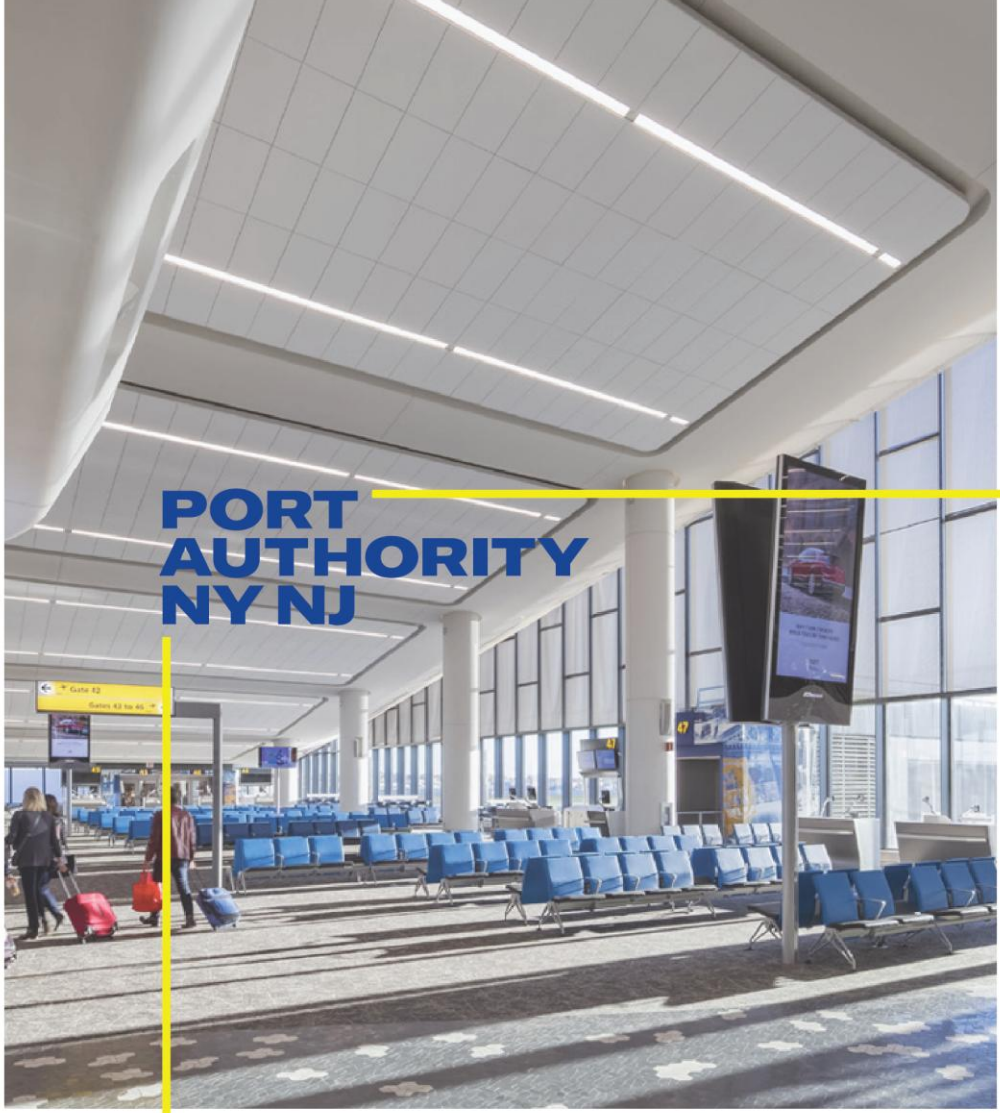


Consultant Design Quality Management

Guidelines

Public Document | For Internal and External Use | Port Authority of New York and New Jersey
Reproduction, editing, or public distribution requires approval.

V.1.0
Last Updated: 06/12/2026

ENGINEERING DEPARTMENT

Page Left Blank

DISCLAIMER:

This document is provided solely as a guideline. Following the processes, recommendations, or procedures set forth in this document does not protect, exempt, or absolve any Consultant or external party from fulfilling all obligations, requirements, and responsibilities established in their executed contract. In any instance where the guidance in this document conflicts with, differs from, or appears inconsistent with the provisions of the governing contract and/or approved Project Specific Quality Management Plan (PSQMP), the contract and/or approved PSQMP shall prevail. All Consultants and external parties remain fully responsible for complying with the terms, conditions, performance standards, and legal requirements outlined in their contractual agreements and/or approved PSQMPs. Failure to comply with a contract and/or approved PSQMP may result in termination for cause, payment withholding, and/or a progressive poor performance management procedure, even if the Consultant or external party complies with all provisions of this document.

TABLE OF CONTENTS

1.0 POLICY STATEMENT 7

1.1 STANDARDS AND GUIDELINES 7

1.2 QUALITY BASICS 8

1.3 SECURITY AND USE OF ARTIFICIAL INTELLIGENCE 9

2.0 ROLES AND RESPONSIBILITIES 10

2.1 ROLES 10

3.0 CONSULTANT PROJECT SPECIFIC QUALITY MANAGEMENT PLAN (PSQMP) 12

3.1 GENERAL 12

3.2 PSQMP MINIMUM REQUIREMENTS AND DELIVERABLES 13

3.3 QUALITY REVIEW COMPONENTS – DESIGN STAGE 15

3.3.1 CONTENT AUDIT CHECKLISTS 15

3.3.2 MARK-UP DRAWINGS/DOCUMENTS 15

3.3.3 DESIGN QUALITY CERTIFICATION 16

3.3.4 REVIEW COMMENTS RESOLUTION (RCR) 16

3.3.5 PROJECT DECISION RECORD (PDR) 16

3.3.6 DISCIPLINE DESIGN REVIEW 16

3.3.7 DESIGN MANAGER REVIEW 17

3.3.8 CONSTRUCTABILITY REVIEW 17

3.3.9 ESTIMATE REVIEW 18

3.3.10 CONTRACT STANDARDS REVIEW 19

3.4 QUALITY REVIEW COMPONENTS – CONSTRUCTION STAGE 19

3.4.1 SUBMITTALS 20

3.4.2 REQUESTS FOR INFORMATION (RFI'S) 20

3.4.3 PREPARATION OF CONTRACT CHANGES INCLUDING BUT NOT LIMITED TO ADDRESSING FIELD CONDITIONS, SCOPE CHANGES, ERRORS, OMISSIONS, ETC. 21

3.4.4 FACTORY AND FIELD ACCEPTANCE TESTING 21

3.4.5 NONCONFORMANCE / DEFICIENCY REVIEW: 22

4.0 CONSULTANT DESIGN STAGE QUALITY MANAGEMENT PROCEDURES 22

4.1 AT MILESTONE SUBMISSIONS: 22

4.2 100% - PORT AUTHORITY-WIDE REVIEW (PAWR) SUBMISSION: 25

4.3 FINAL SUBMISSION 25

5.0 QUALITY COMPLIANCE AUDIT 26

APPENDICES 27
APPENDIX A: ACRONYMS 28
APPENDIX B: SAMPLE DESIGN QUALITY CERTIFICATIONS 29
APPENDIX C: CDQMG PROCEDURE FLOWCHARTS 32
APPENDIX D: SAMPLE MARKUP PROCEDURES 35
APPENDIX E: SAMPLE PROJECT DECISION RECORD 37
DOCUMENT CHANGE CONTROL TABLE 39
REFERENCE DOCUMENTS 40

REFERENCE DOCUMENTS

1. CONTENT AUDIT CHECKLISTS

You may access the individual checklists under General Standards & Guidelines in Engineering Available Documents.

1.1. ARCHITECTURAL
1.2. CIVIL
1.3. ELECTRICAL
1.4. ELECTRONICS
1.5. ENVIRONMENTAL
1.6. GEOTECHNICAL
1.7. LANDSCAPE ARCHITECTURE
1.8. MECHANICAL (HVAC, FUELING, VERTICAL TRANSPORTATION)
1.9. MECHANICAL (PLUMBING / FIRE PROTECTION)
1.10. STRUCTURAL
1.11. TRAFFIC
1.12. RESILIENCE AND SUSTAINABLE DESIGN – *Coming Soon: for more information, please contact rsdpaprojects@panynj.gov*

2. SAMPLE: DISCIPLINE QC CHECKLISTS

You may access the individual checklists under General Standards & Guidelines in Engineering Available Documents.

2.1. DESIGN MANAGERS
2.2. ARCHITECTURAL
2.3. CIVIL
2.4. ELECTRICAL
2.5. ELECTRONICS
2.6. ENVIRONMENTAL
2.7. GEOTECHNICAL
2.8. LANDSCAPE ARCHITECTURE
2.9. MECHANICAL (HVAC)

2.10. MECHANICAL (PLUMBING / FIRE PROTECTION)
2.11. STRUCTURAL
2.12. TRAFFIC
2.13. ESTIMATING
2.14. RESILIENCE AND SUSTAINABLE DESIGN – *Coming soon; for more information, please contact rsdpaprojects@panynj.gov*

1.0 POLICY STATEMENT

It is the policy of the Port Authority of New York and New Jersey (Port Authority or Authority) Engineering Department (Engineering Department) that each engineering project be planned, designed, and constructed with a high regard for quality.

This Consultant Design Quality Management Guidelines (CDQMG) document provides contracted and subcontracted consultants with consistent guidance on the quality process and clarifies the roles and responsibilities of project stakeholders.

The purpose of the CDQMG is to establish a procedure and a quality control plan that minimizes errors, omissions, and conflicts in the deliverables of the Engineering Department during both the design and construction phases of a project. The information contained in the guidelines is intended to ensure delivery of quality contract documents (i.e. drawings, estimates, specifications), reports, and related documents to the Authority.

These guidelines are intended primarily for the traditional Design–Bid–Build (DBB) project delivery method, in which the consultant prepares complete contract documents for competitive bidding. For alternative delivery methods, the principles of this policy should be applied and tailored as appropriate.

1.1 STANDARDS AND GUIDELINES

Quality management is a crucial ongoing process, planned and carried out by providers of all project-related services, including but not limited to, design services and construction contract preparation during design. The Engineering Department management asserts:

- Quality is controlled by adequate planning, coordination, supervision, and technical direction, proper definition and clear understanding of job requirements and procedures
- Quality is achieved by ensuring work is performed and supervised by appropriately skilled personnel
- Quality is achieved by focusing on preventing problems or errors rather than reacting to them
- Quality is verified through checking, reviewing, and monitoring work activities, with documentation by experienced, qualified individuals who are not directly responsible for performing the work
- Checks for quality should be continuously applied so work is done correctly the first time
- The CDQMG provides for consistent audit of consultant deliverables and consistent quality guidance for consultants working as Architect/Engineer of Record for the Engineering Department.
- The CDQMG will be periodically updated to address evolving quality standards of the Engineering Department.

The documented and approved Project Specific Quality Management Plan (PSQMP) must be accounted for in project schedules, budgets, and staffing plans.

1.2 QUALITY BASICS

Quality management (QM) is defined as a designated set of guidelines, processes, and procedures required to deliver a quality product. Two distinct components of QM include quality control and quality assurance. Quality assurance (QA) is a proactive, process-oriented approach to quality, including the development of systematic processes for checking whether a project being designed and constructed meets specified requirements. QA is performed throughout the design and construction stages of a project, including preparation of addenda, bid support services, and design services during construction. It ensures the defined quality control procedures are in place, consistent with requirements, implemented appropriately and followed and effective in preventing mistakes, errors and omissions.

Quality control (QC) is the reactive product-oriented process of checking completed designs to ensure the design meets the established criteria and specified requirements prior to final approval by the Architect/Engineer of Record(A/EOR). QC is performed throughout the design and construction stages. Specifically, QC procedures include checking the accuracy of the calculations, coordinating the overall design product and detecting and correcting design omissions and errors before contract documents are finalized or post award construction submittals are returned as reviewed.

This policy provides the minimum requirements for PSQMPs and associated deliverables to be submitted for review by the Engineering Department. Consultants contracted to perform A/EOR services shall submit a PSQMP compliant with this policy, for review and approval, prior to commencement of professional services. Exceptions where a policy-compliant PSQMP is not required will be determined by the Project Principal (PP) on a case-by-case basis. Projects that will typically fall into this category include projects following the Expedited Project Delivery Program (formerly the Small Projects Enhanced Delivery Program) or other simple or straightforward projects. For these projects, less rigorous Quality Management Plan requirements will be required and indicated in the Request for Proposal (RFP) or Task Order Attachment A.

For projects that include unusual, complex, or innovative features, or where mandated by code, the Engineering Department may require an independent peer review to enhance confidence in the quality, accuracy, and constructability of the design and ensure the most appropriate, cost-effective solution is selected. Such a review typically consists of a high-level Quality Control (QC) assessment conducted by an independent panel of three or more qualified professionals, with specific and appropriate experience in their field of expertise. The peer review team is selected and appointed by the Engineering Department, to address the specific technical demands and complexity of the project, and provide recommendations related to scope, construction techniques or restrictions, and/or design enhancements.

Upon completion of a peer review, recommendations are evaluated by the design team A/EOR, in conjunction with the Engineering Department, and incorporated where deemed appropriate.

Quality standards for work products are the “yardstick” to which the work products should be checked. In many cases these standards are compliance with the general codes and standards of practice for the various engineering disciplines. The Authority also has Authority specific design guidelines established by the Engineering Department which are followed by consultants for design deliverables. Refer to the Engineering Available Documents for additional details on design guidelines. The sample QC checklists furnished in Reference Documents: Sample Discipline Checklists are comprehensive; however, these lists are neither exhaustive nor always applicable. Quality management will vary based on the scope of work and complexity of the project. The sample QC checklists provide typical internal Authority review requirements and are provided for information only. The consultants shall prepare their own QC checklists and take full responsibility for the quality of their design.

1.3 SECURITY AND USE OF ARTIFICIAL INTELLIGENCE

This section establishes requirements and limitations governing the use of artificial intelligence (AI), including Large Language Models (LLMs), generative AI systems, automated drafting tools, and similar technologies, in preparation, review, coordination, certification, and management of Engineering Department design deliverables.

Port Authority digital assets must be used responsibly and protected to safeguard confidentiality, integrity, and availability. The Port Authority Information Security Handbook defines "Protected Information" to include Confidential and Restricted (formerly Confidential Privileged) information, including security vulnerabilities, critical infrastructure information, and sensitive engineering data

The Port Authority recognizes that AI tools may improve efficiency. However, improper use may compromise Protected Information, violate cybersecurity requirements, undermine professional responsibility, introduce undocumented errors into design deliverables, and jeopardize public safety and infrastructure security.

Accordingly, AI use is subject to strict limitations consistent with Port Authority cybersecurity and information security policies. Refer to Code of Ethics for Port Authority Vendors, the Port Authority Information Security Handbook and the applicable Non-Disclosure and Confidentiality Agreements (NDAs) or other relevant policies and procedures issued by Port Authority's CISO for details.

More specifically, consultants shall not upload, input, or transmit any of the following into public or externally hosted AI systems:

- Drawings, specifications, calculations, or reports
- Security-related design data
- Project Decision Records (PDRs)
- Review comments or quality documentation
- Contractual or procurement documents
- Any material classified as Confidential, Restricted (formerly Confidential Privileged), Sensitive Security Information (SSI), Critical Infrastructure Information (CII), or otherwise protected
- Any material which includes Personal Identifiable Information (PII)

Uploading Port Authority Protected information of any kind to a public or third-party AI platform is strictly prohibited unless expressly authorized in writing by the Chief information Security Officer (CISO)

Public AI tools are considered external digital platforms. Uploading such information constitutes unauthorized disclosure under the Information Security Handbook

Any consultant that maintains an internally-hosted AI system must apply for approval of its use and certify that the AI platform is secured, data remains within a controlled environment, no third-party model training occurs, and the system complies with the Port Authority Information Security Handbook requirements for electronic storage and transmission. Specific stipulations for the use of AI will be documented in the CISO approval. The use of a CISO-approved AI system shall not be a substitute for any of the A/EOR activities required within this manual. It must only be used as a tertiary quality tool, external to the official quality management process contained herein.

The guidance contained within this section regarding the security and use of Artificial Intelligence (AI) technologies is intended to reflect current organizational standards, regulatory expectations, and industry best practices at the time of publication. As AI technologies, applicable laws, cybersecurity risks, and governance frameworks continue to evolve, this guidance may be revised, supplemented, or replaced by future policies, procedures, standards, or regulatory requirements. All personnel are responsible for adhering to the most current approved policies and guidance issued by the Authority and should regularly review updates related to the authorized use, protection, and management of AI systems.

2.0 ROLES AND RESPONSIBILITIES

Consultants retained by the Engineering Department to prepare construction contract documents as the A/EOR are responsible for all aspects of their design. This is certified by signing and stamping/sealing their drawings, specifications, and calculations with their Professional Engineer or Registered Architect seal or stamp as required by law.

For all contracted design services with Port Authority, both quality control and quality assurance are the responsibility of the Consultant. It is the consultants' responsibility to certify that the PSQMP approved by the Engineering Department is implemented throughout design preparation, at established milestones, in the final contract documents, and within relevant post-award construction services provided.

The Engineering Department will provide applicable subject matter expert audit and guidance at milestones and as required during the project. During each milestone review the Engineering Department will audit consultant deliverables for compliance with the contracted scope of work and technical, contractual, and quality standards. Consultants must not rely on the Port Authority's audit process as a means of quality control or quality assurance. The consultant is responsible for ensuring that the defined scope of the work is met, the work contains no errors or omissions, the PSQMP is followed and the design is properly coordinated.

The A/EOR (prime consultant) shall take full responsibility and ownership of the quality of their and their subconsultants' work. The A/EOR must also establish its procedure for managing the quality of its subconsultants' deliverables. The consultant shall flow down all requirements of this guideline to all subconsultants, subcontractors, vendors, and others engaged by the consultant in connection with contracted services. The consultant shall ensure that each subconsultant agrees in writing to comply with the project's quality plan and that such written agreement is incorporated into each subcontract.

Final design milestones will have established content requirements available in the furnished content audit checklists for each discipline. See Reference Documents: Content Audit Checklists. These checklists establish typical milestone deliverable expectations. The Engineering Department's milestone audits will determine if a submission meets the expectations set forth in these content audit checklists. If at any time during the milestone audit, unsatisfactory quality is identified, a quality compliance audit may be performed to evaluate the consultant's compliance with their PSQMP.

2.1 ROLES

The following are roles of Port Authority stakeholders, and their key functions in the quality management process. An extended list of project stakeholders can be found in the Engineering Consultant Services Guidelines.

