall be reviewed for their compliance with the Standards and Guidelines.
- Deployment, integration and testing shall be monitored by TEC to ensure that equipment or infrastructure is not duplicated, that the integration and migration plan will not adversely affect existing systems, and to integrate new systems under existing maintenance contracts

where applicable.

In cases where a specific vendor or system is so specialized that it normally does not adhere to the hardware, software, infrastructure and operations guidelines of the Standards and Guidelines, the vendor shall be directed to work with TEC in exploring all options. If an exception is required, the vendor should work with TEC to prepare the necessary business case scenarios to receive written concurrence from the Director for this deviation from the Port Authority Technology Standards and Guidelines.

## 8.2 Physical Security Technology Standards

### 8.2.1 Agency Standard for Digital Video Recording, Access Control and Alarm Monitoring

Based upon the Agency's investment and positive experience with Lenel's Systems OnGuard access control and alarm monitoring application offering as well as Verint Nextiva, CCTV and Digital Video recording technologies, these product sets are the Agency's standard. Below is a description of when these standards apply.

The Port Authority has long recognized the need for a corporate architecture for its security systems that would allow us to integrate digital video and access control recording compatible technologies agency-wide. Using these standards will improve the Agency's security posture and will permit us to leverage additional operations and business benefits while keeping our operations resources, maintenance and support costs at a minimum.

The standard will also improve:

- Access to and the sharing of information from a centralized location
- Centralized monitoring of all facilities from an Emergency Operations Center
- The operational and cost-effectiveness of adding a variety of modular features to the core systems, such as paging, e-mail, fire systems, facility management, etc.
- Alarm notification, response, and acknowledgement
- Operational flexibility for facility and Public Safety staff
- Single learning curve
- Reduce the cost for maintenance and system administration

#### **Guidelines for using the Verint Nextiva standard include:**

1. If the CCTV system needs to be recorded
2. When an existing system is in place, at a PA facility or at a tenant facility that is monitored/reviewed by PA personnel, and needs to be upgraded or expanded to accommodate a particular project.
3. When rule based intelligence is to be added like motion detection and other related algorithm processes, all efforts should be made to ensure compatibility, functionality, maintainability (version upgrade resiliency) with the existing Verint system.
4. If WEB based video needs to be made available
5. When monitoring at remote locations is needed to view on site operations and archived events via the corporate WAN
6. When live video monitoring is required
7. When distributed recording is required i.e. at multiple locations, concurrently
8. When network transport (communication) medium has limited bandwidth and the video needs to be sent to designated workstations on the network. All network transport tasks and bandwidth planning is required to be discussed with Technology Department before proposing any solutions
9. On all new projects where Verint Nextiva is the current site base system
10. When the Office of Emergency Management (OEM) department needs override capabilities in the event of an emergency
11. If third party technology (non-Verint supplied) is *required* to be integrated with the current Verint system at a facility, that technology must be compatible with the existing Verint system at the particular facility. Any third party integrations need to be reviewed and approved by the Technology Department and be approved for use by the manufacturer (Verint) for the software version in production at the facility. When a (Verint) software upgrade is required in order to deploy a third party interface, that upgrade will have to be coordinated through TEC, the facility, and the appropriate contractors(s).

12. Any server or workstation supplied in conjunction with a particular system must comply with the hardware and software requirements of both the Port Authority and the manufacturer of the video management software.  
For more information regarding CCTV standards, reference the CCTV Standards and Guidelines documentation.

**Guidelines for using the Lenel OnGuard standard include:**

1. All new or upgrade projects that require electronic card access and / or alarm monitoring
2. All projects that will have security that needs to be monitored by PA personnel or contractors (airports are monitored by contractors)
3. All new projects where Lenel OnGuard is the site base system currently
4. Where access is required to work with ID cards that exist and are compatible with the agency standard
5. When the OEM department needs override capabilities in the event of an emergency
6. If third party technology (non-Lenel supplied) is required to be integrated with the current Verint system at a facility, that technology must be compatible with the existing Verint system. Any third party integrations need to be reviewed and approved by the Technology Department and be approved for use by the manufacturer (Lenel) for the software version in production at the facility. When Lenel software upgrade is required in order to deploy a third party interface, that upgrade shall have to be coordinated through TEC, the facility and the appropriate contractor(s).
7. Any expansion of card access systems (added card readers, sensors, etc.) need to be reviewed and approved by the Technology Department to ensure that the new devices meet the agency standards for card access(including but not limited to: card formats, badge layouts, encryption algorithms, etc.)
8. Any server or workstation hardware required in conjunction with a specific system must be provided by the Technology Department.