Chief of Design/Deputy Chief of Design (COD/DCOD) - Within the Engineering Department, the Office of the Chief of Design directs and manages all engineering design work for Port Authority capital and operating projects that are under the authority of the Chief Engineer. The Chief of Design provides the final quality certification on behalf of the Engineering Department, that procedures, standards, checklists, documentation and verifications/certifications by project personnel have been completed.

Consultant (A/EOR)– The entity contracted with the Port Authority to perform design services as the Architect or Engineer of Record (A/EOR)

Consultant Quality Manager (CQM): The consultant shall provide a senior, independent reviewer responsible for verifying the quality management process and required deliverable reviews. The CQM must be separate from day-to-day production of the work being reviewed.

Consultant Project Manager (CPM): The consultant's primary point of contact and accountable manager responsible for delivery of design and construction support services. The CPM manages scope, schedule, budget, coordination (including subconsultants), and ensures required reviews are completed before submittals.

Contract Engineer (CE) – Within the Engineering Department the Contract Engineer typically prepares the Contract book based on contract information provided by the PM, PP, and other project stakeholders. The CE incorporates technical specifications prepared by the A/EOR into the final construction contract book. The CE will provide quality audit for contract related deliverables, including classified items, contract clauses, etc.

Discipline Chief (DC) – Within the Engineering Department, for each discipline included in a project, the associated Discipline Chief is the authority for that work area. Where resolution on complex issues above the discipline principal is required, the discipline chief will require input. The Discipline Chief has overall responsibility for the discipline's preparation of baseline specifications, standard details, and design guidelines, provides advisory services, in their area of expertise.

Discipline Principal (DP) – Within the Engineering Department, for each discipline included in a project, the associated Discipline Principal is the technical subject matter expert for that work area. Where resolution on complex issues is required, the discipline principal will require input.

Discipline Technical Manager (TM) – Within the Engineering Department, Technical Managers have a high level of expertise in a particular work area. Where resolution on very complex issues is required, the Technical Manager will require input.

Project Manager (PM) – Within the Port Authority Line Department, the PM is the main point of contact for the Line Department on a project. All Line Departments participate in the comprehensive planning process, which results in the selection, funding, and ultimate implementation of projects. Two of the PM's key areas of responsibility are project scope definition/approval and acting as the main point of contact with external stakeholders and operational units.

Project Principal (PP) – Depending on the scope of a project, the assigned business point of contact for the consultant is either a Project Principal or a Design Program Manager of the Engineering Department. The PP manages the design and coordination of all multidisciplinary design deliverables. They are responsible for coordinating all milestone submissions and discipline quality audits, performing general quality and content reviews, as well as overall consultant management. The PP leads both intra and interdisciplinary discussions to ensure information is shared and coordinated. The PP provides project leadership and is the internal accountable design manager.

Resident Engineer –(RE) leads the construction effort during Stage IV. They oversee the construction schedule and budget. Contract construction at each facility is managed by an RE, who reports to an EOC. Reporting to the RE are Assistant Resident Engineers (AREs), Office Engineers (OEs), Contract Specialists (CSs) and Field Engineers/Inspectors who, along with the RE, make up the "Resident Engineer's Office" (REO).

Senior Design Executive (SDE) – Within the Engineering Department, the SDE is the assigned Line Department portfolio design manager. The SDE is responsible for oversight of the PP's working on their portfolio. Where project issues cannot be resolved by the PP, the SDE along with the DCs identify and resolve critical issues collaboratively.

Subconsultant– An entity that provides design or design related services to the Consultant. There is no direct contractual relationship between Port Authority and the Subconsultant.

Task Leader (TL) – Within the Engineering Department, for each discipline included in a project, the task leader is the assigned point of contact for that discipline. They are responsible for providing discipline-specific milestone audits. Where appropriate, they consult with a discipline principal, technical manager or chief for subject matter expertise and guidance.

3.0 CONSULTANT PROJECT SPECIFIC QUALITY MANAGEMENT PLAN (PSQMP)

A Project Specific Quality Management Plan (PSQMP) is the consultants' attestation on how quality will be managed on a given project. It documents the organization, quality standards, QA/QC procedures, and roles and responsibilities required to meet the project quality objectives. Consultants contracted to perform Architect/Engineer of Record (A/EOR) services shall submit a PSQMP as defined in the specific assignment scope of work.

The consultant's PSQMP shall incorporate the minimum quality requirements and deliverables specified below. Quality deliverables must be submitted for each milestone submission defined in Attachment -A of the Request for Proposal (RFP) or Task Order Agreement. Projects will have varying milestones based on their complexity and other determining factors.

The project scope of work sets the specific standards for each project's design product including but not limited to the design criteria, codes, standards, design concepts and contractual provisions for the construction contract. The PSQMP content shall be tailored to the project scope of work.

3.1 GENERAL

The CDQMG establish minimum quality management requirements for design deliverables. These requirements are consistent with the principles of ISO 9001:2015 – Quality Management Systems.

Consultants are not required to hold ISO 9001 certification unless explicitly stated in the RFP or Task Order. However, all consultants shall demonstrate that their PSQMP incorporates processes aligned with ISO 9001 principles, including:

- Process-based approach to quality management
- Defined responsibilities and authorities
- Risk-based thinking
- Documented control of design outputs
- Verification and validation activities
- Continual improvement

The Consultant's PSQMP shall address, but is not limited to, the following ISO 9001-aligned elements:

- Leadership and Responsibility (ISO 9001 Clause 5):
- Planning and Risk-Based Thinking (ISO 9001 Clause 6):
- Integration of risk-based thinking into milestone submissions and Design Quality Certifications.
- Competence and Resources (ISO 9001 Clause 7):
- Operational Control - Design and Development of Products and Services (ISO 9001 Clause 8.3):
- Control of Documented Information (ISO 9001 Clause 7.5):
- Monitoring, Measurement, and Internal Audit (ISO 9001 Clause 9):
- Nonconformance and Corrective Action (ISO 9001 Clause 10):

Where a consultant maintains an ISO 9001-certified Quality Management System (QMS), the PSQMP can include the following optional documentation:

- A copy of the current certificate.
- The scope of certification must include design services.
- Identification of which corporate procedures apply to the project.

ISO 9001 certification does not relieve the consultant of compliance with CDQMG requirements.

3.2 PSQMP Minimum Requirements and Deliverables

The consultant PSQMP plan must include the following:

- Organization Chart depicting the project quality management team key personnel.
- Definitions and responsibilities of key personnel
- Qualifications and resumes of key personnel performing and responsible for quality reviews
- Documented procedure for Quality Management, including but not limited to:
  - Procedures for implementing, monitoring and training quality management on the project for design A/EOR activities in the design and construction stages of a project
  - Coordination of project team activities including but not limited to meetings, reviews, design (including sub-consultants).
  - Identification and correction of missing, incomplete, inconsistent, erroneous, or incorrect information.
  - Verification of compliance with relevant laws, regulations, codes and standards.
  - Mark-up requirements and procedures for each deliverable
- Consultant modified design stage Quality Control checklists as noted in Table 3.1 below.
- Quality Management requirements and procedures for Construction Stage services including submittal review, Requests for Information (RFIs), contract changes, etc.

The consultant must incorporate the deliverables/quality management components shown in Table 3.1 in their PSQMP. The components must be submitted as part of each milestone package, as noted.

Table 3.1 – Quality Review Components by Milestone

	Pre-Stage I	Stage I	Stage II	Stage III			
Stage/Milestones	Scoping Document	Conceptual Design/ Preferred Alternative	Preliminary Design (30%)	*Preliminary Design (30%)* **	Advanced Milestone Submission (60%)	PA-Wide Review Submission (100%)	Final Submission ***
General Quality Management Deliverables							
3.1.1 Mark-up Drawings/Documents *(Retain for Record/Quality Audit)*	X*	X*	X*	X*	X*	X*	X*
3.1.2 Design Quality Certification (Interim or Final)┼	X	X	X	X	X	X	X
3.1.3 Review Comments Resolution (RCR)					X	X	X
3.1.4 Project Decision Record (PDR)	X	X	X	X	X	X	X
Detailed Quality Management Deliverables							
3.1.5 Discipline Design Review(s)						X	X
3.1.6 Design Coordination/Manager Review						X	X
3.1.7 Constructability Review						X	X
3.1.8 Estimate Review						X	X
3.1.9 Contract Standards Review						X	X

**Markup Up Drawings/Calculations are not required to be submitted at milestones. Consultant must retain check prints (or a digital record of plan review) for audit at each milestone.*
*** Where a 30% deliverable was not accomplished in prior Stages and as noted in the required milestone submissions of the Scope of Work.*
**** Where Addenda are required as part of Stage III, Proof of proper quality management must be submitted with the Addenda*
┼Design Quality Certification sample text for Final Submission and prior Interim Submissions may be found in Appendix B.

3.3 Quality Review Components – Design Stage

Below are descriptions of the required design stage quality review components including those listed in Table 3.1.

3.3.1 Content Audit Checklists

To aid with quality management, within the CDQMG, typical Stage III milestone completeness requirements are provided in discipline specific Content Audit Checklists. These checklists provide the baseline requirements for milestone deliverables that must be adhered to when delivering design documents. These content audit checklists can be found in Reference Documents: Content Audit Checklists. Further clarity on the level of detail, content, and format for final deliverable expectations may be provided in reference documents from prior similar projects or in the assignment scope of work/request for proposal.

3.3.2 Mark-Up Drawings/Documents

For quality control reviews, mark-ups provide detailed documentation confirming the quality control process for each milestone deliverable was followed as specified in the PSQMP. The first sheet of each document or drawing set is to be stamped with a mark-up stamp, indicating designers and reviewers, and the associated dates. All Mark-Ups of plans, calculations, reports, schedules, estimates, other project deliverables and associated internal review comments, must be retained by the prime consultant for audit by the Authority, if requested. Refer to Document Control and Information Management Policy section of the ECSG for information on records retention.

The PSQMP shall clearly identify the following minimum mark-up requirements:

- Checking and backchecking process and responsibilities
- Color code requirements of mark-ups to be followed.
- A sample of the mark- up stamp, that will be used by each designer, reviewer, corrector, and back checker. Such stamps shall have space for dates/initials or digital signatures.

A sample contract drawing mark-up/calculation/document mark-up procedure flowchart for modification and incorporation in the PSQMP can be found in Appendix D.

Drawing mark-ups shall be color-coded markups of all plans, sections, elevations, notes, staging, details, cross references, etc. Incorrect information, including items such as inconsistency with computations, typographical errors, cross reference errors, and other items not consistent with the design criteria of the project can be identified in red. Comments to the designer, justification of comments, etc. can be identified with other colors. The designer should review all comments, make corrections as necessary, highlight corrected comments in another color or respond to comments for further evaluation and resolution. The reviewer should then complete the backcheck, confirming comments are appropriately addressed. The mark up procedure for design criteria, reports and other written deliverables, shall be documented and may be similar to that of drawings.

Mark-ups of other deliverables, including computations, estimates, etc. may follow an alternate approved procedure to that of drawings, based on the consultant's typical quality management process. Independent alternate analysis may be used for computations, in lieu of line by line verification, provided that all deliverable information is reviewed for quality and both the designer and checker agree with the final deliverable, and the process is verifiable by audit.

In all circumstances the mark up records shall include a stamp/record of review and resolution, or similar if performed digitally.

3.3.3 Design Quality Certification

The Design Quality Certification is a certification issued by the consultant and their sub-consultants working on the project. Its purpose is to affirm that the consultant team complied with the approved PSQMP at each milestone. For the Final Submission a Final Design Quality Certification is required, attesting to a complete and quality managed deliverable, consistent with the PSQMP. Sample Design Quality Certificates and Final Design Quality Certifications can be found in Appendix B.

3.3.4 Review Comments Resolution (RCR)

The Review Comments Resolution (RCR) is a comment matrix in spreadsheet format, created during the prior milestone review, which captures all Port Authority stakeholder review comments and their resolution. The purpose of the RCR is to document and confirm resolution of all prior milestone comments. The consultant is responsible for ensuring this matrix is completely resolved. Where third party stakeholders (such as DEP's, DOT's, local municipalities, etc.) participate in interim reviews, the comment response and resolution shall be documented in the same fashion as milestone reviews. Unless otherwise directed by the PP, all third-party coordination must be complete prior to PAWR. An attestation that all comments are resolved shall be provided in each of the Interim and Final Submission Quality Certifications (samples in Appendix B).

3.3.5 Project Decision Record (PDR)

The Project Decision Record (PDR) is a continuous log of key project decisions which have transpired throughout the course of the project/assignment. The PDR can be a spreadsheet or report format which documents the date of decision, dates of supporting meetings, subject area, stakeholders involved, problem statement, record of decision, potential for scope/schedule/construction cost impact. The consultant is responsible for ensuring the PDR is up to date and approved by the required stakeholders prior to milestone submissions as noted in Table 3.1. See Appendix E for a PDR sample.

3.3.6 Discipline Design Review

All deliverables must be checked in accordance with the standards of the specific discipline and requirements defined in Attachment A of the Request for Proposal or Task Order Solicitation or as further defined in the projects Basis of Design Report. This quality control deliverable is to validate work product quality, scope compliance, asset operability, maintainability and completeness. The Discipline Design Review shall be performed by independent discipline subject matter experts who are approved in the project quality staffing org noted in the PSQMP. The Discipline Design Review reviewer shall reference at minimum, the approved PSQMP Discipline Design Review Checklists and contract requirements to guide this review.

Within the Engineering Department, each functional discipline has a standard QC Checklist to facilitate and document their internal quality control review for in-house design. These QC checklists identify key items for the discipline subject area and are provided to the Consultant for modification, and incorporation into their PSQMP Discipline Design Review - Consultant Discipline QC Checklists. These initial samples can be found in Reference Documents: Sample Discipline QC Checklists. These sample checklists are not exhaustive lists. The consultant shall develop their checklists as applicable to the project requirements, contract, and their internal quality management processes. Each PSQMP Disciplines Checklist will be reviewed by EADD's discipline team for concurrence on technical quality management approach.

The consultant must complete each applicable discipline checklist and submit during the PAWR milestone submission as noted in Table 3.1. For interim milestones, the Discipline Design Review checklists provide a benchmark for the final deliverables and should be used as guides in developing the interim deliverables.

3.3.7 DESIGN MANAGER REVIEW

All projects require a Design Manager Review to verify coordination of design across disciplines. The Design Manager Review shall be performed by the approved key personnel documented in the approved PSQMP's org structure.

The scope of this work shall include but not be limited to:

SCOPE (INCLUDING BUT NOT LIMITED TO):

- Interdisciplinary design coordination:
  - Assess compatibility between cross disciplinary subsystems and components (Existing and/or proposed)
  - Review interfaces with other disciplinary design elements and drawing references
- CADD/BIM coordination, including verification of digital clash detection and accepted audit.
- All existing site conditions are reflected, and potential interdisciplinary conflicts are mitigated in the design.
- Risks related to unforeseen site conditions are mitigated in the contract documents
- Accommodate and resolve Third Party coordination issues, including private, state, local, and federal stakeholder interests (i.e. permit identification and support, right of entry, work zone traffic control, etc.)

The Design Manager Review reviewer shall reference at minimum, the approved PSQMP Design Manager Review QC Checklists and contract requirements to guide this review.

Within the Engineering/Architecture Design Division, the project principal has a standard QC Checklist to facilitate and document their design coordination/management quality control review for in-house design. This QC checklist identifies key items for the coordination of typical Authority projects and is provided to the Consultant for modification and incorporation into the PSQMP Design Manager Review QC Checklist. These initial samples can be found in Reference Documents: Sample Discipline QC Checklists. This sample checklist is not an exhaustive list. The consultant shall develop their checklist as applicable to the project requirements and their internal quality management processes. Each PSQMP Design Manager Review checklist will be reviewed by the Project Principal for concurrence on design coordination quality management approach. The consultant must complete the checklist and submit during the PAWR milestone submission as noted in Table 3.1. For interim milestones, the Design Manager Review checklists provide a benchmark for the final deliverables and should be used as guides in developing the interim deliverables.

3.3.8 CONSTRUCTABILITY REVIEW

The Constructability Review is a review of all contract documents which provides a comprehensive assessment of buildability for which the reviewer shall evaluate the feasibility, safety, efficiency, and practicality of a proposed design to be constructed. The Constructability Review should be conducted by qualified staff with relevant construction management and/or construction experience which are identified and approved in PSQMP organization structure. The Constructability Review's primary goal is to identify potential construction challenges, inefficiencies, or issues that may arise during the construction phase. The review should assess how the design incorporates considerations for construction-related activities. Although Constructability Review documentation is only required at PAWR, constructability should be evaluated throughout the course of design by qualified staff, in coordination with Facility Operations, Engineering Department staff and other relevant stakeholders. As early as Stage 1 or 2, the designer may hold constructability workshops to evaluate one or more constructability alternatives and develop solutions associated with identified challenges.

SCOPE (INCLUDING BUT NOT LIMITED TO):

- Verifying that construction phasing, timing, storage, and logistics are clear and buildable
- Identification and mitigation of job specific hazards
- Visiting the proposed construction site and verifying:
  - The existing structures, equipment, utilities, and site layout are coordinated with the planned work
  - The demonstrated construction staging is feasible.
- Validating construction staging and schedule feasibility, including but not limited to production rate assumptions, submittal review durations, fabrication durations, allowable work hours, site restrictions, cost efficiency of the proposed construction, availability of materials, construction equipment requirements, local work force availability, temporary site requirements, etc..
  Verifying assumptions with the relevant Facility Operation staff and PA Resident Engineers Office to confirm assumptions.
- Minimizing the need for specialized construction equipment, special construction operations, and other extraordinary cost or scheduler drivers.
- Verifying adequacy of information on Contract Drawings and specifications to construct the work.
- Identification of ambiguous design elements and mitigation for unquantified risks. Refer to Subsurface Investigation During Design Guidelines (SIDD) for risk management guidance related to subsurface investigation.

3.3.9 ESTIMATE REVIEW

The Estimate Review is a comprehensive independent evaluation of the Construction Cost Estimate. The purpose of the Estimate Review is to validate clarity and completeness of documents, evaluate and validate bidding feasibility, minimize risks associated with disputes and improve bid accuracy/competition. The Estimate Review shall be performed by the key personnel with relevant construction cost estimating experience approved in PSQMP organization structure. The Port Authority's Construction Cost Estimate template will be provided to the consultant for use in developing the estimate.

SCOPE (INCLUDING BUT NOT LIMITED TO):

- Estimate follows Engineering Department – Estimating Procedures
- The estimate approach is consistent with the Estimating Guidelines. It is a "bottoms up" estimate with labor, equipment and material broken down along with production rates used.
- Template integrity is maintained, populated appropriately
- Ensure that the latest PA labor rates are being used.
- Estimate reflects approved hours of work and staging considerations.
- Ensure backup documentation, including but not limited to major vendor quotes is included.
- Ensure there is an explanation for any calculations included.
- Check labor premium values are applicable to the work being performed.