Currently the Access Control Task Force is working on the Access Control Standards for the Agency. The work is tentatively scheduled to complete by year-end 2013. The Access Control Standards documentation will be available upon completion.

### 8.2.2 Situational Awareness Platform Software

The Situational Awareness Platform Software (SAPS), is a software application that allows multiple, independently manufactured and installed security, life safety, and building systems to all interoperate under a single, common operating picture, giving a user access to information spreading across multiple systems as if they were all one single system. This “common view” is made even more valuable by the incorporation of powerful, rules-based tools within the SAPS system, which allows intelligent linking of seemingly unrelated events into “Situations” that represent patterns of activity that pose a threat to security or site-wide operations.

The SAPS objective is to monitor the identity and event data from the various systems, identify incidents and anomalies, and detect trends that could be a threat to our facilities. SAPS turns data into actionable intelligence when an incident is detected. SAPS have the capability to automatically alert the security operations staff and push the information to security control centers and first responders.

- Provide a software platform to enable integrating the various electronic systems across all agency sites
- Provide a single software perform solution for situational awareness.
- Provide a single system database for reports
- The SAPS will provide transparent notification of security related events for all agency security systems.

### 8.3 Communications Infrastructure Standards

The Port Authority Standard for Communications Infrastructure is Cisco. This applies to all future systems, as well as, upgrades to existing systems. This standard ensures the interoperability of all deployed systems and permits the full integration of systems into PAWANET. In addition, all Cisco equipment either designed in a low bid contract or specified in an RFP must be purchased through the Cisco Requirements contract, which is administered by TEC and permits the Agency to purchase equipment, maintenance and support services under the high discounts negotiated in the Requirements Contract.

This standard applies but is not limited to; Layer 2 and 3 Ethernet switches, Routers, Wireless Access Points (WAP), Mobile Access Routers (MAR), GIG E (Gigabit Ethernet) switching and networking and SONET (Synchronous Optical NETWORK) equipment. Deviation from this standard requires the written consent of the Director.

### 8.4 Server Infrastructure Standard

The Port Authority’s standard platform for File & Print and Application servers is IBM.

Technology has contracted discounted pricing with our service provider for its servers and hardware support. In order for the agency to take full advantage of these savings, any new Application servers or File & Print servers must be built using IBM hardware purchased by TEC. This includes turnkey and distributed systems where File & Print or Application servers are specified in the design. Any replacement File & Print or Application servers must be IBM servers. Deviation from this policy will not be allowed without prior approval of the Director or his designee.

## 9.0 Wireless Technologies

### 9.1 Wireless Guidelines

#### 9.1.1 Purpose and Scope

This section references the standard policies and procedures for all wireless devices and

technologies including voice and data capabilities that store, process, transmit or access data. This includes but is not limited to commercial and unlicensed wireless networks and laptops, cellular devices, scanning devices, messaging devices (email devices) and PDAs.

### 9.1.2 General Policy

Employees will only use PA owned wireless devices to store, process, transmit or access PA data. The following must be considered:

- Wireless Technologies Vulnerabilities Protection
- Minimum Requirements
- Identification and authentication at both the device and network level.
- Confidentiality encryption of data transmitted is required.
- Data end-to-end over an assured channel (a communication link with security protocol such as Secured Sockets Layer).
- At the device level, implement file system encryption where applicable.
- Devices should not be connected to PA systems for data synchronization, data transfer, or any other purpose without virus protection, mobile code restrictions (executable information delivered to information system and directly executed on any architecture that has appropriate host execution environment) and other preventative measures.

### 9.1.3 Personal Area Networks - PAN

PAN technologies should not be used for transmitting information without encryption.

Bluetooth security alone is unacceptable because it is not encrypted and does not use Federal Information Processing Standardization (FIPS) 140-1/2.

Wireless devices should be procured without Bluetooth embedded transmitters, when not possible transmitter should be disabled.

### 9.1.4 Wireless Local Area Networks – WLANs

#### 9.1.4.1 Overview

Business requirements have arisen throughout various Port Authority locations for the improved use of Wireless LAN technology to facilitate local user mobility. Research performed on the different technologies support the use of Cisco as opposed to various wireless vendors in an attempt to produce a standard that will provide the agency with a secure, robust and scalable solution as WLAN's continue to grow within the agency.