The Estimating Review reviewer shall reference, at minimum, the approved PSQMP Estimating Review QC Checklists and Estimating Procedures to guide this review.

Within the Engineering Department, the Estimating Unit has a standard QC Checklist to facilitate and document their Estimating review for in-house design projects. This QC checklist identifies key items for estimate evaluation and is provided to the consultant for modification and incorporation into the PSQMP Design Manager Review QC Checklist. These initial samples can be found in Reference Documents: Sample Discipline QC Checklists. This sample checklist is not an exhaustive list. The consultant shall develop their checklist as applicable to the project requirements and their internal quality management processes.

The consultant must complete the checklist and submit during the PAWR milestone submission as noted in Table 3.1. For interim milestones, the Estimating checklist provides a benchmark for the final deliverables and should be used as a guide in developing the interim deliverables.

3.3.10 CONTRACT STANDARDS REVIEW

The Contract Standards Review is a review of all contract documents which provides a comprehensive assessment of biddability of a proposed design. The purpose of the Contract Standards review is to validate clarity and completeness of documents, evaluate and validate bidding feasibility, minimize risks associated with disputes and improve bid accuracy/competition. The Contract Standards Review shall be performed by the key personnel approved in PSQMP organization structure.

The Contract Standards reviewer shall reference at minimum, the approved PSQMP, Engineering Department's Contract Document Standards guidelines and contract requirements to guide their review. Some key elements of this review are:

SCOPE (INCLUDING BUT NOT LIMITED TO):

- Work elements must be shown in sufficient detail for bidding and consistent with the compensation method for the contract.
- Information on Contract Drawings and Specifications is adequate for bidding and for constructing the work.
- Design information or language does not lend itself to ambiguity resulting in contractor clarifications and biddability issues.
- Terminology is correct and in compliance with Contract Document Standards.
- Reference Drawings/documents are correctly referenced in the contract documents
- Sole Source/Sole Brand is correctly noted in the contract documents.
- Division 01-48 Specifications and Contract Drawings are coordinated.
- Compliance with Instructions to Engineer/Architect for PA standard technical Specifications.
- Compliance with federal funding requirements, where applicable.

3.4 QUALITY REVIEW COMPONENTS – CONSTRUCTION STAGE

During the Construction phase of a project, complying with quality management requirements and procedures is of utmost importance. The Consultant shall implement and maintain a robust Quality Management program throughout the construction phase to ensure that all design services are delivered in a timely manner in accordance with the applicable standard of care, contract requirements, project objectives, applicable codes and standards, project-specific requirements, and Port Authority document management protocols. This includes the timely, accurate, and well-coordinated response to Requests for Information (RFIs), with clear, constructible guidance that minimizes ambiguity and avoids rework or delay.

The Consultant Project Manager, discipline leads, and QA Manager listed in the Quality Management organization chart shall provide ongoing oversight of construction support activities to confirm compliance with the approved PSQMP or other applicable QA/QC procedures. The consultant shall maintain active coordination among design disciplines during construction to address interface issues, avoid conflicting direction, and ensure consistency in written responses and revised documents. Consultant shall comply with Port Authority policy and document control procedures for construction-phase correspondence, submittals, RFIs, sketches, bulletins, revisions, field reports, meeting minutes, and change documents to ensure use of current information and preservation of the project record. For all Construction stage activities, where necessary, the consultant shall perform field investigations to validate that their responses and approvals are appropriate and informed.

Construction-phase quality management shall include, at a minimum, the following:

3.4.1 SUBMITTALS

The Consultant shall comply with established procedures for the timely receipt, logging, review, comment, disposition, and tracking of all Contractor submittals. Reviews shall be performed by qualified discipline leads and subject matter experts, as appropriate, and shall be coordinated across disciplines to verify conformance with the contract requirements and design assumptions.

Submittal review includes but is not limited to:

Review of shop drawings, product data, catalog cuts, material certifications, samples, and other technical submittals for conformance with the contract document requirements, including applicable codes, standards, and specifications. All review comments shall be documented clearly and consistently, including required revisions, clarifications, and disposition status, per policy. Verify dimensional compatibility, interface coordination, code compliance, constructability impacts, and consistency among design elements, as applicable. Verify that prior comments have been adequately addressed before approved or approved as corrected dispositions are provided.

3.4.1.1 REVIEW AND CONCURRENCE OF CONTRACTOR DESIGNS, PROCEDURES, ERECTION PLANS, DEMOLITION PLANS, CONSTRUCTION SEQUENCES, ETC., INCLUDING SUBSTITUTIONS.

In addition to standard submittal processes, review submittals for delegated design elements including engineering documents, calculations, temporary works designs, erection, and demolition plans and procedures, underpinning plans, support-of-excavation plans, traffic maintenance plans, staging plans, and construction sequencing plans, prepared by the Contractor and/or the Contractor's Professional Engineer, for compliance with the performance and design criteria established in the Contract Documents, as well as design assumptions (including construction sequencing and staging).

Verify that such submittals are signed and sealed where required and satisfactorily prepared by qualified professionals in accordance with applicable code, jurisdictional, and contractual requirements and are consistent with the design intent.

Review and provide concurrence that Contractor means-and-methods-related submissions are prepared to the extent necessary to ensure conformance with design criteria, operational constraints, safety interfaces, maintenance-of-traffic requirements, adjacent facility and patron protection, and impacts to existing infrastructure. Review and provide concurrence that there is discipline coordination for submittals affecting multiple systems or interfaces, including structural integrity, utility protection, rail/transit operations, roadway operations, public safety, and third-party assets, as appropriate.

The standard submittal process should not be used by the contractor to make substitutional changes to the contractual requirements. All requests for alternatives to pre-designed or specified aspects of the project shall be requested through the formal Substitution process of the contract. The Consultant is required review and provide a technical recommendation of acceptance or rejection of Contractor proposed substitutions, to determine if a substitution will result in a product equal to or better than that specified in the contract documents. Where such substitutions are ultimately accepted by the Authority, review all related Contractor prepared submittals as if the substitution were initially part of the contract documents.

3.4.2 REQUESTS FOR INFORMATION (RFI'S)

The Consultant shall comply with established procedures for timely receipt, logging, evaluation, coordination, response, and closeout of Requests for Information (RFI's). RFIs shall be reviewed by the appropriate technical disciplines and, where needed, by the Project Manager, QA Manager, and subject matter experts. Responses shall be checked for technical accuracy, consistency with the Contract

Documents, and impacts to scope, schedule, cost, constructability, operations, safety, and related disciplines.

Potential contract changes identified via RFI responses shall be escalated to the PP for formal evaluation and processed through the contract change procedure where required.

3.4.3 Preparation of Contract Changes Including but Not Limited to Addressing Field Conditions, Scope Changes, Errors, Omissions, etc.

The Consultant shall follow established procedures for the preparation of contract changes arising during the construction stage. Contract changes may include responses to differing or unforeseen field conditions, owner-directed scope changes, code or agency comment resolutions, utility conflicts, constructability issues, design errors or omissions, and revisions required to maintain operational continuity or public safety. The Consultant may be required to conduct a field investigation, as directed by the Engineer.

Proposed changes shall be evaluated for technical adequacy, effect on adjacent work, discipline interfaces, constructability, schedule, cost, operations, maintenance, safety, environmental commitments, permits, and stakeholder impacts. All change documents, including revised drawings, sketches, specifications, narratives, design calculations, engineer's estimate and supporting analyses, shall be prepared and independently checked in accordance with the project QA/QC procedures, including the established design stage mark-up procedures, prior to issuance.

Changes affecting design criteria, structural capacity, life safety, traffic operations, rail/transit operations, or major system interfaces shall receive appropriate senior technical and managerial review and shall be immediately identified to the Project Principal (Agreement Project Manager) for coordinated resolution between the Consultant, EADD, and CMD. No revisions to design criteria, capacity, patron safety or operations are permitted without concurrence in writing from the Port Authority - Chief of Design. In all circumstances, a clear audit trail shall be maintained documenting the basis for change, assumptions, field information used, review comments, approvals, and final issued documents. Revisions shall be reflected in record documents.

3.4.4 Factory and Field Acceptance Testing

As part of applicable consultant deliverables, consultants shall establish procedures for review, witnessing, documentation, and follow-up of factory and field acceptance activities and testing for fabricated components, equipment, and systems, as included in the Contract Documents. The Consultant shall:

- Review fabrication procedures, inspection and test plans, test protocols, quality records, certificates of compliance, test data sheets, and manufacturer quality documentation prior to testing.
- Verify that test requirements, acceptance criteria, hold points, witness points, instrumentation, calibration records, and reporting formats are clearly defined and consistent with contract requirements and applicable standards.
- Participate in or witness factory acceptance tests, mock-ups, prototype testing, performance testing, and other off-site quality verification activities, as required.
- Document test observations, deficiencies, nonconformances, punch list items, corrective actions, retesting requirements, and final disposition.
- Coordinate review among relevant disciplines to confirm that equipment or fabricated elements satisfy functional, dimensional, interface, durability, and operational requirements before shipment, delivery, or installation. Ensure that unresolved test deficiencies and punch list items are tracked through closure and that acceptance is supported by complete and properly reviewed documents.
- Coordinate with the commissioning agent and the Resident Engineer to provide technical support during final field testing and commissioning.

3.4.5 NONCONFORMANCE / DEFICIENCY REVIEW:

As requested by the Resident Engineer, review nonconformance reports, deficiency notices, and corrective action proposals affecting contract compliance. Confirm that proposed resolutions do not create code compliance issues, are technically acceptable, and are properly documented.

4.0 CONSULTANT DESIGN STAGE QUALITY MANAGEMENT PROCEDURES

Standard procedures for the Consultant Design Quality Management process are established for the design team to follow.

See Appendix C for a summary diagram of the procedures noted below:

1. At the commencement of a scope-specific project and as defined in its scope of work, the consultant develops a PSQMP and submits to the Project Principal (PP) within 2 weeks of Notice to Proceed. See Consultant Project Specific Quality Management Plan for details.

2. The PP coordinates the comprehensive review of the PSQMP by all involved disciplines and returns comments or concurrence within 5 working days of receipt.

3. The consultant adjusts their PSQMP as they deem appropriate and submits to the PP for final concurrence.

4. Throughout the design process, the consultant continuously applies their quality management process to ensure that the project progresses in accordance with the defined quality standards.

4.1 AT MILESTONE SUBMISSIONS:

1. The **consultant prepares the draft milestone submission**.

    1.1. The Consultant staff identified in the PSQMP organization chart conduct the required reviews prior to each milestone submission.

        1.1.1. For all submissions, internal consultant reviews must follow the PSQMP approved markup procedures.

        1.1.2. Each Interim Final Design milestone submission is prepared based on applicable Content Audit checklists. The baseline level of completeness required for Final Design (Stage 3) milestones is defined in the relevant Discipline Content Audit checklists found here.

        1.1.3. For 60% and 100% (PAWR) submissions, the Consultant shall validate that all prior comments are addressed in the submitted Interim Milestone Design Quality Certification (sample in Appendix B).

        1.1.4. For the PAWR submission, the reviewers utilize the approved Consultant Design Quality Control Checklists which were included and approved as part of the PSQMP. The requisite consultant quality reviewers sign the Quality Content Checklists to document that the subject milestone submission meets the approved PSQMP and scope of work requirements.

    1.2. The consultant submits the required milestone deliverables.

2. **Port Authority Initiates the Milestone Review**:

2.1. The PP and the TL's conduct a content audit review of the submission for satisfactory completeness; verifying all required documentation is included.

2.2. If the submittal shows a lack of content or inadequate quality level, the PP may request a resubmittal from the consultant at no cost to the Authority. Content Audit reviews will inform the consultant performance process documented in the ECSG.

2.3. If the PP determines that the lack of completeness poses a schedule risk, a schedule recovery plan will be requested from the consultant at no cost to the Authority. Consultants are contractually obligated to deliver on schedule.

2.4. Once the PP validates the completeness and quality of the submission, they distribute the submission to all required reviewers. Reviewers include but are not limited to: Line Department Project Management, Operations, Maintenance, Discipline Task Leads, Contracts, CMD, and Estimating. Concurrently, the PP schedules the required review presentation (60%) or workshop (100% (PAWR)).

3. At each of the 60% and 100% (PAWR) design milestones, a mandatory **Consultant Design Submission Presentation** is held. The purpose of this workshop is to present the project to all Authority stakeholders.

3.1. This workshop has the following tasks/objectives:

3.1.1. The PP organizes the meeting with all Authority project stakeholders; the workshop should be approximately 2 to 8 hours depending on project size and complexity (2 days for very large projects). Refer to assignment scope of work for duration details.

3.1.2. The consultant provides a summary of the submission documents highlighting the overall project components, constraints, key developments, project decisions, and specific areas where additional Authority input or Operations review is requested. The purpose of this workshop is to focus the review on key design and operations issues.

3.1.3. Each project stakeholder participates in a dialogue with the consultant to guide their review and identify initial concerns.

3.1.4. The consultant prepares workshop meeting minutes for concurrence by the Authority within 2 business days.

4. **Port Authority Conducts its formal Milestone Review**:

4.1. Reviewers perform reviews of the deliverables focused on code audit, life-safety audit, coordination across the Authority, feasibility, as well as project and facility needs. These reviews are not a substitute for the consultant's quality process.

4.2. Each Authority reviewer is responsible for performing the review to verify that the comments from prior submissions have been properly incorporated before reviewing the submission for new comments. Where prior milestone comments are not adequately addressed, the PP shall follow steps 2.1-2.4 above as appropriate.

4.3. Each reviewer submits their comments to the PP within the documented time.

4.4. All comments from all reviewers shall be recorded in either Bluebeam or a comment matrix. To ensure a centrally located and cohesive design review, all comments including Bluebeam comments, will be incorporated into the milestone comment matrix.

4.5. Based on their review, reviewers finalize the internal Consultant Content Audit Checklists for use in consultant performance evaluation.

5. The PP reviews and compiles all comments and sends the consolidated comment matrix (in .xls format) along with all relevant attachments (such as drawing mark-ups/Bluebeam session) to the Consultant. Consultants may request discipline comments to be provided and resolved collaboratively in Bluebeam. However, it should be noted, a comment resolution matrix will still be required.

6. The consultant responds to all comments within one week of receipt or as noted in the established design schedule or scope of work.

7. At each of the 60% and 100% (PAWR) design milestones, the Comment Resolution Workshop is held. The purpose of this workshop is to review and resolve Authority stakeholder comments. Authority workshop reviews are intended to further guide the consultant in the design process related to facility-specific institutional knowledge, operational requirements, and subject matter expertise.

7.1. This workshop has the following tasks/objectives:

7.1.1. The PP conducts the workshop where all comments will be discussed/resolved.

7.1.2. Consultants shall identify comments which have potentially major scope, schedule or hard cost impacts, develop high level recommendations and quantify order of magnitude project impacts in preparation for the workshop. Resolution shall be documented in the Project Decision Record.

7.1.3. The Comment Resolution Workshop shall be held within one week of receipt of the consultant comment response and identification of workshopping items. The purpose of this workshop is to discuss, clarify, and resolve review comments identified by the consultant and provide additional guidance, as needed.

7.1.4. The PP organizes the meeting with all relevant Authority project stakeholders; the workshop should be approximately 2 to 8 hours depending on project size and complexity (2 days for very large projects). Refer to assignment scope of work for duration details.

7.1.5. Each relevant project stakeholder participates in a dialogue with the consultant collaboratively to resolve identified comments or concerns.

7.1.6. The consultant prepares workshop meeting minutes for concurrence by the Port Authority within 2 business days.

8. The consultant submits the RCR within one week of the workshop, documenting the final comment matrix resolution.

9. The consultant incorporates all changes in the RCR into the subsequent deliverable.

4.2 100% - PORT AUTHORITY-WIDE REVIEW (PAWR) SUBMISSION:

1. The drawings and specifications **shall be 100% complete** and envisioned to only require the incorporation of minor review comments: All documents shall be complete, coordinated, and ready to be stamped/sealed and signed.

2. During PAWR submission review period, the PP coordinates a final thorough review of the 100% drawings/specifications submission by the TL's, PM's, Operations and other relevant stakeholders.

4.3 FINAL SUBMISSION

1. Prior to the Final Submission, consultant submits a preliminary final set of drawings and specifications to the PP. The PP distributes the preliminary submission to author's (TL's or other project stakeholders) to validate all comments are closed. All comments must be closed out by the author.

   1.1. If the Final Submission is deemed incomplete, a conference call will be required with the portfolio SDE and the consultant and their subconsultants, at no cost to the Authority, to discuss the submission insufficiency. The PP shall document the poor performance of the consultant in the performance management system.

2. Once validation is provided by the PP, the consultant submits all contract documents, including signed and stamped/sealed contract drawings, specifications, and calculations and the signed Final Consultant Design Quality Certification. (sample in Appendix B)

3. Once the PP determines the Final Submission is acceptable, the PP informs the consultant. This completes the Final Design review process.

5.0 QUALITY COMPLIANCE AUDIT

To ensure Consultants deliver the highest quality projects, Consultant Design Quality Compliance Audits may be conducted by the PP, on a random basis or as deemed appropriate by the SDE and/or Chief of Design. Quality audits will be directed where concerns of poor performance related to quality are identified by any internal project stakeholder. Quality audits may include the evaluation of all project-related consultant records, interview of project staff, review of in-progress contract drawings, or other activities deemed appropriate or necessary to verify compliance with the approved PSQMP or Quality management procedures documented in a consultant's proposal. This quality compliance audit will inform the Consultant Performance review discussed in the Performance Policy section of the Engineering Consultant Services Guidelines.

APPENDICES

APPENDIX A: ACRONYMS

Acronym	Definition
A/EOR	Architect/Engineer of Record
AI	Artificial Intelligence
AREs	Assistant Resident Engineers
ATS	Aviation Technical Services
AutoCAD	Autodesk Computer-Aided Design
BA / BABA	Buy America / Build America, Buy America
BDR	Basis of Design Report
BIM	Building Information Modeling
C/CP	Confidential / Confidential Privileged
CDQMG	Consultant Design Quality Management Guidelines
CE	Contract Engineer
CII	Critical Infrastructure Information
CISO	Chief Information Security Officer
CMD	Construction Management Division
COD	Chief of Design
CP	Confidential Privileged (former terminology)
CPM	Consultant Project Manager
CQM	Consultant Quality Manager
CQC	Consultant Quality Control
CS	Contract Specialists
DC	Discipline Chief
DCOD	Deputy Chief of Design
DBB	Design–Bid–Build
DE	Design Engineer
DEP	Department of Environmental Protection
DOT	Department of Transportation
DP	Discipline Principal
EADD	Engineering Architecture/Design Division
ECSG	Engineering Consultant Services Guidelines
EOC	Engineer of Construction
ISO	International Organization for Standardization

Acronym	Definition
LLM	Large Language Model
MEU	Materials Engineering Unit
NDA	Non-Disclosure and Confidentiality Agreement
PDR	Project Decision Record
PI	Protected Information
PA	Port Authority
PANYNJ	Port Authority of New York and New Jersey
PAWR	Port Authority-Wide Review
PII	Personally Identifiable Information
PID	Project Identification Number
PIPP	Protection of Information Practices & Procedures Manual
PM	Project Manager
PP	Project Principal
PSQMP	Project Specific Quality Management Plan
QA	Quality Assurance
QA/QC	Quality Assurance / Quality Control
QC	Quality Control
QM	Quality Management
QMS	Quality Management System
RCR	Review Comments Resolution
RFP	Request for Proposal
REO	Resident Engineer's Office
SDE	Senior Design Executive
SSI	Sensitive Security Information
SIM	Security Information Manager
SC	Subconsultant
SMS	Submittal Management System
TL	Task Leader
TM	Technical Manager
TCRM	Tenant Construction Review Manual

APPENDIX B: SAMPLE DESIGN QUALITY CERTIFICATIONS

INTERIM MILESTONE DESIGN QUALITY CERTIFICATION

[Consultant Letterhead]
[Month, Day, Year]

[First Last] – Project Principal
Port Authority of New York and New Jersey
4 World Trade Center
150 Greenwich Street, 19th Floor
New York, NY 10006

Re: Interim Milestone Design Quality Certification
[Contract number-Project Name]
Stage [X] - [XX%] or [PAWR] Submission

Dear [Project Principal],

Regarding the above-mentioned project, please note that [Consultant Name] certifies the following:

- An internal review of our and our subconsultants' design drawings and specifications was performed in accordance with the approved Quality Management Plan.
- The design drawings and specifications address the project scope, as appropriate, and meet the content requirements for the subject submission.
- All interim SIM reviews of content are complete and all identified contract documents and deliverables are classified and handled appropriately
- All prior milestone comments and all decisions recorded in the Project Decision Record have been incorporated.

If you have any questions, or need additional information, please feel free to call [XXX-XXX-XXXX] or email me at [email address]

Sincerely,

_____ _____
[First Last] Project Manager, [Consultant] Date

_____ _____
[First Last] Quality Manager, [Consultant] Date

FINAL SUBMISSION DESIGN QUALITY CERTIFICATION

[Consultant Letterhead]
[Date]

[First Last] – Project Principal
Port Authority of New York and New Jersey
4 World Trade Center
150 Greenwich Street, 19th Floor
New York, NY 10006

Re: Final Submission Design Quality Certification
[Contract number-Project Name] - Stage III Final Submission

Dear [Project Principal],

In connection with the above-referenced project, [Consultant Name] hereby certifies that an internal Quality Control/Quality Assurance (QC/QA) review of our Contract Drawings and Specifications, as well as those of our subconsultants, has been completed in accordance with the approved Quality Management Plan and current Port Authority Standards.:

[Consultant Name] and its subconsultants further certify that:

a. The Contract Drawings and Specifications are complete and address the established project scope in its entirety.
b. The Contract Drawings and Specifications were thoroughly checked and reviewed for accuracy, constructability, interdisciplinary coordination, compliance with Authority security policies/protocols, and for conformity to all applicable laws, codes, and regulations.
c. All comments provided during milestone reviews and all decisions recorded in the Project Decision Record have been incorporated or satisfactorily resolved.
d. All SIM reviews are complete and all contract documents and deliverables are classified and handled appropriately
e. Final documents comply with current Port Authority AutoCAD and PA BIM standards.
f. Final documents comply with current PA Contract Document Standards
g. A Construction Cost Estimate has been prepared and verified.

Please contact me at [phone number] or [email address] with any questions.

Sincerely,

_____

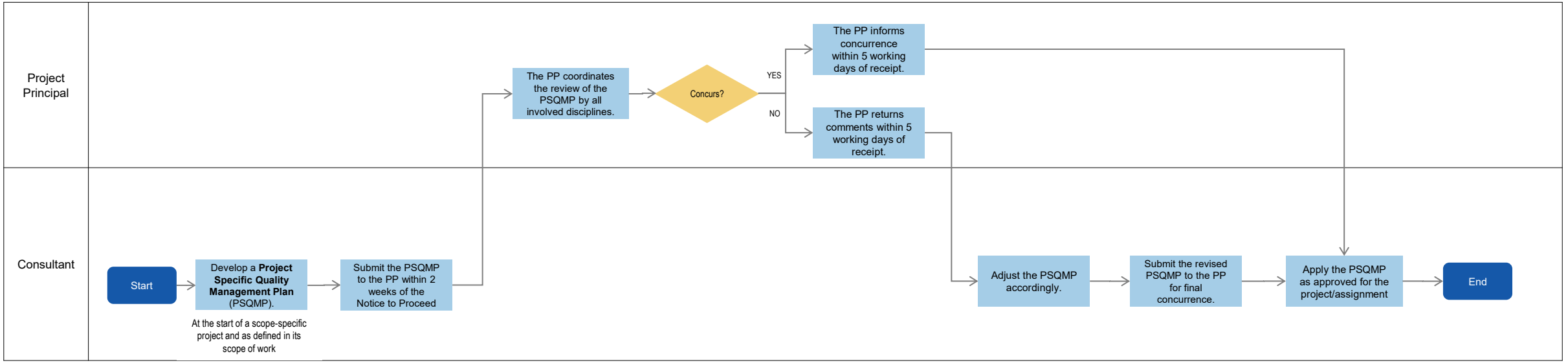
Accepted by: [First Last] Date
Project Principal, PANYNJ

APPENDIX C: CDQMG PROCEDURE FLOWCHARTS

- CMQP PROJECT SPECIFIC QUALITY MANAGEMENT PLAN
- CMQP MILESTONES SUBMISSION

PROJECT SPECIFIC QUALITY MANAGEMENT PLAN (PSQMP)

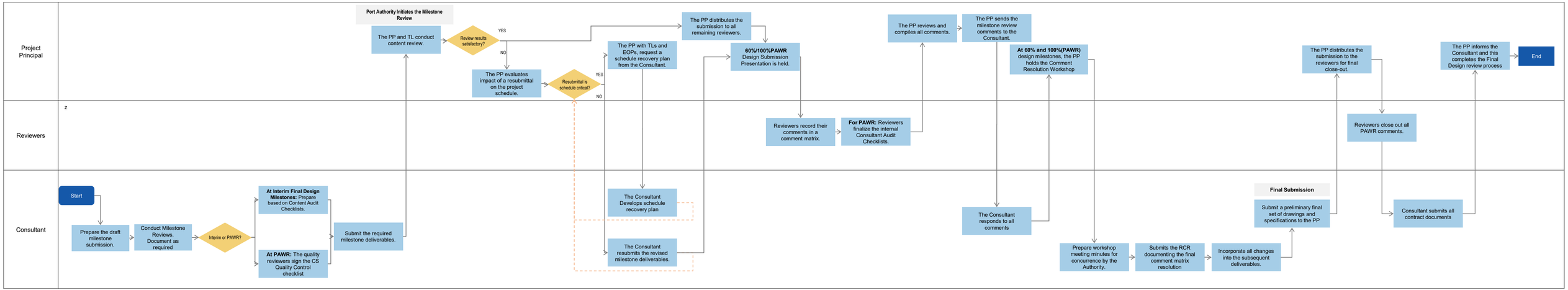
PROCESS FLOWCHART



PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

AT MILESTONE SUBMISSIONS

PROCESS FLOWCHART

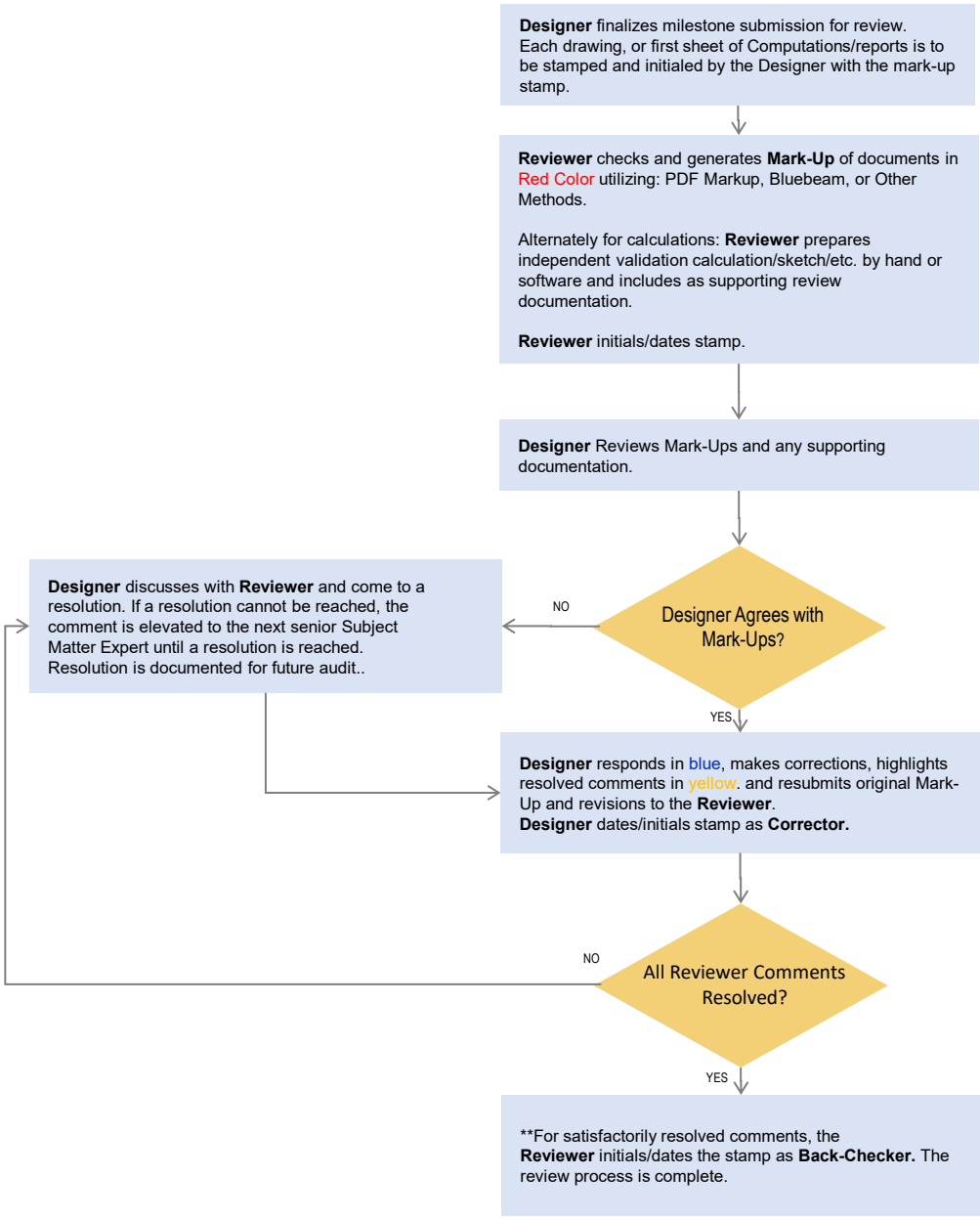


APPENDIX D: SAMPLE MARKUP PROCEDURES

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

MARK-UP WORKFLOW FOR DRAWINGS/CALCULATIONS/DOCUMENTS

PROCESS FLOWCHART



Roles and Responsibilities:

- **Designer:** The person performing the Design
- **Reviewer:** A qualified Senior Level Engineer/Architect/Professional who independently reviews the work.
- **Corrector:** The person correcting the work based on Reviewer comments. Typically, the Designer and the corrector are the same individual
- **Back-Checker:** A qualified Senior Level Engineer/Architect/Scientist who is back-checking the corrected work. Typically, the Reviewer and the back checker are the same individual.

**All final markups must be stored digitally for future quality auditx

APPENDIX E: SAMPLE PROJECT DECISION RECORD

PORT AUTHORITY OF NEW YORK AND NEW JERESEY
PROJECT DECISION RECORD

Project Name:	
Project Principal:	
PID:	
Project Stage:	
Consultant A/EOR	
Contract Number:	

Record Number	Subject Area:	Date of Decision	Stakeholders/Titles Involved	Problem Statement:	Record of Decision:	Potential Impact to Project Scope	Potential Impact to Project Schedule	Potential Major Impact to Project Hard Cost	PP Initials	EOP Initials	LD PM Initials	Backup Documentation Location
1						Y/N/TBD	Y/N/TBD	Y/N/TBD				

Submitted by: _____
First Last, Consutlant, Project Manager

Approved by: _____
First Last, Project Principal

Concurred by: _____
First Last, Senior Design Exectuive

DOCUMENT CHANGE CONTROL TABLE

N	Update Date	Version	Author	Approved By	Description
1	06/12/2026	V.1.0	EADD	Simona Shapiro, Chief of Design	Official document release

REFERENCE DOCUMENTS

1. CONTENT AUDIT CHECKLISTS

You may access the individual checklists under General Standards & Guidelines in Engineering Available Documents.

1.1. ARCHITECTURAL
1.2. CIVIL
1.3. ELECTRICAL
1.4. ELECTRONICS
1.5. ENVIRONMENTAL
1.6. GEOTECHNICAL
1.7. LANDSCAPE ARCHITECTURE
1.8. MECHANICAL (HVAC, FUELING, VERTICAL TRANSPORTATION)
1.9. MECHANICAL (PLUMBING / FIRE PROTECTION)
1.10. STRUCTURAL
1.11. TRAFFIC
1.12. RESILIENCE AND SUSTAINABLE DESIGN – *Coming soon; for more information, please contact rsdpaprojects@panynj.gov*

2. SAMPLE: DISCIPLINE QC CHECKLISTS

You may access the individual checklists under General Standards & Guidelines in Engineering Available Documents.

2.1. DESIGN MANAGERS
2.2. ARCHITECTURAL
2.3. CIVIL
2.4. ELECTRICAL
2.5. ELECTRONICS
2.6. ENVIRONMENTAL
2.7. GEOTECHNICAL
2.8. LANDSCAPE ARCHITECTURE
2.9. MECHANICAL (HVAC)
2.10. MECHANICAL (PLUMBING / FIRE PROTECTION)
2.11. STRUCTURAL
2.12. TRAFFIC
2.13. ESTIMATING
2.14. RESILIENCE AND SUSTAINABLE DESIGN – *Coming soon; for more information, please contact rsdpaprojects@panynj.gov*

CONTENT AUDIT CHECKLISTS

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ARCHITECTURAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
General and Architectural Notes	P	A	F		
Schedules	P	A	F		
Existing Documents	P	A	F		
Removal Plans	P	A	F		
Floor Plan	P	A	F		
Roof Plans	P	A	F		
Elevations	P	A	F		
Sections	P	A	F		
Design Criteria / Analyses	F				

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ARCHITECTURAL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Standard Details	P	A	F		
Remaining Details		P	F		
Graphics / Wayfinding	P	A	F		
Sole Source		P	F		
[Add discipline-specific items as needed]					
Specifications					
List of Specifications	D	D	F		
M-Specs		D	F		
C-Specs		D	F		
Specification Appendices Modified		D	F		
[Add discipline-specific items as needed]					
Coordination Items					
Sustainability	P	A	F		
Flood Protection	P	A	F		
Constructability	P	A	F		
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
CIVIL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
Verify Contract Number	F	F	F		
Civil Net Cost Notes	S	A	F		
Location Plan	S	F	F		
Construction Staging Drawings/Notes	S	P	F		
Available Space for Contractor	S	P	F		
General/Civil Notes/Abbv/Legend	S	A	F		
Key Plan	P	A	F		
Removal Plans	S	A	F		
Alignment Plans	P	A	F		
Grading Plans	S	A	F		
Paving Plans	S	A	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
CIVIL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Utility Plans	P	A	F		
Sections and Profiles Drawings	S	A	F		
Civil Details	S	P	F		
Miscellaneous Details	S	P	F		
Structure Tables	S	P	F		
Utility Details	S	P	F		
Other (Project Specific)	S	P	F		
[Add discipline-specific items as needed]					
Other					
List of Specifications	S	A	F		
C- Specs	S	A	F		
Hydraulic Calculations	S	A	F		Earlier if required for permitting
Miscellaneous details for support of other disciplines	S	P	F		
Documents for permitting	P	A	F		Earlier if required
Civil Estimate	P	A	F		
Sole Source Quotations	S	A	F		
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRICAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings (General Drawings)					
Index of Drawings	S	A	F		
Correct Project Title	F	F	F		
Correct PID Number	F	F	F		
Correct Contract Number	F	F	F		
Electrical Net Cost Notes	S	A	F		
Location Plan	S	F	F		
Construction Phasing/Staging Notes	S	P	F		
Access Plans/Hauling Routes	S	P	F		
Sole Brand/Source Notes	S	P	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRICAL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Special Inspection Notes	S	P	F		
[Add discipline-specific items as needed]					
Design Drawings (Electrical Drawings)					
C/CP Drawing Compliance	P	A	F		
CAD Standards Compliance	P	A	F		
Standard Electrical Notes	P	A	F		
Standard Details	S	A	F		
Panel Schedules	S	A	F		
Removal Plans	S	A	F		
Installation Plans	S	A	F		
Elevations	S	A	F		
Sections	S	A	F		
One-Line Drawings	S	A	F		
Block Diagram	S	P	F		
Riser Diagram	S	P	F		
Legend	P	F	F		
Abbreviations	P	F	F		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRICAL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
List of Manufacturers	P	F	F		
Wiring Diagrams	S	P	F		
Cable & Conduit Schedules	S	A	F		
[Add discipline-specific items as needed]					
Specifications					
List of standard specifications	P	F	F		
C-Spec Modifications	S	A	F		
[Add discipline-specific items as needed]					
Calculations					
Lighting	S	P	F		
Short-Circuit	S	P	F		
Voltage Drop	S	P	F		
Conduit Fill	S	P	F		
Feeder Size	S	P	F		
OCPD Size	S	P	F		
Load Summary	S	P	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRICAL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Selective Coordination/ Protective Device Coordination	S	P	F		
Arc Flash Analysis	S	P	F		
Grounding Resistance	S	P	F		
Risk Analysis for Lightning Protection	S	P	F		
Step and Touch Voltage	S	P	F		
Estimate					
Electrical Estimate	S	P	F		
Quotations	S	A	F		
Conformance to PANYNJ Estimating Standards	S	A	F		
[Add discipline-specific items as needed]					
Catalog Cuts					
Major Equipment Catalog Cuts Provided	S	P	F		
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRONICS

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
General Drawings (if Lead Discipline)					
C/CP Drawing Compliance			F		
Verify PID/Contract No./Work Order No.	A	F	F		
Verify Title Page Signature Lines	P	F	F		
Location Map/Location Plan	S				
Index of Drawings	S	A	F		
Standard General Notes		A	F		
Construction Phasing/Staging Notes		P	F		
[Add discipline-specific items as needed]					

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRONICS

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
C/CP Drawing Compliance			F		
Electronics General Notes		P	F		
Electronics Net Cost Notes			F		
Legend and Abbreviations		A	F		
List of Manufacturers		P	F		
Sole Brand/Sole Source Product/Service Notes		A	F		
System Block Diagrams/Riser Diagrams	A	F	F		
Equipment Schedule	S	A	F		
Removal Plan Drawings, including graphical scale, North arrow and Key Plan	P	A	F		
Installation Plan Drawings, including graphical scale, North arrow and Key Plan	A	A	F		
Conduit and Cable Schedule		A	F		
Standard Details		A	F		
Equipment Schedules	A	F			

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRONICS

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Removal Plans	S	A	F		
Sections/Elevations		A	F		
Installation Details		A	F		
Conformance to CADD Standards			F		
[Add discipline-specific items as needed]					
Specifications					
List of Standard Specifications	A	F			
C-Specifications		A	F		
[Add discipline-specific items as needed]					
Calculations					
Conduit Fill		A	F		
Radio System Uplink and Downlink Signal Loss	A	F			
[Add discipline-specific items as needed]					
Construction Cost Estimate					
Electronics/Radio Systems Estimate		A	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ELECTRONICS

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Vendor Quotations		A	F		
Sole Brand/Sole Source Product/Service Quotations		A	F		
Conformance to PANYNJ Estimating Standards			F		
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ENVIRONMENTAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
Verify Contract Number	F	F	F		
Environmental Net Cost Notes	S	A	F		
Location Plan	S	F	F		
Construction Staging Drawings	S	P	F		
Environmental Notes	S	A	F		
Supporting Documents (asbestos and lead survey) and/or sampling plan and results	S	A	F		
Environmental abatement drawing if applicable	S	A	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
ENVIRONMENTAL

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Specifications					
List of Specifications	S	A	F		
C-Specs	S	A	F		
Other					
Calculations	S	A	F		
Documents for permitting/permits needed or obtained	P	A	F		
Environmental cost estimate	P	A	F		
Sole Source Quotes	S	A	F		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
GEOTECHNICAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria					Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.					Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications
Item	**30%**	**60%**	**PA Wide Review**	**Acceptable (Y/N/NA)**	**Remarks**
Design Drawings					
General Drawings – Net Cost, Special Inspection, Survey Control	S	A	F		
Construction Staging	S	A	F		
Haul Route and Stockpile Area	S	A	F		
Excavation, Filling and Backfilling Notes	S	A	F		
Foundation and/or other Geotechnical Plans	S	A	F		
Load Test Plans, Notes, and Details	S	A	F		
Instrumentation and Monitoring Plans, Notes, and Details	S	A	F		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
GEOTECHNICAL

Drawings/Calculations/Design Criteria					Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.					Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications
Item	**30%**	**60%**	**PA Wide Review**	**Acceptable (Y/N/NA)**	**Remarks**
Sections and Elevations	S	A	F		
Notes and Details	S	A	F		
[Add discipline-specific items as needed]					
Contract Documents & Technical Specifications					
List of Technical Specifications	D	F			
Custom Technical Specifications		D	F		
List of Classified Items & Descriptions		D	F		
List of Available Documents		D	F		
Engineer's Estimate		D	F		
[Add discipline-specific items as needed]					
Calculations					
Basis of Design	F				
Geotechnical Calculations	D	F			
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
LANDSCAPE ARCHITECTURE

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		Submission:	
Auditor:		Date:	
PID:			

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
General Notes	P	A	F		
Schedules	P	A	F		
Removal Plans	S	A	F		
Site Plan	S	A	F		
Roof Plans	S	A	F		
Elevations	S	A	F		
Sections	S	A	F		
Details	S	A	F		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
LANDSCAPE ARCHITECTURE

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Sole Source/Sole Brand	P	A	F		
[Add discipline-specific items as needed]					
Specifications					
List of Specifications	D	D	F		
C-Specs		D	F		
Specification Appendices Modified		D	F		
[Add discipline-specific items as needed]					
Coordination Items					
RSE - Sustainability	P	A	F		
Civil Engineering/Traffic - Site Accessibility, ADA compliance	P	A	F		
Civil Engineering – Stormwater Management	P	A	F		
Civil Engineering/RSE - Bio-Retention	P	A	F		
[Add discipline-specific items as needed]					

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (HVAC, FUELING, VERTICAL TRANSPORTATION)

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
General Notes	S	P	F		
Net Cost Notes	S	P	F		
Phasing/Staging Notes	S	P	F		
Inspection Notes	S	P	F		
Seismic Notes	S	P	F		
Energy Code Analysis and Compliance Notes	S	P	F		
Equipment Schedules	S	P	F		
Removal Plans	S	P	F		
Installation Plans		P	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (HVAC, FUELING, VERTICAL TRANSPORTATION)

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Sections		P	F		
Details		P	F		
Control Drawings		P	F		
Flow Diagrams		P	F		
[Add discipline-specific items as needed]					
Specifications					
Specifications		P	F		
[Add discipline-specific items as needed]					
Calculations					
Calculations	F				
Design Criteria	F				
Cost Estimate	S	P	F		
Sole Source Quotation	S	P	F		
[Add discipline-specific items as needed]					

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (HVAC, FUELING, VERTICAL TRANSPORTATION)

Rating and Evaluation

Rate Completeness of Design Documents Against Content Requirements				
☐	☐	☐	☐	☐
Exceeds Requirements	Consistent w/ Requirements	Generally Consistent w/ Requirements	Generally Lacking Against Requirements	Unacceptable

Rate Quality of Design Documents				
☐	☐	☐	☐	☐
Exceeds Requirements	Well Planned and Coordinated	Some Items Missed or Not Coordinated	Many Items Missed or Not Coordinated	Unacceptable Quality

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (PLUMBING/FIRE PROTECTION)

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
General Notes	S	P	F		
Net Cost Notes	S	P	F		
Phasing/Staging Notes	S	P	F		
Inspection Notes	S	P	F		
Seismic Notes	S	P	F		
Energy Code Analysis and Compliance Notes	S	P	F		
Equipment Schedules	S	P	F		
Removal Plans		P	F		
Installation Plans		P	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (PLUMBING/FIRE PROTECTION)

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Sections		P	F		
Details		P	F		
Control Drawings		P	F		
Flow Diagrams		P	F		
[Add discipline-specific items as needed]					
Specifications					
Specifications		D	F		
[Add discipline-specific items as needed]					
Calculations					
Calculations	F				
Design Criteria	F				
Cost Estimate	S	P	F		
Sole Source Quotation	S	P	F		
[Add discipline-specific items as needed]					

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
MECHANICAL (PLUMBING/FIRE PROTECTION)

Rating and Evaluation

Rate Completeness of Design Documents Against Content Requirements				
☐	☐	☐	☐	☐
Exceeds Requirements	Consistent w/ Requirements	Generally Consistent w/ Requirements	Generally Lacking Against Requirements	Unacceptable

Rate Quality of Design Documents				
☐	☐	☐	☐	☐
Exceeds Requirements	Well Planned and Coordinated	Some Items Missed or Not Coordinated	Many Items Missed or Not Coordinated	Unacceptable Quality

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
STRUCTURAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings	Specifications/Calculations
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
Verify Contract Number	F	F	F		
Structural Net Cost Notes	S	A	F		
Location Plan	S	F	F		
Construction Staging Drawings/Notes	S	P	F		
Available Space for Contractor	S	P	F		
Special Inspection Notes	S	P	F		
General Notes	S	A	F		
Roof Framing Plan	S	A	F		
Foundation Plan	S	A	F		
Floor Framing Plans	S	A	F		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
STRUCTURAL

Drawings					Specifications/Calculations
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.					Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications
Item	**30%**	**60%**	**PA Wide Review**	**Acceptable (Y/N/NA)**	**Remarks**
Sectional Drawings	S	A	F		
Structural Details	S	P	F		
Miscellaneous Details	S	A	F		
Connection Details	S	P	F		
Other (Project Specific)	S	P	F		
[Add discipline-specific items as needed]					
Specifications					
List of Submittals completed	P	A	F		
C- Specs	S	A	F		
Computer model input and output	S	A	F		
Member Sizes	S	A	F		
Foundations	S	P	F		
Connections	S	P	F		
Miscellaneous details for support of other disciplines	S	A	F		
[Add discipline-specific items as needed]					

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
STRUCTURAL

Drawings	Specifications/Calculations
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Calculations					
Structural Cost Estimate	S	P	F		
Sole Source Quotations	S	A	F		
[Add discipline-specific items as needed]					

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
TRAFFIC

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Auditor:		Date:	

Content Audit

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Design Drawings					
General Notes	S	A	F		
Details	S	A	F		
Removal Drawings	S	A	F		
Signing Drawings	P	A	F		
Pavement Marking Drawings	S	A	F		
Traffic Signal Drawings	P	A	F		
Maintenance of Traffic Drawings	P	A	F		
Roadside Safety Drawings	P	A	F		
ITS Drawings	P	A	F		

CONSULTANT DESIGN
CONTENT AUDIT CHECKLIST
TRAFFIC

Drawings/Calculations/Design Criteria	Specifications
Started (S): Drawing created, drawing backgrounds established. Preliminary (P): Major scope and equipment shown. Advanced (A): Full project scope shown, with multidisciplinary coordination substantially complete, pending final reconciliation. Final (F): Complete.	Draft (D): Preliminary C-Specs and List of Standard Specifications Final (F): Complete C-Specs and List of Standard Specifications

Item	30%	60%	PA Wide Review	Acceptable (Y/N/NA)	Remarks
Transportation Management Plan Documentation	A	F			
[Add discipline-specific items as needed]					
Specifications					
Division 1 MOT			F		
Traffic Signal			F		
ITS		S	F		
Pavement Marking			F		
Signing			F		
[Add discipline-specific items as needed]					
Calculations					
Red / Yellow Clearance Intervals	S	A	F		
Conduit Fill	S	A	F		
Length of Need	S	A	F		
Traffic Analysis	A	F			
[Add discipline-specific items as needed]					

SAMPLE: DISCIPLINE, DESIGN MANAGER, AND ESTIMATING QUALITY CONTROL CHECKLISTS

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

FOR INFORMATION ONLY

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PIDS:	
Auditor:		Date:	

The review list presented below is intended to be used as a guidance document in the review of the submittal. Comments shall be logged in the Comment Review Matrix for the Designer to address. Any potential issues identified should also be highlighted for the Design Manager to review in further detail or for the Designer to clarify.

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
1. GENERAL		
1.1 Verify that the Contract Documents conform to the Project Definition Statement and proposal scope.		
1.2 Verify that the Consultant provided signed documentation certifying that their firm's QA/QC Plan was followed, and the design documents are following Port Authority Standards and Design Guidelines.		
1.3 Verify that all required inter-discipline coordination has been completed.		
1.4 Identify conflicts between the Contract Drawings and Divisions 01-48 of the Specifications.		
1.5 Check Conditions and Precautions, Airport Operations and Conditions or PATH Operations and Conditions are applicable and appropriate to work and location.		
1.6 Check Hours of Work are unrestricted whenever possible or restrictions are justified.		
1.7 Check Maintenance of Traffic and Work Area Protection clause is included when applicable.		
1.8 Check that all Contract terminology in the Contract Documents is in accordance with the "Contract Terminology Guidelines.		
1.9 Verify that an audit was completed for compliance with federal funding requirements (e.g., no sole source procurement, Buy America provisions, no net cost, etc.) for federally funded projects.		
1.10 Check time for completion and completion milestones are appropriate for the scope of work and match the approved PA-prepared Construction Schedule, if provided.		

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
1.11 Verify that all Net Cost items, including Field Ordered Work on federally funded contracts, have been reviewed and approved by the Construction Management Division (CMD), and that any non-standard items have received approval from the EOC-Contract Administration or designated authority.		
1.12 Verify that all applicable Climate Resilience and Sustainable Design requirements have been met and fully documented per Port Authority guidelines, and that all necessary concurrences and sign-offs have been secured for infrastructure and/or building design, as required.		
1.13 Check that Lump Sum work is quantifiable and shown in sufficient detail for bidding.		
1.14 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.		
1.15 Verify adherence to the asset management policy, encompassing Division One clauses, equipment lists, and other relevant provisions.		
1.16 Check time for completion and completion milestones are appropriate for the scope of work and match approved PA-prepared Construction Schedule, if provided.		
1.17 Check Hours of Work clause with Lead Discipline and PM for applicability, appropriateness, that hours of work are unrestricted whenever possible or restrictions are justified.		
1.18 Contract Documents Review & Sign-off		
a) Verify that the Contract Documents have been reviewed by both the facility and the Project Manager (PM).		
b) Verify that the Contracts Unit has confirmed to the PP there are no missing items for the Contract documents		
c) Check that all consultant-prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.		
d) Verify that calculations have been submitted and reviewed by all Task Leads.		
e) Verify that all comments in the PA-Wide Milestone Review Table (including all previously provided comments) have been addressed in the final Contract Documents and the comments have been closed by the author of the comment.		
f) Verify that the Materials Engineering Unit (MEU) has provided input where required.		

FOR INFORMATION ONLY

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

FOR INFORMATION ONLY

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
1.19 Sole Source/Sole Brand		
a) Verify that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided if needed.		
b) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.		
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.		
1.20 Protected Information (PI)		
a) Verify that the discipline SIMs have reviewed all Contract Documents, including Reference Drawings and Available documents, and confirmed their compliance with the PANYNJ Information Security Handbook and the Protection of Information Practices and Procedures (PIPP) Manual.		
b) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI.		
c) Verify that information marked as Confidential (C) or Confidential Privileged (CP) is appropriately marked, numbered, and packaged separately from non-CP documents.		
d) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PP as such.		
1.21 3rd Party Coordination		
a) Verify that approvals from utility companies and all relevant government agencies with jurisdiction have been secured.		
b) Verify that required permits or associated approvals are included in the contract (list and copies of permits or samples).		
c) Verify that identified third-party access or property agreements have been coordinated with the PM and provided to Contracts.		

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

FOR INFORMATION ONLY

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
d) Check that third-party access or property agreements have been obtained and that none that should have been provided based on the scope of work are missing, and that conditions in the agreements do not conflict with the Contract Drawings and the Specifications.		
1.22 Available & Reference Documents		
a) Verify if Available Documents, Reference Drawings or Reference Documents are required.		
b) Verify that the identified Documents are legible and have been provided to the Contract Engineer.		
c) Verify that the identified Drawings are legible, full-size, and have been provided to the Contract Engineer.		
d) Verify that Reference Drawings/Documents are referred to in either the Contract Drawings or technical specifications.		
e) Verify that Reference Drawings/Documents are correctly categorized as such and contain contract requirements that are pertinent and correct.		
f) Verify that a list of Reference/Available Drawings has been provided to the Contract Engineer.		
1.23 Payments		
a) Check payment terms are appropriate for type of work.		
b) Check that Lump Sum work is quantifiable and shown in sufficient detail for bidding.		
c) Check that pre-approved Unit Price items descriptions match the wording in the Classified Items template and are appropriate and well defined.		
d) Check that non pre-approved Unit Price items have been approved by the Assistant Chief of Design.		
e) Check estimated quantities shown on the Classified items list are correct for Unit Price items.		
f) Verify that Net Cost items (or Field Ordered Work) are not the same as Unit Price items (if any).		
2. DRAWING COORDINATION		
2.1 Check that the Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.		
2.2 Verify that the Drawings have been submitted for, and have passed, a Port Authority CAD and/or BIM compliance review.		

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
2.3 Verify that the index of drawings matches the sheet title blocks and that the drawing titles are consistent.		
2.4 Verify that proper line weights and text sizes are used on each Contract Drawing, ensuring line weights of existing work are lighter than those of new work.		
2.5 Check the text and symbols are legible.		
2.6 Verify that a location plan has been provided.		
2.7 Check Location Plan drawing shows a “Haul Route”, if applicable, and “Area Available for Contractor’s Use” and "Stockpile Area" when such areas are provided.		
2.8 Verify that seismic requirement notes are included on the Contract Drawings.		
2.9 Verify that special inspection notes are included on the Contract Drawings.		
2.10 Verify that rigging and crane notes, if required, are included on the Contract Drawings.		
2.11 Verify that net cost notes are included on the Contract Drawings.		
2.12 Verify that tagged equipment on the Contract Drawings matches the equipment listed in the schedules.		
2.13 Verify that a key plan and north arrow are shown on each plan Contract Drawing.		
2.14 Verify that an appropriate graphic scale is shown on each Contract Drawing.		
2.15 Verify that match lines, section or elevation marks, and detail callouts are included as needed.		
2.16 Verify that proper references have been made to Contract Drawings on callouts, labels, details, and sections.		
2.17 Verify that floor plan and section titles match the Contract Drawing titles.		
2.18 Verify that Construction Staging requirements have been provided, including clear notes specifying the order in which stages shall be completed and whether completion of one or more stages is required before proceeding to the next stage(s).		
2.19 Verify that hauling and access restrictions or requirements are clearly specified, and that any imposed weight limits have been confirmed.		
2.20 Verify that the Consultant has submitted signed and sealed applicable energy calculations, or a tabular analysis and compliance statement as required to demonstrate compliance with the applicable Energy Conservation Code and Port Authority requirements on Contract General Drawings.		
2.21 Check that Architect has verified building or space classifications, if necessary.		