In summary, the current Port Authority Wireless LAN standards are based upon IEEE 802.11n draft 2.0 technologies. (802.11n is backwards-compatible with existing 802.11a/b/g network adapters.)

The physical infrastructure is now based upon a centralized WLAN architecture that relies upon Cisco wireless bridges, access points, mesh routers and newly implemented controllers. WLAN's should be standardizing on the 4404 and 4402 controllers at this time as described further in this document.

Wireless LAN technology is continually developing with rapidly evolving industry standards, government regulations, and vendor products. As a result, the WLAN Standard presented in this document will likely be superseded in the future as the technology and products change.

## 9.2 Scope

The scope of this document shall present some standards for the Agency Wireless LAN and the specification of all devices and configurations.

### 9.3 Principles

At the highest level, the principles for the Wireless Standard are based upon the following attributes:

- Security - use of strong encryption (e.g. WPA-TKIP / WPA2- AES) for use as authentication of all traffic on a port-to-port basis, with the use of credentials stored on a back-end RADIUS server utilizing key distribution.
- Scalability - with LWAPP access points & use of LWAPP tunnels
- Reliability - via authentication of users to the networking enterprise mode.
- Manageability - via secured ports and VPN / FW access.

### 9.4 Compliance Requirements

All specifications defined in this document may be effective upon approval of and complete concurrence with TEC's Director, to update wireless standards and policies as per IEEE and Wi-Fi Alliance Standards

### 9.5 Device Specifications

The following sections will provide the various hardware components, and related firmware versions, that are specified for use in the Port Authority's WLAN solution.

#### 9.5.1 Access Point (AP) Standard

Standards Details:

- 3600 AP's are the agency standard for WLAN deployment. These AP's have 802.11n 2.0 radios. Backward compatible to 802.11 a/b/g.
- 1310 AP/ Bridge is certified for use in unique situations where both internal and external antennae are supported. The major distinction is that of a more rugged chassis designed for higher-stress outdoor-type conditions. 3250 mobile routers for mesh deployments.
- AP Deployments will be Lightweight Access Point (LWAP)
- AP Standard Summary:
  - a) Two cables per pull during wiring for wired to wireless.
  - b) AP's & controller placements via RF propagation results.
  - c) PA supported standard AP's need to be verified with TEC
  - d) If wireless is primary connection-'load-balance' AP' cabling connection to two different network switches
- WLAN Controller Standard  
This standard is in the process of being upgraded to Network Control System (NCS) & Identity Services Engine (ISE) Appliance to accommodate more advanced wireless deployments.

- **Best Practice**

The following information is industry best practices for wireless hardware implementation agency-wide deployments, not for wireless device configuration practices.

WLAN Best Practices Add-ons:

1. Ensure that the PA maintains an up-to-date wireless hardware inventory.
2. Identify rogue wireless devices via wireless intrusion prevention systems ( IPS )
3. Enable automatic alerts on the wireless IPS
4. Perform stateful inspection of connections.
5. Augment the firewall with a wireless IPS
6. Mount AP in location that do not permit easy physical access
7. Secure handheld devices with strong passwords
8. Enable WPA and WPA2 under ENTERPRISE mode
9. Synchronize the AP's clocks to match networking equipment.

10. Manage remote physical locations of all access points which support an isolated network that needs access to PAWANET for server farms and internet access.
11. Maintain cryptographic strength range from 128-bits to 256-bits with matching symmetric algorithms AES-128 to AES-256

#### Wireless Control System (WCS):

1. Single license
2. Secure "WIRELESS LOCATION APPLIANCE" with real-time client tracking & RF fingerprinting
3. Secure Windows-Based deployment as minimum, for example, windows server 2003; intel dual-core; 3.2 GHz; 4-GB RAM; 80-GB hard drive; IPS devices; IOS firewall routing; HTTP port 80; HTTPS port 443.
4. Multi-homed server (i.e., two NIC cards)
5. Secure WCS and IIS (i.e ,internet information service), installation sequence
6. Create configuration group ( configurate multiple controllers)
7. Secure auto provisioning with filtering
8. Secure WCS with RF modeling for heat map planning
9. Secure 15 second alarm summary refresh

#### 9.1.5 Portable Electronic Devices (PEDs) – Cell Phones, PDAs, messaging devices, laptops and tablets

If a device receives information via a wireless technology, and that device allows that information to be placed directly into the corporate network at the workstation level, then all perimeters and host-based security devices have been bypassed. Therefore, the following procedures apply:

- PEDs connected directly to a PA wired network via a hot sync connection to a workstation shall not be permitted to operate wirelessly at the same time. Wireless solutions could create backgrounds into corporate networks.
- IR, Bluetooth and 802.11 peer to peer should be set to "off" as the default setting. Mobile code should be downloaded only from trusted sources over assured channels.
- Anti-virus software should be on devices and workstations that are used to synchronize/transmit data, if available. Where not available on a device, you need to disable the synchronization capability or provide server or workstation based handheld anti-virus protection.
- PEDs are easily lost or stolen therefore approved file system/data store encryption software should be installed.
- PEDs need to be capable of being erased or overwritten to protect data. If the device is no longer needed and cannot be erased or overwritten, it must be physically destroyed.

#### 9.1.6 Cellular and Wireless Email

Cellular and wireless email devices are subject to several vulnerabilities (e.g. interception, scanning, remote command to transmit mode, etc). Therefore, the following procedures apply:

- These devices are not to be allowed into an area where classified information is being discussed unless it is rendered completely inoperable.
- Must have end-to-end encryption.
- PC based redirectors are not allowed as it requires the PC to be active at all times only server based redirectors should be used.
- Electromagnetic sensing shall be periodically performed to detect unauthorized LANs, Bluetooth transmitters etc.

#### 9.1.7 Synchronization

Some synchronism systems will operate even if the workstation is locked and the wireless or handheld device is not registered with the sync application on the workstation. As long as the workstation is on, the user is logged on, the data application client (e.g. MS Outlook) is active, and the "hot sync" cable is attached to the workstation; any person can place a compatible wireless or

handheld device in the “hot sync” cradle and download data. Therefore, the following procedures apply:

- “Hot sync” cable or cradle has significant security risks, therefore perform “hot sync”, and then remove immediately once “hot sync” operation is complete.
- Secure “hot sync” cables and cradles.
- Use only PA approved third party sync access control software installed on all workstations.
- PA owned devices may only be synchronized with PA owned computer systems

#### 9.1.8 Responsibilities of Technology Department

- Monitor and provide oversight of all PA wireless activities, insure interoperability of wireless capabilities across the agency.
- Develop appropriate technical standards and guidelines for secure wireless and handheld solutions.
- Establish a formal coordination process to ensure protection of PA information with PA information systems employing wireless technologies.
- Review and evaluate wireless technologies, products, solutions that meet PA requirements.
- Identify approved monitoring mechanisms for wireless devices to ensure compliance with policy.
- Periodically review approved wireless technology standards and procedures to ensure products and solutions remain compliant.
- Support risk management activities associated with evaluating wireless services
- Act as central coordination point and final approval authority for any exceptions to this policy.
- Define or approve acceptable wireless devices, products, services and usage.
- Provide immediate consultation to PA units.

#### 9.1.9 Responsibilities of Technology Voice Networks Group

- Adhere to wireless procedures and standards, establish procedure for reviewing and approving requests for using wireless devices to store, process, or transmit information.
- Establish procedures for periodically reviewing approved wireless devices and services to ensure that the business requirement for device/service/system is still valid and meet current PA guidance.
- Establish procedures for inventory and control of wireless devices and equipment.
- Establish procedures and implementation plans for auditing wireless connections to the network.
- Provide user training.

#### 9.1.10 Responsibilities of Wireless and Handheld Device Users

- Coordinate all requests through Technology Department...
- Read and follow standards and guidelines.
- Access information systems using only approved wireless hardware, software, solutions and connections.
- Take appropriate measures to protect information, network access, passwords and equipment.
- Use approved password policy and bypass automatic password saving features.
- Use extreme caution when accessing PA information in open areas where non-authorized persons may see PA info (airport lounge, hotel lobby).
- Protect PA equipment and information from loss or theft at all times, especially when traveling.
- Keep current anti-virus software on devices.
- Use appropriate Internet behavior (e.g. approved downloads).
- Exercise good judgments in efficient cooperative uses of these resources and comply with

- current and future standards of acceptable use and conduct at all times.
- Report any misuse of wireless devices, services or systems to management.

## 9.2 Paging Device Policy

### 9.2.1 Policy

The Port Authority obtains its paging services under governmental contracts. All orders for paging service or equipment must be placed under these contracts. If the contract service provider cannot meet the paging requirements, a memorandum requesting approval to obtain paging service outside of the contract's must be sent to the Director.