FOR INFORMATION ONLY

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
2.22 Verify that disposal areas, stockpile sites, staging areas, storage areas, water sources, and areas available for contractor use (if required) are shown on the Contract Documents and have been approved by the PM.		
2.23 Verify that Contract Drawings accurately reflect existing site conditions.		
2.24 Check Location Plan drawing shows a “Haul Route”, if applicable, and “Area Available for Contractor’s Use” and "Stockpile Area" when such areas are provided.		
2.25 Check that the terminology used on the Contract Drawings is consistent with the Specifications.		
2.26 Check the titles and terminology in details are consistent with those on other drawings.		
2.27 Verify that pre-approved Unit Price items and descriptions match the wording in the Engineering Dept. Classified Work policies.		
2.28 Verify that for non-pre-approved Unit Price items, documentation has been provided that the functional Chief or designee has approved them in accordance with the Classified Work policies.		
2.29 For combination contracts with atypical, or minimal Unit Price Items (less than 5% of the EE), check that Unit Price items are in accordance with the Engineering Department’s Unit Price Policy to determine if they are allowed, and that Classified Items are complete, appropriate and coordinated with the Contract Drawings and Specifications.		
2.30 Check that list of Materials Furnished by the Authority is coordinated with Contract Drawings and Specifications.		
3. SPECIFICATIONS COORDINATION		
3.1 If custom (or modified) technical specifications were required, verify that an audit was completed to ensure compliance with PA Contract Document Standards and that the specifications are in the PA Standard format.		
3.2 Verify that the Submittal Management System (SMS) has been updated to include all project specifications.		
3.3 Verify that all items required under “Instructions to Specifier” are incorporated into the contract drawings.		
3.4 Verify that Building System Commissioning specifications have been provided, if required.		
3.5 Verify that Detailed Systems Operations & Maintenance (O&M) Manuals have been specified, if required.		
3.6 Check if the Equipment Deliverable Chart has been specified, if required.		
3.7 Verify whether Equipment Training for Facility Staff has been specified.		

FOR INFORMATION ONLY

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
3.8 Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.		
3.9 Check that all Specifications called out on the Contract Drawings are included in Contract book.		
3.10 Check that all Specifications referred to in other Specification sections and in Division 01 Maintenance of Traffic clause (if any) are included in Contract book.		
3.11 Check Specifications are appropriate for certain types of work shown on the Contract Drawings.		
3.12 Check that Specifications have been modified to coordinate with List of Materials Furnished by the Authority.		
3.13 When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.		
3.14 Check that all items specified are quantifiable and can be priced for bidding.		
3.15 Check if Sole Source/Sole Brand items are identified in the C-Specs.		
3.16 Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval.		
3.17 Check that list of Specifications is complete.		
3.18 Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer.		
3.19 Identify equipment on the Equipment Information Submittals section of the Questionnaire.		
3.20 Verify that the list of Specifications and submittal items from the Submittal Management System (SMS) have been provided.		
3.21 Non-Standard Specifications: Verify that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval.		
3.22 Verify that electronic copies of all non-standard Specifications have been provided.		
3.23 Verify that electronic copies of all Consultant-prepared non-standard Specifications have been correctly formatted in the PA style template.		
3.24 Check that pre-approved Unit Price items descriptions match the wording in the Classified Items template and are appropriate and well defined.		
3.25 Check that non-pre-approved Unit Price items have been approved by the Assistant Chief of Design.		
3.26 Check estimated quantities are correct for Unit price items.		

FOR INFORMATION ONLY

QUALITY CONTROL CHECKLIST
DESIGN MANAGERS

ITEM	ACCEPTABLE? (Y/N/NA)	REMARKS
4. ESTIMATE COORDINATION		
4.1 Verify that the Estimating Group has reviewed and approved the cost estimate.		
4.2 Verify that any classified items included in the contract are accurately reflected in the construction cost estimate.		
4.3 Verify that the Analysis of Bid aligns with the project's Lump Sum scope of work and the construction cost estimate.		
4.4 Verify that the estimated quantities provided for Unit Price items are correct.		

FOR INFORMATION ONLY

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Architecture	Stage:	
Design Architect (DA):		Lead?	☐ Yes ☐ No
Task Lead (TL) / Checker (C):		Date:	
Principal Architect (PA):		PID:	

ARCHITECTURAL *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards				
2.2 Check that items required under "instructions to specifier" are included on the contract drawings				
2.3 Coordinate compliance with PANYNJ Information Security Handbook and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				
2.4 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.5 Check that the Chief's approval for any code variances has been received				
2.6 Check that printouts of computer-generated calculations are provided				
2.7 Check that all design review comments have been addressed				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
2.8 Check that MEU (Materials) has provided input where required				
2.9 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit				
2.10 Check that drawings have been reviewed by the facility and the PM				
2.11 Check that CAD review was passed				
2.12 Check that net cost items were approved by CMD				
2.13 Check if Building System Commissioning specifications have been provided, if required				
3. COST ESTIMATE				
3.1 Check all scope items have been included				
3.2 Check all quantities				
3.3 Spot check Estimating Unit input: costs and labor rates, contractor's OH&P, inflation factor, etc.				
3.4 Review with Estimating Unit				
3.5 Identify and coordinate any Net Cost items with the Project Principal				
4. SPECIFICATIONS				
4.1 Check all standard specifications, M-specs and C-specs that are required are included				
4.2 Check instructions to bidders have been removed from final specification documents				
4.3 Verify all submittals are identified in the Submittal Management System (SMS)				
4.4 Check hardware schedule is prepared (if required)				
4.5 Check painting schedule is prepared (if required)				
4.6 Check glass & glazing schedule is prepared (if required)				
4.7 Check O&M deliverables are included in Division One				
4.8 Verify all products shown on drawings and manufacturers listed in the specifications are Buy America (BA) or Build America, Buy America (BABA) compliant (if required)				
5. CONTRACT DRAWINGS				
5.1 Design Scope:				
a) Check constructability of design				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
b) Check project complies with code analysis, and applicable notes incorporated including but not limited to building codes and standards, use occupancy, occupant loads, fire separation, construction type, and egress if required				
c) Check acoustic requirements incorporated				
d) Check lighting design incorporated				
e) Check/verify travel distances, egress, dead ends, etc.				
f) Check vertical circulation; elevators, escalators, clear openings, shaft headroom, pit clearance, pit ladder				
g) Check completeness of graphics/wayfinding scope				
h) Check scope items are reflected in construction schedule				
5.2 Fire ratings:				
a) Verify if fire ratings are required. If required, verify that they are shown on drawings				
b) Verify fire rated partitions located				
c) Verify shafts are rated construction where applicable				
d) Verify fire rated construction integrity penetrations, doors, ceiling, openings				
e) Check wood is from treated lumber where applicable in roof construction and temporary partitions, etc.				
f) Check UL numbers indicate fire rated construction where applicable				
g) Check for smoke seals on fire rated corridor doors				
h) Check spray-on fireproofing clearly located on details and notes				
i) Check fire rated column enclosures clearly located on drawings				
5.3 Specification Coordination/Notes:				
a) Check same terminology used in specifications and drawings				
b) Verify all specification references on drawings				
c) Check all items on drawings have been covered by specifications & spec notes				
d) Check all spec notes required are included and complete				
e) Check spec notes do not duplicate info in specifications				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
f) Check paint schedule complies with Materials guidelines				
5.4 Detailed Review Items:				
a) Doors: Verify swings & clearances, hardware & schedule				
b) Check panic hardware utilized where required				
c) Verify stair riser/tread dimensions floor to floor				
d) Verify proper headroom clearances at platforms, landings, floors				
e) Verify proper handrail/guardrail heights, coordinate handrail/guardrail with Structural where applicable				
f) Verify proper handrail extensions				
g) Check roof access for different roof levels				
h) Check for roof walkway pads, if required				
i) Check proper roof slope, crickets				
j) Check roof fall protection adjacent to equipment				
k) Verify rooftop equipment/features do not interfere with plan layout				
l) Coordinate roof items with Structural				
m) Check expansion joints/control joints are located				
n) Check expansion joints consistent are through construction				
o) Verify partition types with sections for construction				
p) Check casework/cabinets/equipment				
q) Check ceiling for Tenant Construction Review Manual (TCRM) requirements, and specify pull test requirements (if applicable)				
r) Verify that all above ceiling components are contained within ceiling zone / plenum				
s) Coordinate ceiling access panels, lights, HVAC, sprinklers				
t) Coordinate exit signage with Electrical				
u) Coordinate plumbing fixtures, locations, chases				
v) Review toilet/kitchen accessories & coordinate with specifications				
w) Verify tile floor recess with dry-set/wet-set installations				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
x) Coordinate with site drawings for sidewalk/paving/bollards				
5.5 Cross-Checking:				
a) Check all drawing cross references are correct (“See Dwg. X”)				
b) Check all section, detail and elevation designators agree in view titles				
c) Check correct views and drawing numbers are used for detail call-outs				
d) Check enlarged plans agree with overall floor plans				
e) Check room locations, names and numbers agree in all sections, plans, details				
f) Check all floor elevations are correctly indicated				
g) Check match lines agree				
h) Verify schedules or types indicated in specifications are what is indicated/detailed				
i) Verify materials/item specified in specifications agree with drawings				
j) Check column grid designations and dimensions agree with Structural				
k) Check floor to floor elevations agree between sections, elevations and plans				
l) Coordinate reflected ceiling plans with floor plans				
m) Check schedules: Coordinate room finish schedule elements; room names, ceiling heights				
n) Coordinate door schedule elements: Fire ratings, louvers, hardware				
o) Check partition schedule for completeness, UL #s				
p) Check sealant systems are identified and within specification				
q) Check contractor coordination items (work “by others”, etc.)				
5.6 CAD Standards, Line Weights:				
a) Confirm successful CAD/BIM review				
b) Check line weights clearly show new, existing and demolition				
c) Check consistency of line weights				
d) Check consistency of text/dim styles				
e) Check layer naming per standards				
f) Check drawing assembly per standards				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100% DA*	TL/C	PA**	COMMENTS
5.7 Dimensions:				
a) Verify all dimensions are accurate, consistent and with proper accuracy				
b) Check consistency of dimensioning styles				
c) Verify dimensioning duplicated on other discipline drawings				
d) Check dimensioning from construction not yet in place				
e) Verify dimensioning references, i.e., centerline vs. face				
f) Check all doors, windows, etc. are located by dimension in plan & elevation				
g) Check masonry dimensions, coursing				
h) Check all dim. strings that include existing elements have at least one +/- or V.I.F. dimension				
5.8 Keys, Graphics, Symbols, Abbreviations:				
a) Check key plans for accuracy and that they are at all locations where required				
b) Check for north arrows on all plan sheets using standard CAD/BIM block; confirm direction is consistent for plan view				
c) Check all plan views are oriented alike				
d) Check for graphic consistency and that unlabeled graphics are defined				
e) Check all abbreviations used agree with list of abbreviations, PA standards and appear in drawings				
f) Check all symbols agree with legend, PA standards and appear in drawings				
g) Check graphic scales and call-outs are on required sheets, consistent throughout package and at the correct scale				
6. SOLE SOURCE / SOLE BRAND ITEMS:				
6.1 Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications				
6.2 Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided				
6.3 Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01				
7. OVERALL COMPLETENESS, IF LEAD DISCIPLINE:				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
7.1 Check Index of Drawings is complete				
7.2 Check all title block info agrees with index of drawings				
7.3 Check all title block info is filled in, and that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet				
7.4 Check title sheet is to standards and information/signatures are correct				
7.5 Check sheet numbering system is consistent				
7.6 Check key map showing project location and remainder of G-series for completeness				
7.7 Perform cursory spell check of drawings				
7.8 Check completeness of general notes and that they do not repeat information in Division One				
7.9 Check sheet titles and numbering agree w/ drawing Index				
7.10 Check notes are specific/modified for project				
7.11 Check all standards have been noted and referenced				
7.12 Review drawings for conditions/design requiring special detailing/specifications				
7.13 Check special inspection list is complete				
7.14 Check all required schedules are included				
7.15 Check floor plans, sections, elevations & details agree with all other disciplines				
7.16 Check pits, drains, ramps and other floor requirements agree with Structural layout, Plumbing drawings, etc.				
7.17 Check all partitions are located and labeled if required				
7.18 Confirm all Confidential or Confidential & Privileged information is identified, marked accordingly and coordinated with the project or Unit SIM				
7.19 Construction Staging:				
a) Check Construction Staging requirements				
b) Check Construction Staging notes make clear in what order, if any, the stages shall be completed, and if one or more stages must be completed before proceeding to the next stage or stages				
c) Check Construction Staging coordinates with hours of work				
8. RESILIENCE & SUSTAINABILITY				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL — *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
8.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff (if applicable, check design flood elevation against guidelines)				
8.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines*, as applicable] with EAD Resilience & Sustainability staff				
8.3 Ensure sustainability language is coordinated with the contract book and inserted in specifications and drawing notes. Verify that documentation has been provided for all applicable credits				
8.4 Verify that documentation has been provided for all applicable credits				
9. CONTRACTS ITEMS (Discipline Specific)				
9.1 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items				
9.2 Check that all consultant prepared Contract Drawings were audited by in-house PA Design Division Staff				
9.3 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications1				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals				
h) Check that list of Specifications is complete and has been provided to PP				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

QUALITY CONTROL CHECKLIST
ARCHITECTURAL

ARCHITECTURAL *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template				
9.4 Scales:				
a) Check all are correct and consistent with the Contract Drawings **Error! Bookmark not defined.**				
b) Check the term “NTS” or “Not to Scale” is included where appropriate				
c) Check the text size is legible on half-size drawings				
d) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor				
e) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor				
f) If reference is made to “Applicable Codes”, check that these codes are indicated				
9.5 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Civil	Stage:	
Design Engineer (DE):		Lead?	
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check key map showing project location				
1.6 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that items required under "Instructions to specifier" are included on the contract drawings.				
2.6 Check that applicable contractor submittal requirements have been provided through SMS				
2.7 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.8 Check that the Chief's approval for any code variances has been received.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
2.9 Check that printouts of computer -generated calculations are provided.				
2.10 Check that drawings reflect existing site conditions.				
2.11 Check if there are special conditions required for existing/future tenant space.				
2.12 Check that all design review comments have been addressed.				
2.13 Check that MEU (Materials) has provided input where required				
2.14 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.15 Check that drawings have been reviewed by the facility and the PM				
2.16 Ensure compliance with energy codes.				
2.17 Check that CAD review was passed.				
2.18 Check that net cost items were approved by CMD.				
2.19 Check if Building System Commissioning specifications have been provided, if required.				
2.20 Check if Detailed Systems O&M Manuals have been specified, if required.				
2.21 Check if Equipment Deliverable Chart has been specified, if required.				
3. COST ESTIMATE				
3.1 Confirm all scope items are listed				
3.2 Verify classified, non-classified and net cost items				
3.3 Verify math				
4. CONTRACT BOOK				
4.1 Verify that list of specifications is consistent with contract drawings				
4.2 Check list of non-standard specifications				
4.3 Check that descriptions for classified items were developed				
4.4 Check that letters for sole source items were provided				
5. CIVIL DESIGN				
5.1 Alignment and Grading:				
a) Check horizontal and vertical geometry is in conformance with AASHTO and civil design guidelines				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
b) Check vertical clearance				
c) Check elevated structures have minimum slopes				
d) Check airfield alignment and grading are following latest FAA circulars and civil design guidelines				
e) Check marine terminal grading is following civil design guidelines				
f) Check parking lot grading is following civil design guidelines				
5.2 Pavement Design:				
a) Check roadway pavement design is following AASHTO criteria and civil design guidelines				
b) Check airfield pavement design is following FAA circular and civil design guidelines				
5.3 Storm Water Drainage:				
a) Check level of protection is following civil design guidelines				
b) Check time of concentration is following civil design guidelines				
c) Check number and location of catch basins are following civil design guidelines				
d) Check minimum and maximum velocity				
e) Check vertical clearances at manholes				
f) Check vapor traps are included as per civil guidelines				
g) Check manholes are located in compliance with civil design guidelines				
5.4 Sanitary Sewers:				
a) Check pipe sizing is following civil design guidelines				
b) Check minimum and maximum velocity				
c) Check manhole spacing is following civil design guidelines				
d) Check crossings with water mains are following civil design guidelines				
5.5 Water Supply:				
a) Check layout and pipe sizes are following civil design guidelines				
b) Check depth of cover				
c) Check crossings with sanitary lines are following civil design guidelines				
d) Check hydrant spacing is following civil design guidelines				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
e) Check valves are located in compliance with civil design guidelines				
5.6 Curbs, Sidewalks and Fences:				
a) Check curb types conform to latest civil/traffic standards				
b) Check sidewalks are following ADA				
c) Verify fencing height, material are checked with facility				
d) Check fencing is grounded where appropriate				
5.7 Railroads:				
a) Check horizontal and vertical alignments are following AREMA				
b) Check horizontal and vertical clearances				
c) Check turnout locations with vertical alignment				
d) Check utility crossings for loading and clearance				
e) Check track details with plans				
f) Check materials are following design criteria				
5.8 Datum and Floodplain:				
a) Check design and survey are referenced to same horizontal and vertical control and Datum is defined.				
b) Ensure that Design Flood Elevation complies with Design Guidelines – Climate Resilience, as applicable.				
c) If Design Guidelines – Climate Resilience DO NOT apply, check finished floor of building is set one foot above hundred-year flood elevation				
5.9 Bridges				
a) Check bridge plans correlate with structural, mechanical & electrical design.				
6. CONTRACT DRAWINGS				
6.1 Cross check drawing titles against index of drawings compiled by lead discipline				
6.2 Check title blocks				
6.3 Check standard symbology (north arrow, scale, etc)				
6.4 Check legend with plans				
6.5 Check notes are most up to date				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
6.6 Check match lines are correct				
6.7 Check Plans with sections including drawing numbers				
6.8 Verify standard details are most up to date				
6.9 Check profiles against plans				
7. RESILIENCE & SUSTAINABILITY				
7.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
7.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
7.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
7.4 Verify that documentation has been provided for all applicable credits.				
8. CONTRACTS ITEMS (Discipline Specific)				
8.1 Construction Staging:				
a) Check Construction Staging requirements.				
8.2 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.				
8.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
8.4 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
a) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
b) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
8.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
8.6 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
8.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check that all Specifications called out on the Contract Drawings are included in Contract book.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location (city, state) for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to Project Principal.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform Project Principal.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
8.8 Scales:				
a) Check all are graphic scales.				
a) Check all are correct and consistent with the Contract Drawings[1].				
b) Check the term “NTS” or “Not to Scale” is included where appropriate.				
8.9 Legends:				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL	*Respond: <Y, N or N/A>*	100%			
		DE*	TL/C	PE**	COMMENTS
a)	Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b)	Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
8.10	Details:				
a)	Check the titles and terminology in details are consistent with those on other drawings.				
b)	Check the term “New” is not used in titles of details.				
8.11	Miscellaneous Drawing Comments:				
a)	Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b)	Check the text size is legible on half-size drawings.				
c)	Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d)	Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e)	If reference is made to “Applicable Codes”, check that these codes are indicated.				
8.12	Protected Information (PI):				
a)	Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PP if yes.				
b)	If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the Project Principal as such.				
c)	Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d)	Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
8.13	Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
9. CONTRACTS ITEMS (Discipline Specific)				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
9.1 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
9.2 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
9.3 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e) If reference is made to “Applicable Codes”, check that these codes are indicated.				
9.4 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PP if yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PP as such.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
CIVIL

CIVIL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
9.5 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves as a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRICAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Electrical	Stage:	
Design Engineer (DE):		Lead?	☐ Yes ☐ No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

ELECTRICAL *Respond: <Y, N or N/A>*	100% DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that C-specs are included, if required (Include sustainability language)				
2.6 Check that items required under "instructions to specifier" are included on the contract drawings.				
2.7 Check that applicable contractor submittal requirements have been provided through SMS				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
2.8 Coordinate compliance with PANYNJ Information Security Handbook and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				
2.9 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.10 Check that the contract documents conform to applicable codes, standards, and design guidelines.				
2.11 Check that the Chief's approval for any code variances has been received.				
2.12 Check that printouts of computer -generated calculations are provided.				
2.13 Check that a construction staging strategy has been established, if required.				
2.14 Check that drawings reflect existing site conditions.				
2.15 Check if there are special conditions required for existing/future tenant spac				
2.16 Check that all design review comments have been addressed.				
2.17 Check that MEU (Materials) has provided input where required				
2.18 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.19 Check that drawings have been reviewed by the facility and the PM				
2.20 Ensure compliance with energy codes.				
2.21 Check that CAD review was passed.				
2.22 Check that net cost items were approved by CMD.				
2.23 Check if Building System Commissioning specifications have been provided, if required.				
2.24 Check if Detailed Systems O&M Manuals have been specified, if required.				
3. POWER				
3.1 Check design criteria				
3.2 Check Calculations				
a) Short-circuit				
b) Voltage Drop				
c) Relay, circuit breaker settings and coordination.				
d) Load Summary				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
e) Arc Flash Hazard Analysis				
f) Conduit Fill				
g) Lighting				
h) Grounding Resistance				
i) Lightning Protection				
j) Step and Touch Potentials				
3.3 Review One-Line Diagrams.				
3.4 Verify all scope associated electrical equipment is shown on the one-line diagrams.				
3.5 Review Schematic Diagrams.				
3.6 Check Short-circuit rating of electrical equipment.				
3.7 Check equipment ratings and dimensions.				
3.8 Check sizes of major conduits and conductor sizes.				
3.9 Check sizes of typical branch-circuit conduits and conductor sizes.				
3.10 Check for adequacy of spare conduits, spare breakers, spaces, etc.				
3.11 Check Grounding system.				
3.12 Check equipment support, mounting, and other details.				
3.13 Verify that electrical loads shown on panel schedules agree with mechanical schedules.				
3.14 Check Electrical Equipment Rooms:				
a) Check equipment front, back, side clearances and overhead obstructions, conduit and cable tray layout.				
b) Verify that equipment arrangement in electrical rooms will permit working clearances for opening access doors, removal of high voltage breakers, etc.				
c) Check that cable tray, bus duct, and lighting fixture locations are coordinated with air duct and other mechanical features.				
d) Check that no piping or mechanical duct openings, that could cause moisture to fall on equipment, are located directly above any major electrical equipment.				
e) Coordinate trench and cable pit locations with equipment layout.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
f) Check that location of electrical equipment is consistent with architectural, mechanical, and plumbing floor plans.				
3.15 Check code conformance and conformance to PA CAD Standards.				
3.16 Check use of new components and techniques.				
3.17 Check completeness of associated construction cost estimates, unit prices, and quantities.				
3.18 Check notes.				
3.19 Check that Aeronautical light types, offsets, spacing, and colors have been checked and reviewed by the facility, PM, and Aviation Technical Services (ATS).				
3.20 Check that guidance sign legends and locations have been checked by the facility, PM and ATS.				
3.21 Check that taxiway clearance bar and guidance sign locations have been coordinated.				
3.22 Check that all details used are based on the latest PA Aeronautical details and are appropriate for the specific airport.				
3.23 Check series lighting circuit load calculations and insulation resistance calculations.				
3.24 Check that existing constant current regulators are not being overloaded or underloaded.				
3.25 Check that work in adjacent areas is accounted for:				
a) Check that transitions in taxiway centerline light offsets are accounted for				
b) Check that signs and clearances bars outside the paving limits are relocated as necessary				
c) Check that LED lights have been installed outside of paving limits where necessary				
d) Check that guidance sign legends outside of work limits have been updated where necessary				
3.26 Verify that applicable work has been coordinated with and reviewed by the FAA				
a) Verify that applicable FAA specifications and pay items are reviewed by the Contract Engineer for submittal to the FAA				
3.27 Check that electrical and civil drawings have been coordinated:				
a) Check that paving limits match the latest civil limits.				
b) Check that the latest civil alignment and pavement marking files are being referenced.				
c) Check that base can drainage is coordinated with final civil drainage layout.				
d) Check that guidance sign foundation locations do not have any new or existing utility interferences.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
3.28 Check that electrical and structural drawings have been coordinated:				
a) Support and anchorage requirements for seismic loads per applicable code and PA requirements.				
4. LIGHTING				
4.1 Check lighting levels against PANYNJ design guidelines.				
4.2 Check that the design is in accordance with the approved scope of work.				
4.3 Check for conformance to applicable codes, standards and design guidelines.				
4.4 Check that lighting, fixture types, lamp sizes, and safety chains/clips are specified.				
4.5 Check voltage drops against allowable limits.				
4.6 Check that the appropriate lighting controls are indicated and specified.				
4.7 Check spacing of poles and luminaries against calculations.				
4.8 Check type and layout of emergency lighting and exit signs.				
4.9 Compare with architectural reflected ceiling plans.				
4.10 Check that cable diagrams and conduit plans are consistent.				
4.11 Check that conduit runs contain the conduit size, number and cables to be installed in each.				
4.12 Check overall constructability and staging.				
4.13 Check code conformance and conformance to PA CAD Standards.				
4.14 Check use of new components and techniques.				
4.15 Check completeness of associated construction cost estimates, unit prices, and quantities.				
4.16 Check notes.				
5. ANCILLARY SYSTEMS (Fire alarm, Security, Traffic Control, Aviation Guidance, Traction Signal, Heat Tracing, Lightning Protection, Corrosion Control, Cathodic Protection, Intercom System, Telecommunication System)				
5.1 Check schematic, ladder, and/or riser diagrams.				
5.2 Check equipment type.				
5.3 Check installation, mounting, and grounding details.				
5.4 Check overall constructability and staging.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
5.5 Check code conformance and conformance to PA CAD Standards.				
5.6 Check use of new components and techniques.				
5.7 Check completeness of associated construction cost estimates, unit prices, and quantities.				
5.8 Check notes.				
6. RESILIENCE & SUSTAINABILITY				
6.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
6.2 Verify compliance with Sustainable Design Guidelines [Sustainable Building Guidelines or Sustainable Infrastructure Guidelines, as applicable] with EAD Resilience & Sustainability staff.				
6.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
6.4 Verify that documentation has been provided for all applicable credits.				
7. ADDITIONAL ITEMS				
7.1 Check Electrical equipment specified meet project seismic requirements.				
7.2 Check for Energy Analysis and Progress Inspections				
8. CONTRACTS ITEMS (Discipline Specific)				
8.1 Construction Staging:				
a) Check Construction Staging requirements.				
b) Check Construction Staging notes make clear in what order, if any, the stages shall be completed, and if one or more stages must be completed before proceeding to the next stage or stages.				
8.2 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
b) Check that the list of Contract Drawings in the Contract book correctly indicates Protected Information in accordance with the latest versions Information Security Handbook and the Engineering Department's Protected Information Practices and Procedures Manual.				
8.3 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with "No Substitutions Permitted" on the Contract Drawings and technical specifications.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
8.4 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				
8.5 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
8.6 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check that all Specifications called out on the Contract Drawings are included in Contract book.				
c) Check that all Specifications referred to in other Specification sections are included in Contract book.				
d) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
e) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
f) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
g) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
h) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
i) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
j) Check that list of Specifications is complete and has been provided to the PP.				
k) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
l) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
8.7 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
8.8 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
8.9 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
8.10 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e) If reference is made to “Applicable Codes”, check that these codes are indicated.				
8.11 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform the PP if yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PP as such.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRICAL

ELECTRICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
8.12 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Electronics	Stage:	
Design Engineer (DE):		Lead?	☐ Yes ☐ No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance with the Project Definition Statement, Proposal Scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that C-specs are included, if required (Include sustainability language)				
2.6 Check that items required under "Instructions to specifier" are included on the contract drawings.				
2.7 Check that applicable contractor submittal requirements have been provided through SMS				
2.8 Coordinate compliance with PANYNJ Information Security Handbook (ISH) and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
2.9 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.10 Check that the contract documents conform to applicable codes, standards, and design guidelines.				
2.11 Check that the Chief's approval for any code variances has been received.				
2.12 Check that printouts of computer -generated calculations are provided.				
2.13 Check that a construction staging strategy has been established, if required.				
2.14 Check that drawings reflect existing site conditions.				
2.15 Check if there are special conditions required for existing/future tenant space.				
2.16 Check that all design review comments have been addressed.				
2.17 Check that MEU (Materials) has provided input where required				
2.18 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.19 Check that drawings have been reviewed by the facility and the PM				
2.20 Ensure compliance with energy codes.				
2.21 Check that CAD review was passed.				
2.22 Check that net cost items were approved by CMD.				
2.23 Check if Building System Commissioning specifications have been provided, if required.				
2.24 Check if Detailed Systems O&M Manuals have been specified, if required.				
3. POWER				
3.1 Check design criteria				
3.2 Check Calculations				
a) Short-circuit				
b) Voltage Drop				
c) Relay, circuit breaker settings and coordination.				
3.3 Review One-Line Diagrams.				
3.4 Verify all scope associated electrical equipment is shown on the one-line diagrams.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
3.5 Review Schematic Diagrams.				
3.6 Check Short-circuit rating of electrical equipment.				
3.7 Check equipment ratings and dimensions.				
3.8 Check sizes of major conduits and conductor sizes.				
3.9 Check sizes of typical branch-circuit conduits and conductor sizes.				
3.10 Check for adequacy of spare conduits, spare breakers, spaces, etc.				
3.11 Check Grounding system.				
3.12 Check equipment support, mounting, and other details.				
3.13 Verify that electrical loads shown on panel schedules agree with mechanical schedules.				
3.14 Check Electrical Equipment Rooms:				
a) Check equipment front, back, side clearances and overhead obstructions, conduit and cable tray layout.				
b) Verify that equipment arrangement in electrical rooms will permit working clearances for opening access doors, removal of high voltage breakers, etc.				
c) Check that cable tray, bus duct, and lighting fixture locations are coordinated with air duct and other mechanical features.				
d) Check that no piping or mechanical duct openings, that could cause moisture to fall on equipment, are located directly above any major electrical equipment.				
e) Coordinate trench and cable pit locations with equipment layout.				
f) Check that location of electrical equipment is consistent with architectural, mechanical, and plumbing floor plans.				
3.15 Check overall constructability and staging.				
3.16 Check code conformance and conformance to PA CAD Standards.				
3.17 Check use of new components and techniques.				
3.18 Check completeness of associated construction cost estimates, unit prices, and quantities.				
3.19 Check notes.				
3.20 Check that Aeronautical light types, offsets, spacing, and colors have been checked and reviewed by the facility, PM, and Aviation Technical Services (ATS).				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
3.21 Check that guidance sign legends and locations have been checked by the facility, PM and ATS.				
3.22 Check that taxiway clearance bar and guidance sign locations have been coordinated.				
3.23 Check that all details used are based on the latest PA Aeronautical details and are appropriate for the specific airport.				
3.24 Check series lighting circuit load calculations and insulation resistance calculations.				
3.25 Check that existing constant current regulators are not being overloaded or underloaded.				
3.26 Check that work in adjacent areas is accounted for:				
a) Check that transitions in taxiway centerline light offsets are accounted for				
b) Check that signs and clearances bars outside the paving limits are relocated as necessary				
c) Check that LED lights have been installed outside of paving limits where necessary				
d) Check that guidance sign legends outside of work limits have been updated where necessary				
3.27 Verify that applicable work has been coordinated with and reviewed by the FAA				
3.28 Check that electrical and civil drawings have been coordinated:				
a) Check that paving limits match the latest civil limits.				
b) Check that the latest civil alignment and pavement marking files are being referenced.				
c) Check that base can drainage is coordinated with final civil drainage layout.				
d) Check that guidance sign foundation locations do not have any new or existing utility interferences.				
4. LIGHTING				
4.1 Check lighting calculations – intensity, uniformity.				
4.2 Check lighting levels against design criteria.				
4.3 Check that the design is in accordance with the approved scope of work.				
4.4 Check for conformance to applicable codes, standards and design guidelines.				
4.5 Check that lighting, fixture types, lamp sizes, and safety chains/clips are specified.				
4.6 Check voltage drops against allowable limits.				
4.7 Check that the appropriate lighting controls are indicated and specified.				
4.8 Check spacing of poles and luminaries against calculations.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
4.9 Check type and layout of emergency lighting and exit signs.				
4.10 Compare with architectural reflected ceiling plans.				
4.11 Check that cable diagrams and conduit plans are consistent.				
4.12 Check that conduit runs contain the conduit size, number and cables to be installed in each.				
4.13 Check overall constructability and staging.				
4.14 Check code conformance and conformance to PA CAD Standards.				
4.15 Check use of new components and techniques.				
4.16 Check completeness of associated construction cost estimates, unit prices, and quantities.				
4.17 Check notes.				
5. ELECTRONICS (Note: Items refer to the overall project as well as each system in the project. Refer to the last page for a list of electronics systems[1].)				
5.1 Existing system & other conditions are reflected in the design as needed.				
5.2 Provide clear Basis of Design for Stage-I&II and ensure Stage-III is in accordance to it.				
5.3 Correlation with master plan (as needed).				
5.4 Correlation with other projects (as needed).				
5.5 Ensure design delivers on: Scope, Design & Functional Criteria, Con-Ops. etc				
5.6 Identify issues impacting design progress or completion (as needed).				
5.7 Regulatory obligations (FCC, FAA) (as needed).				
5.8 Calculations.				
5.9 Catalog cuts & equipment specs.				
5.10 Conformance to applicable codes.				
5.11 Design is based on off-the-shelf equipment (as needed).				
5.12 Detailed system block diagrams (as needed).				
5.13 Identify discipline interdependencies (as needed).				
5.14 Identify safety & protection design elements (as needed).				
5.15 Sole source (identify & justify only for Stage I/II, Letters & quotes for Stage-III).				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
5.16 Coordinated staging notes.				
5.17 Applicable PA & other standards (as needed).				
5.18 C-specs (outline doc for Stage I/II) and Appendix A.				
5.19 Adequate Construction details.				
5.20 Ensure drawing correlation with specs.				
5.21 Adequate equipment schedules.				
5.22 Verify estimate with details, net costs, subtotals etc.				
5.23 Basis of Design notes for Stage-I/II				
5.24 Check general contract notes.				
5.25 Check general technical notes.				
5.26 Check plans and elevations.				
5.27 Check specific technical notes.				
5.28 Check standard specs & Appendix A.				
5.29 Verify conformance to CAD standards.				
5.30 Check submittal (dwgs, specs, estimate, C-cuts, calcs, QA/QC letter, basis of design) (as needed).				
5.31 Check that drawings have been coordinated with structural. Support and anchorage requirements for seismic loads per applicable code and PA requirements.				
6. ANCILLARY SYSTEMS (Fire alarm, Security, Traffic Control, Aviation Guidance, Traction Signal, Heat Tracing, Lightning Protection, Corrosion Control, Cathodic Protection, Intercom System, Telecommunication System)				
6.1 Check schematic, ladder, and/or riser diagrams.				
6.2 Check equipment type.				
6.3 Check installation, mounting, and grounding details.				
6.4 Check overall constructability and staging.				
6.5 Check code conformance and conformance to PA CAD Standards.				
6.6 Check use of new components and techniques.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
6.7 Check completeness of associated construction cost estimates, unit prices, and quantities.				
6.8 Check notes.				
7. RESILIENCE & SUSTAINABILITY				
7.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
7.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
7.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
7.4 Verify that documentation has been provided for all applicable credits.				
8. ADDITIONAL ITEMS				
8.1 Check Seismic Requirements.				
8.2 Check for Energy Analysis and Progress Inspections				
9. CONTRACTS ITEMS (Discipline Specific)				
9.1 Construction Staging:				
a) Check Construction Staging requirements.				
9.2 Check if a list of materials furnished by the PA is required, and that any list provided, includes quantities, descriptions and locations of items.				
9.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
9.4 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
9.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
9.6 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
9.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to the Project Principal (PP).				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				
j) Check that electronic copies of all Consultant prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
9.8 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
9.9 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRONICS

ELECTRONICS *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	P**	COMMENTS
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
9.10 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
9.11 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
d) If reference is made to “Applicable Codes”, check that these codes are indicated.				
9.12 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform the PP if yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PP as such.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
9.13 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ELECTRONICS

Note:
List of electronics systems:

- Access control system
- Building management system
- CCTV system
- Digital communications networks
- Emergency telephone system
- EZ-Pass system
- Facility SCADA system
- Fiber optic communications
- Industrial controls
- Infrared link communications
- Intrusion detection system
- IP network
- Lightning protection and grounding
- Logging recorder
- Microwave communications
- Public address system
- Radio system
- Telephone system
- Visual paging system
- VMS system
- Intercom system

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Environmental	Stage:	
Design Engineer (DE):		Lead?	☐Yes ☐No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

ENVIRONMENTAL *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check key map showing project location				
1.6 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Check that the contract documents comply with design criteria.				
2.2 Check that all applicable Port Authority standard specs are included.				
2.3 Check that items required under "instructions to specifier" are included on the contract drawings.				
2.4 Check that applicable contractor submittal requirements have been provided through SMS				
2.5 Check that the Chief's approval for any code variances has been received.				
2.6 Check if there are special conditions required for existing/future tenant space.				
2.7 Check that all design review comments have been addressed.				
2.8 Check that CAD review was passed.				
2.9 Check that net cost items were approved by CMD.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

ENVIRONMENTAL *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE *	COMMENTS
2.10 Check if Building System Commissioning specifications have been provided, if required.				
2.11 Check if Detailed Systems O&M Manuals have been specified, if required.				
3. COST ESTIMATE				
3.1 Check estimate with Estimating Group				
3.2 Verify classified, non-classified and net cost items.				
3.3 Check scope definition well defined and all scope items are listed				
3.4 Check MEU (Materials) input required				
3.5 Verify the math and check results for reasonableness				
4. CONTRACT BOOK				
4.1 Verify that list of specifications is consistent with contract drawings				
4.2 Check list of non-standard specifications				
4.3 Review specs, notes, etc. with Contracts Unit				
4.4 Check compatibility of drawings with the design assumptions & calculations				
4.5 Check that descriptions for classified items were developed				
4.6 Check that letters for sole source items were provided				
5. ENVIRONMENTAL REPORTS				
5.1 Check scope satisfies goals and objectives				
5.2 Check compliance with regulations				
5.3 Check compliance with Port Authority policy and guidelines				
5.4 Check Health and Safety requirements				
5.5 Check Quality assurance of data				
5.6 Check Accuracy of completeness of calculations				
5.7 Check Appropriate use of field and analytical results				
5.8 Check that recommendations are consistent with scope				
5.9 Check that recommendations are practicable and able to implement				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