## 9.3 Cellular Phone & Wireless Modem Policy and Procedures

### 9.3.1 Policy

The Port Authority obtains cellular service under governmental contracts. All orders for cellular service or equipment must be placed under these contracts. If the contract service provider cannot meet the requirements, a memorandum requesting approval to obtain cellular service outside of the contracts must be sent to the Director.

## 9.4 Technology Mobile Device (Windows Mobile and Apple) Policy

### 9.4.1 Introduction

Mobile devices are a class of handheld computers that currently offer limited functionality with compact size and portability. Mobile devices are designed to replace the paper organizer; functionality typically includes maintaining a date book, address list, to-do lists, email, etc. Additional functionality such as Word and Excel are already included in many Mobile devices, with further enhancements predicted.

In order to better serve the PA, and to limit the expense of supporting a wide variety of Mobile device hardware and software, Technology will support the use of the Windows and Apple IOS based devices.

With a Mobile device, a user can maintain their calendar, address book, to-do list, and e-mail on a platform that is very portable and easy to use. Integration with Outlook makes it possible for users to keep identical, synchronized copies of data on both the desktop application and the Mobile devices.

### 9.4.2 Hardware – Hyper Link

Manufacturers using the current Windows Mobile or Apple IOS software are supported.

### 9.4.3 Software

The current version of Windows Mobile or Apple IOS software are supported. Microsoft ActiveSync is used for connecting to the corporate E-Mail system. Any software found to interfere with normal operation must be uninstalled in order to receive support from Technology.

### 9.4.4 Support

Support for Mobile devices hardware and software is provided by Technology through the Customer Support Desk. TEC will support the physical hardware connection (PDA cradle to PC) and software to support this connection. No software can be added to company owned mobile devices without TEC's assistance and director approval.

### 9.4.5 Training

Training will be available covering basic mobile devices use and integration with Outlook at the time of installation of the equipment. Training classes for the mobile devices may be provided in the future depending on user demands.

#### 9.4.6 Acquisition

The PA will purchase Mobile devices for employees with a business need for the mobile device. Employees are responsible for obtaining management approval. TEC also recommends that a protective case (preferably a zippered case) be purchased to reduce damage to the units. Since the PA owns the device, if an employee leaves the PA, the device is returned to the director's office of their department.

#### 9.4.7 Personal Acquisition

Employees, who purchase their own mobile devices, will not be allowed to connect to the PA corporate network or equipment, unless approved by Technology. Customer Support Desk personnel will support all PA owned and authorized mobile devices.

#### 9.4.8 Data Security Considerations

Since in most cases the data residing on a mobile device is not encrypted or password-protected, data can be easily browsed by anyone having possession of the device. Users should carefully consider what type of information they store on their mobile. Extreme caution should be taken when using company confidential data on the mobile units.

All mobile devices accessing corporate resources should be password protected.

At the present time, Technology is researching options for encrypting mobile data using a third-party application. Until a solution is found, great care should be taken to ensure that important or confidential information does not end up in the wrong hands.

#### 9.4.9 Data Backup

Though it does not happen often, it is possible to lose, damage or duplicate the data that resides in the mobile devices and PC applications. Technology will provide assistance in attempting to recover files or data from data corruption.

### 9.5 BlackBerry Device Policy & Procedure

The Port Authority provides corporate wireless e-mail services using the BlackBerry device from RIM.

The BlackBerry is a palm-sized device designed to synchronize with Outlook and other e-mail systems. With a BlackBerry device, one can read, compose and respond to e-mail messages and meeting requests, which are transmitted through the Port Authority's E-Mail System. The BlackBerry contains the user's synchronized Outlook "Contacts" address book, Outlook Calendar, memo pad and task list as well as a calculator and an Internet browser.

## 9.6 BlackBerry Guidelines

### 9.6.1 Introduction

BlackBerry devices (data only or combined data (e-mail) & voice) are available from most wireless carriers in the Port District. Combined BlackBerry devices are designed to replace stand-alone cellular telephones and stand-alone BlackBerry data devices and they operate on the same wireless network as a stand-alone cellular telephone from the same carrier.

### 9.6.2 Support

Support for BlackBerry devices is provided by Technology through the Customer Support Desk. The Customer Services/PMO Group provides additional support as needed.

### 9.6.3 Breakage and Loss

Be aware that the screen used on a BlackBerry device is very fragile. Dropping a device from the height of a desktop can result in breakage. It is also sensitive to water damage. Once this happens, the device is likely to be unusable. Broken, lost or stolen devices should be reported to the Customer Support Desk at 212-435-7469, who will notify the appropriate staff for further action.

As with all PA equipment, BlackBerry devices should be used for business purposes only.

#### 9.6.4 Data Security Considerations

Data residing on a BlackBerry device can be easily browsed by anyone having possession of the device. Agency policy automatically activates the password security available on the device. Users should not disable this security feature. Users should carefully consider what type of information they store on their devices. Extreme caution should be taken when using company confidential data on the devices.

#### 9.6.5 Data Backup

Though it does not happen often, it is possible to lose, damage or corrupt the data that resides on the BlackBerry device. There are data backup features on the PC utilizing the BlackBerry Desktop Manager software. We recommend setting the advanced automatic backup to 7 days with the backup of all device application data. In the event of a lost or broken device, this backup may be used to recover lost data.

## Appendices

### Appendix 1 -- Business Resumption Plan Document Format

#### I. PURPOSE

- Goals and objectives of plan
- Benefits obtained if plan properly implemented

#### II. SCOPE OF PLAN

- Planning assumptions
- Facilities and resources included in plan

#### III. NOMENCLATURE

- Recovery terms
- Definitions and acronyms

#### IV. DISASTER SEVERITY DEFINITION

Define level of potential disaster based on impact to critical functions. Explain what degree of operational disruption would constitute each level of disaster:

- catastrophic
- serious
- major
- limited

#### V. OPERATIONS RECOVERY PROCEDURES (Procedures for recovering services)

1. Indicate time frames in which essential operational/business functions must be resumed.
2. Specify sequence of operations recovery events and individuals responsible for activity. Note any specific activities required for particular levels of disaster severity. For example:
  - Notifications
  - Preliminary evaluation
  - Activate operations recovery personnel
  - Coordinate with emergency personnel
  - Evaluate recovery options and issue directive which details:
    - Assigned tasks
    - Project schedule/time frame
    - Coordination required
    - Identify relocation activities, if required
    - External/internal status updates
3. Identify items required for backup of critical functions. For example:
  - Alternate work site
  - Hardware/software
  - Personal computers

- Necessary software packages
- Documentation
- Peripherals (printers, modems, etc.)
- Databases
- Emergency equipment
- Communications
- Transportation
- Supplies
- Security
- Operations and procedures manuals

**VI. OFFICE/FACILITY BUSINESS SITE RESTORATION PROCEDURES**

(Procedures for restoring physical facilities)

- Identify restoration responsibilities
- Assess damage
- Develop restoration plan/time frames

**VII. BRP UPDATE PROCEDURES**

- Specify responsibility for updating and communicating BRP changes
- Indicate frequency of review/update

## Appendix 2 -- Communication Rooms/Closets Standards

### SPACE

All data communication rooms must be designed with required and estimated space to meet immediate requirements, as well as, future growth.

### ENVIRONMENTAL

The following conditions must be met:

- a) Doorways/Entrances must be designed to support at least the minimum space requirements of 90"Hx72" Wx60" D.
- b) The room's cooling capabilities must be sufficient to support the heat dissipation requirements for the equipment. This requirement will be measured in minimum and maximum BTUs powered by AC-powered systems. Equipment specs will be supplied by TEC upon request.
- c) Backup UPS systems are necessary to avoid equipment damage in case of site power failure.
- d) Telco demarcs must be located in a central location with sufficient space to house Telco termination equipment.
- e) The room should be designed with the appropriate fire safety regulations such as a sprinklers, pre-action of FM 2000 systems.
- f) Cables trays must also be installed in the communications room ceiling where appropriate, to support the routing of data communications and Telco cables.
- g) Basic 24"W/30"D/84"H cabinets with 19" racks must be installed to house communications equipment such as: routers, switches, hubs, DSUs/CSUs and monitors.
- h) To create more wall space the use of wall mount racks can be installed. Appropriate sized plywood must be installed prior to mounting racks.
- i) Category 5e/6 cable must be terminated in wall/rack mounted patch panel.
- j) Fiber patch panel must be installed in fiber IDF panel with SC female interface.
- k) The fiber must be neatly tie wrapped and enclosed in flexible inner-duct.
- l) Telephone access must be installed in the appropriate location to provide for basic troubleshooting and vendor support.
- m) All communications equipment and cabinets must have ample room for easy access and proper ventilation.

## Appendix 3 – Standard Cabling Schemes

- a) Teflon-coated cables will be installed per fire code regulations.
- b) Overhead cable trays and drop post must be installed for cable routing.
- c) Cabling scheme must be used to label and identify all cables. All cables must be neatly tie-wrapped.

## Appendix 4 -- Unified Wiring Plan

To satisfy existing and future voice and data communications requirements, while minimizing the need for wiring changes and additions, the Port Authority has adopted the following lateral wiring specifications for all workstations being constructed. This plan is applicable to all PA locations, except when specifically noted.

### LATERAL CABLE:

Voice and data telecommunications requirements for each workstation will be provided by a combination of three individual cables, installed between the workstation and the serving telephone closet / intermediate distribution frame (IDF), in a "home run" configuration. All cabling installed will be of plenum type, fire retardant (FEP) rated.

Cable specifications:

(3) Cables capable of supporting Category 5e capabilities as outlined in the TIA/EIA-568-B.2 standard. Specifically:

Gauge: 24 AWG Pair

Size: 4

Insulation: Plenum, fire code rating (FEP)

Cable allocations will be as follows: Cable

#1: Voice\*\*  
 Cable #2: Data  
 Cable #3: Data

- \*100.0MHz is the speed the PA wants to deliver to the desktop.
- \*\*Cable #1 is to be split in the workstation to support 2 telephones.

Technical specs for the Cat 5e cable is as follows.

TECHNICAL DATA--ELECTRICAL				
	Horizontal		Patch	
Frequency MHz	Attenuation dB/100 m max.	Next dB min.	Attenuation dB/100 m max.	Next dB min.
1	2	62.3	2.4	62.3
4	4.1	53.2	4.9	53.2
10	6.5	47.3	7.8	47.3
16	8.2	44.2	9.8	44.2
20	9.3	42.7	11.1	42.7
31.25	11.7	39.8	14.1	39.8
62.5	17	34.3	20.4	34.3
100	22	32.3	26.4	32.3

<b>TECHNICAL DATA--PHYSICAL</b>				
		CMR	CMP	CM (Patch)*
Conductor diameter-in. (mm)		.020 (0.52)	020 (0.52)	024 (0.61)
Cable diameter-in. (mm)		.195 (5.0)	165 (4.2)	215 (5.5)
Nominal cable weight-lb./kft. (kg/km)		21 (31)	21 (31)	23 (34.2)
Max. installation tension-lb. (N)		25 (110)	25 (110)	25 (110)
Min. bend radius-in. (mm)		1.0 (25.4)	1.0 (25.4)	1.0 (25.4)
* Patch cables utilize stranded tinned copper conductors				
<b>PARAMETRIC MEASUREMENTS</b>				
	Horizontal		Patch	
Mutual Capacitance	4.6 nF/100 m nom.		5.6 nF/100 m nom.	
DC resistance	9.38 Ohms/100 m Max.		9.09 Ohms/100 m max.	
Skew	45 ns/100 m max.		45 ns/100 m max.	
Velocity of	72% nom. Non Plenum		72% nom.	
Propagation	72% nom. Plenum			
Input Impedance	100 + 15% 0.7772-100 MHz		100 + 15% 0.772-100MHz	
	ISO/IEC 11801			
<b>COLOR CODE</b>			<b>TEMPERATURE RATING</b>	
Pair 1	White/Blue	Blue	Installation	0 degrees C to +50 degrees C
Pair 2	White/Orange	Orange	Operation	-10 degrees C to +60 degrees C
Pair 3	White/Green	Green		
Pair 4	White/Brown	Brown		

## Appendix 5 -- Telephone Closet / IDF Termination Blocks

Lateral Data cabling serving each workstation will be terminated on a CAT5e/6 patch panel (RJ45 face, 110 punch rear) in the telephone closet. For analog phone service, termination is to be on 110 blocks in telephone closet, allowing access to the telephone riser. For data, a patch cord is installed between patch panel and IT device. The patch panel can be mounted on the wall with a wall mount kit or in a rack if one is needed and should be appropriately numbered with the workstation number. The patch panel must be capable of supporting Category 5e/6 the TIA/EIA-568-B.2 standard. The patch panel shall have a swing away faceplate or rack mountable.

NOTE: The Category 5e/6 patch panel should be equivalent to the AMP SL series 110Connect Category 5e/6 patch panel or approved Category 6 patch panel. The number of ports may vary.

Each workstation shall be assigned a unique station identification number.

## Appendix 6 -- Workstation Jacks

Workstations will be equipped with various components of the AMP Communications Outlet system (AMP equivalent can be used with TEC approval). Each workstation will be installed with (1) double-gang jack housing box and matching face plate, capable of securely mounting three Category 5e cables or Category 6 and four modular data connectors, maintaining the integrity of category 5e/ Category 6 capabilities as outlined in the TIA/EIA-568-B.2 standard. All workstation jacks will be wired in accordance with the TIA/EIA-568-B.2 standard. All modular jacks are to be labeled in accordance with TEC number schema.

## Appendix 7 -- Standard Switches Inside the Department

Any switches in the following Cisco series are acceptable (Vendors will consult with the Technology Department (TEC) to determine the appropriate switch configuration at the time of proposal submission):

- Cisco 3000 series – low capacity
- Cisco 4000 series – medium capacity
- Cisco 6000 series – high capacity
- Cisco Nexus 7000 series – high capacity

## Appendix 8 -- Workstation and Lateral Cable Identification Management

### **WORKSTATION AND LATERAL CABLE IDENTIFICATION/MANAGEMENT (Facility)**

All lateral cabling installed to workstations at the Port Authority Facilities must be designated in accordance with the Port Authority's workstation and lateral cable identification code: This code consists of two elements, as follows:

- 1 - Room number or department name (acronyms are acceptable).
- 2 - Workstations (3 numeric digits)

The cable identification code for Workstation 10 in room 3801 at LGA CTB is 3801-010. The cable identification code for Workstation 15 in PA Automotive shop is Auto-015

## Appendix 9 – Fiber Optic Specification for Network Services - PAWANET

### General Scope of Work

1. Conduct a walk thru based on the specific Scope of Work for the job in question.
2. Note that all diagrams and or sketches that may be provided are approximates and not to scale.
3. All fiber optic cable is to be installed in rigid conduit or, where applicable, in plenum rated flexible inner duct.
4. Contractor shall furnish and install fiber optic cable as designated in the specific Scope of Work.
5. Fiber optic cable type for interoffice use shall be loose tube, with aramid yarn water block:
  - Singlemode Fiber – 8.3/125/250 micron diameter (core/cladding/coating) manufactured by General Cable or approved equal.
6. Fiber optic cable attenuation from the factory, before installation, shall not exceed:
  - Singlemode – 4db per km @ 1310nm/.3 db per km @ 1550nm
7. All fiber optic cable is to be labeled on each end and at any junction or patch panel with, 28 gauge, 2” wide embossed with ¼” high letters. The labels are to be fastened to the fiber optic cable using sealed wrap around labels or pliable Velcro ties.
8. Fiber optic cable shall be installed in accordance with the manufacturer’s specifications. Any portion of the cable damaged during installation will be repaired or replaced by the contractor without any additional cost to the Port Authority of New York New Jersey.

### Fiber Optic Terminations

1. Fiber optic terminations will use **SC** connectors unless otherwise specified in the Scope of Work.
2. Fiber optic terminations shall not yield more than 1db per mated (at the bulkhead) connector.

### Fiber Optic Testing

1. Fiber optic testing shall be performed by the contractor and certified fiber optic technicians.

Fiber optic technicians will be prepared to complete test procedures with the following equipment:

- Source and power meter testing to provide optical loss measurements.
  - Reference test cables and mating adapters that match the cables to be tested.
  - Cleaning materials – lint free cleaning wipes and pure alcohol.
  - OTDR test set with the proper launch cables and adapter types.
  - Power loss testing from both ends.
2. Fiber optic technicians will perform OTDR test on all terminated fibers unless otherwise noted in the Scope of Work.
  3. Fiber optic test results shall be recorded, and reports provided to the PA in hardcopy and via a readable txt file (PDF or RTF is acceptable).

## Appendix 10 -- Public Telephone Ordering Guidelines

Technology (TEC) staff is responsible for the management of the permit for public telephone service are available to answer any questions and provide direction for any matter relating to public telephones.

### **General Guidelines**

All public telephone requests – that is both coin and non coin in any Port Authority space or any area of the tenant space – both “public” and “club” locations will be coordinated by the Port Authority to cover both New York and New Jersey.

### **Process**

When the Facility, Property Manager, tenant or their representative (e.g. designer, architect, general contractor) has a public telephone requirement, they will contact the Technology Department (TEC) whom will review the request and provide coordination with the appropriate service provider.