V1.0 Last Updated: 06/12/2026

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

ENVIRONMENTAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE *	COMMENTS
5.10 Verify cost estimate and schedules				
5.11 Check specifications are consistent with goals				
6. ASBESTOS & LEAD DESIGN DOCUMENTS				
6.1 Check scope satisfies goals and objectives				
6.2 Check Health and Safety requirements				
6.3 Site inspection				
6.4 Check specification and drawings				
6.5 Check cost estimates				
7. GOVERNMENT AND PERMITS				
7.1 Check Permits satisfy project requirements				
7.2 Check Permit application satisfies regulatory requirements				
7.3 Check Permit conditions met				
7.4 Check Calculations are verified				
7.5 Check that cost estimates and fees are verified				
7.6 Check if any variances are required and if so have they been obtained and does the design and/or specifications reflect requirements				
8. RESILIENCE & SUSTAINABILITY				
8.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
8.2 Verify compliance with Sustainable Design Guidelines [Sustainable Building Guidelines or Sustainable Infrastructure Guidelines, as applicable] with EAD Resilience & Sustainability staff.				
8.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
8.4 Verify that documentation has been provided for all applicable credits.				
9. CONTRACTS ITEMS (Discipline Specific)				
9.1 Construction Staging:				
a) Check Construction Staging requirements.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

ENVIRONMENTAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE *	COMMENTS
9.2 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.				
9.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
9.4 Sole Source/Sole Brand Items:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
9.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				
9.6 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
9.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

ENVIRONMENTAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE *	COMMENTS
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to PP.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
9.8 Scales				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
9.9 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
9.10 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
9.11 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
d) If reference is made to “Applicable Codes”, check that these codes are indicated.				
9.12 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PP if yes.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
ENVIRONMENTAL

ENVIRONMENTAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE *	COMMENTS
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department's Protected Information Practices and Procedures Manual and inform the PP as such.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
9.13 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Geotechnical	Stage:	
Design Engineer (DE):		Lead?	☐Yes ☐No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check key map showing project location				
1.6 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that applicable contractor submittal requirements have been provided through SMS				
2.6 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.7 Check that the Chief's approval for any code variances has been received.				
2.8 Check that printouts of computer-generated calculations are provided.				
2.9 Check if there are special conditions required for existing/future tenant space.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
2.10 Check that all design review comments have been addressed.				
2.11 Check that MEU (Materials) has provided input where required				
2.12 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.13 Check that drawings have been reviewed by the facility and the PM				
2.14 Check that CAD review was passed.				
2.15 Check that net cost items were approved by CMD.				
2.16 Check if Building System Commissioning specifications have been provided, if required				
2.17 Check if Detailed Systems O&M Manuals have been specified, if required.				
2.18 Check all available historical boring data in area of project				
2.19 Check design is based on adequate subsurface information				
2.20 Check references are provided for the selected soil parameters used in the design - empirical or soil sample test values				
2.21 Ensure appropriate Soil Site Class has been established				
3. DREDGING				
3.1 Check the location and depth clearly defined by WWD				
3.2 Check horizontal and vertical coordinate systems clearly identified				
3.3 Check the various dredging permits valid, and will they be valid during the planned dredging period				
3.4 Check there are utilities within or near the site				
3.5 Check there are recent bathymetric surveys with quantity calculations				
3.6 Check there are sufficient borings, probes, vibracores				
3.7 Check that a sampling & Testing plan has been obtained				
3.8 Check there is a material separation plan				
3.9 Check there are adjacent structures and will they be protected				
3.10 Check if dredging deeper, has the wharf been strengthened to accommodate the deeper berth				
3.11 Check that an air conformity report been prepared				
3.12 Check the EFH dredging restrictions are identified				
3.13 Check measurement & payments appropriate for the project				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
4. DRIVEN/DRILLED PILES				
4.1 Static analysis:				
a) Ensure appropriate factor of safety was applied for allowable design capacities according to the applicable codes for the proposed structures				
b) Ensure appropriate reduction factors and maximum friction and end-bearing values used for LRFD design				
c) Check if analysis compared recommended capacities for the selected pile type to previous projects with similar soil conditions				
d) Ensure permanent pile casings are coated in accordance with specification 316260 and appropriate sacrificial steel is accounted for in the full life cycle of the foundation				
4.2 Review load test program (if required)				
4.3 Driveability analysis:				
a) Review design parameters, if dynamic formula (e.g. ENR, Gates, Hiley etc.) was used to establish driving criteria				
b) Compare skin friction/end bearing ratio and the skin friction distribution to the static analysis, if Wave Equation Analysis of Pile (WEAP) was used to establish the driving criteria				
c) Ensure driving stresses for the selected pile, from the WEAP, will not exceed the recommended values at the established driving criteria				
4.4 Review if any additional loads, based on the proposed grading plan, will impose to the pile and cause instability of pile group				
4.5 Check the specified minimum length of pile is satisfied for all capacities (Axial compression, Uplift and point of fixity for the lateral load)				
4.6 Review any contradicted items from the pile specification and waive it with notes				
4.7 Ensure vibration due to pile driving will not negatively impact the adjacent structures and/or underground utilities. Provide monitoring requirements as required				
4.8 Ensure the piles will not impose additional loads/negatively impact the adjacent structures/underground utilities				
5. MARINE STRUCTURES				
5.1 Check slope stability (stability checklist completed)				
5.2 Check liquefaction (seismic design checklist completed)				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
5.3 Check dredging impacts (dredging checklist completed)				
5.4 Check pile analysis (driven/drilled pile checklist completed)				
5.5 Sheet Pile analysis:				
a) Ensure appropriate factor of safety for allowable design capacities based on applicable codes				
b) Check staged analysis was performed, including temporary construction stages.				
c) Check all load cases (including temporary surcharge loading or construction loading) were addressed and included an analysis.				
5.6 Contract Documents:				
a) Check followed Instructions to specifier for all specification sections				
b) Verify cross references for the interdisciplinary common work items				
c) Check provided necessary Geotechnical notes were for Steel Piles, Steel Sheeting, Excavation, Backfilling, Filling, Dredging, RipRap, Rock Sockets (if necessary)				
6. MICRO TUNNELING				
6.1 Check approved alignment was by Line Department and other disciplines				
6.2 Ensure pipe selection is appropriate for application				
6.3 Ensure adequate tunnel cover is provided				
6.4 Ensure specified tunneling shield is appropriate for application and that it meets PA Specs				
6.5 Verify tunneling contractor prequalification				
6.6 Ensure requirements for shield manufacturer are provided or will be supplemented Contractor's staff with experienced technicians for monitoring during tunneling				
6.7 Ensure appropriate jacking interval, size, and location of access shafts				
6.8 Check design of access pits and thrust blocks. Checked for rigidity of system and need for grouting of adjacent soils.				
6.9 Check instrumentation and monitoring plan are provided.				
7. PRESTRESSED ANCHORS				
7.1 Check evaluation of different anchors (Strand anchor, threadbar anchor, or bar anchor) and level of protection (Single or double corrosion protected anchor) for application				
7.2 Verify the anchor has adequate capacity to resist soil, water, and seismic load				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
7.3 Review if any additional loads (adjacent structures supported by shallow foundation, surcharge, elongation due to movement of the retaining structure, etc.) will not overstress the anchor				
7.4 Verify the minimum bond length has sufficient allowable bond stress to prevent pull-out of the anchor				
7.5 Verify location of anchor bond length is beyond the "active wedge"				
7.6 Confirm with Structural Group the anchor spacing will not undermine the structural integrity of the retaining structure				
7.7 Check the overall stability of retaining structure				
7.8 Ensure appropriate factor of safety was applied for allowable design capacities according to the applicable codes for the proposed structures				
7.9 Check the items listed in Technical Specification Section 316813 (Prestressed soil and rock anchors -– Instructions to specifier)				
7.10 Check waived any requirements in the technical specification which does not apply to the project				
7.11 Verify surrounding existing / future substructures and utilities will not cause constructability issues				
7.12 Ensure the free and bond length met the minimum requirement as per latest code (Post-Tensioning Institute)				
8. SEISMIC ANALYSIS				
8.1 Liquefaction analysis:				
a) Check if appropriate screening procedures, e.g. building codes or simplified Seed method etc., employed to evaluate liquefaction potential				
b) Verify that the low plasticity Silt strata, if present, are not susceptible to liquefaction				
c) Verify that the selected Moment Magnitude (Mw), soil amplification factor, and rock peak ground acceleration values are based on the seismic hazard level appropriate for project				
8.2 Response spectrum:				
a) Check if design response spectrum is based on site specific soil stratigraphy and in accordance with applicable code for the project				
b) Check if minimum of three (3) ground motions were used to develop site-specific response spectrum for design seismic hazard level				
8.3 Slope stability:				
a) Verify basis for selected parameter for horizontal ground acceleration kh, and residual shear strength for liquefied soils				
b) Check ground movements				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
8.4 Spread footing:				
a) Check reduction in ultimate bearing capacity				
b) Check post-earthquake settlements				
8.5 Pile foundation:				
a) Check reduction in ultimate load carrying capacities				
b) Determine additional lateral loads on piles due to deformation of underlying soft soil layer				
9. SURCHARGE				
9.1 Settlement analysis:				
a) Check the primary and secondary settlements based on future load calculations				
b) Check evaluation of conventional surcharge and need for wick drains or other means to reduce time of surcharge (vacuum consolidation, pile supported geogrids, lime column and/or lime-cement column, or conventional use of deep foundation)				
9.2 Check slope stability analysis if appropriate (adjacent water body, utility, underground structure)				
9.3 Check evaluation of impacts on surrounding areas				
9.4 Check need for instrumentation such as settlement plates, horizontal and vertical inclinometers and piezometers				
9.5 Contract Documents:				
a) Check Followed Instructions to specifier for all specification sections				
b) Verify cross references for the interdisciplinary common work items				
c) Check necessary Geotechnical notes provided for excavation, backfilling and filling, surcharge, settlement plates and surcharge placement				
d) Check list of controlled inspections was provided				
10. SLOPE STABILITY				
10.1 Investigation:				
a) Check review of available subsurface data at the site to determine the subsurface soil profile, ground water table thickness of the soft soils (low shear strength) of potential failure plane, and past geologic history of the site				
b) Check laboratory testing performed on soils to obtain shear strength data for drained (long term) and undrained (short term) conditions				
10.2 Calculations:				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
a) Check ground water table or phreatic surface established using flow net				
b) Check physical properties (Shear Strengths) of the soils determined based on the review of site specific available data				
c) Verify references for the selected soil parameters used in the analyses - empirical or soil sample test values				
d) Check evaluation the slope stability with respect to proposed type of structure (temporary or permanent)				
e) Check evaluation of the impact of slope failure with respect to environment, service life of structure and surrounding structures, roadways, navigable channels, and human lives				
f) Check future loading due to proposed development at the top of the slope considered in the analyses				
g) Check slip circle analysis using available computer program using rigorous method of analysis satisfying force and moment equilibrium performed				
h) Check the slip circle results were cross checked by performing sliding wedge analysis				
11. RESILIENCE & SUSTAINABILITY				
11.1 Verify compliance with Design Guidelines – Climate Resilience with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
11.2 Verify compliance with Sustainable Design Guidelines [Sustainable Building Guidelines or Sustainable Infrastructure Guidelines, as applicable] with EAD Resilience & Sustainability staff.				
11.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
11.4 Verify that documentation has been provided for all applicable credits.				
12. CONTRACTS ITEMS (Discipline Specific)				
12.1 Construction Staging:				
a) Check Construction Staging requirements.				
12.2 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.				
12.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
12.4 Sole Source/Sole Brand Items[1]:				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
a) Check that Sole Source/Sole Brand items are labeled with "No Substitutions Permitted" on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
12.5 Check with Estimating Group that all items shown on the Contract Drawings and in the Specifications to be "As Directed by the Engineer" are either Net Cost or have no cost impact.				
12.6 Check that all Contract terminology are in accordance with the "Contract Terminology" guidelines[1].				
12.7 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
12.8 For combination contracts with atypical or minimal Unit Price Items, check that Unit Price items are in accordance with the Engineering Department's Unit Price Policy to determine if they are allowed, and that Classified Items are complete, appropriate and coordinated with the Contract Drawings and Specifications.				
12.9 Technical Specifications (Divisions 31 and 35 for Dredging):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check that all Specifications called out on the Contract Drawings are included in Contract book.				
c) Check that all Specifications referred to in other Specification sections are included in Contract book.				
d) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
e) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
f) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
g) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
h) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
i) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
j) Check that list of Specifications is complete and has been provided to the project principal.				
k) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform the project principal.				
l) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
12.10 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
12.11 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
12.12 G (General) Drawings: Check Location Plan drawing shows a “Haul Route”, if applicable, and “Area Available for Contractor’s Use” and "Stockpile Area" when such areas are provided.				
12.13 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
12.14 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
GEOTECHNICAL

GEOTECHNICAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
e) If reference is made to "Applicable Codes", check that these codes are indicated.				
12.15 Protected Information (PI):				
a) Obtain written confirmation from the discipline's Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform project principal if yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department's Protected Information Practices and Procedures Manual and inform the project principals as such.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
12.16 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Architecture	Stage:	
Design Architect (DA):		Lead?	☐ Yes ☐ No
Task Lead (TL) / Checker (C):		Date:	
Principal Architect (PA):		PID:	

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100% DA*	TL/C	PA*	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary.				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that items required under "instructions to specifier" are included on the contract drawings.				
2.3 Coordinate compliance with PANYNJ Information Security Handbook and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				
2.4 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.5 Check that the Chief's approval for any code variances has been received.				
2.6 Check that printouts of computer-generated calculations are provided.				
2.7 Check that all design review comments have been addressed.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
2.8 Check that MEU (Materials) has provided input where required				
2.9 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.10 Check that drawings have been reviewed by the facility and the PM				
2.11 Check that CAD review was passed.				
2.12 Check that net cost items were approved by CMD.				
2.13 Check if Building System Commissioning specifications have been provided, if required.				
3. COST ESTIMATE				
3.1 Check all scope items have been included				
3.2 Check all quantities				
3.3 Spot check Estimating Unit input: costs and labor rates, contractor's OH&P, inflation factor, etc.				
3.4 Review with Estimating Unit				
3.5 Identify and coordinate any Net Cost items with the Project Principal				
4. SPECIFICATIONS				
4.1 Check all standard specifications, M-specs and C-specs that are required are included				
4.2 Check instructions to bidders have been removed from final specification documents				
4.3 Verify all submittals are identified in the Submittal Management System (SMS)				
4.4 Check hardware schedule is prepared (if required)				
4.5 Check painting schedule is prepared (if required)				
4.6 Check O&M deliverables are included in Division One				
4.7 Verify all products shown on drawings and manufacturers listed in the specifications are Buy America (BA) or Build America, Buy America (BABA) compliant (if required)				
5. CONTRACT DRAWINGS				
5.1 Design Scope:				
a) Check constructability of design				
b) Check project complies with code analysis				
c) Check scope items are reflected in construction schedule				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
5.2 Specification Coordination/Notes:				
a) Check same terminology used in specifications and drawings				
b) Verify all specification references on drawings				
c) Check all items on drawings have been covered by specifications & spec notes				
d) Check all spec notes required are included and complete				
e) Check spec notes do not duplicate info in specifications				
f) Check paint schedule complies with Materials guidelines				
5.3 Cross-Checking:				
a) Check all drawing cross references are correct (“See Dwg. X”)				
b) Check all section, detail and elevation designators agree in view titles				
c) Check correct views and drawing numbers are used for detail call-outs				
d) Check enlarged plans agree with overall floor plans				
e) Check match lines agree				
f) Verify schedules or types indicated in specifications are what is indicated/detailed				
g) Verify materials/item specified in specifications agree with drawings				
h) Check contractor coordination items (work “by others”, etc.)				
5.4 CAD Standards, Line Weights:				
a) Confirm successful CAD/BIM review				
b) Check line weights clearly show new, existing and demolition				
c) Check consistency of line weights				
d) Check consistency of text/dim styles				
e) Check layer naming per standards				
f) Check drawing assembly per standards				
5.5 Dimensions:				
a) Verify all dimensions are accurate, consistent and with proper accuracy				
b) Check consistency of dimensioning styles				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
5.6 Keys, Graphics, Symbols, Abbreviations:				
a) Check key plans for accuracy and that they are at all locations where required				
b) Check for north arrows on all plan sheets using standard CAD/BIM block; confirm direction is consistent for plan view				
c) Check all plan views are oriented alike				
d) Check for graphic consistency and that unlabeled graphics are defined				
e) Check all abbreviations used agree with list of abbreviations, PA standards and appear in drawings				
f) Check all symbols agree with legend, PA standards and appear in drawings				
g) Check graphic scales and call-outs are on required sheets, consistent throughout package and at the correct scale				
6. LANDSCAPE ARCHITECTURE ITEMS				
6.1 Check coordination such as curb alignments and seeded areas with Civil drawings				
6.2 Check cross-references for seeding, trenching/earthwork, grading, hardscape, planting, and permanent irrigation work with other disciplines				
6.3 Check that plant schedule is properly prepared with correctly spelled botanical names, container or root ball dimensions, plant size, spacing, quantities and any special requirements for the Contractor				
6.4 Ensure landscape protection that complies with PA Standards and local jurisdictional requirements				
6.5 Ensure all permitting applications have been initiated and that all Contract work complies with the requirements of any permits, including but not limited to tree removal, tree protection during construction, tree pruning, tree planting, tree remediation mitigation, wetland and riparian mitigation, stormwater best management practices, etc., both on and off facility property according to all federal, state and local regulations				
6.6 See that the landscape maintenance contract specification is coordinated with the Contracts Unit				
6.7 Check specifications provided are current and agree with all state and local regulations				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA**	COMMENTS
7. SOLE SOURCE / SOLE BRAND ITEMS:				
7.1 Check that Sole Source/Sole Brand items are labeled with "No Substitutions Permitted" on the Contract Drawings and technical specifications.				
7.2 Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
7.3 Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01				
8. OVERALL COMPLETENESS, IF LEAD DISCIPLINE:				
8.1 Check Index of Drawings is complete				
8.2 Check all title block info agrees with index of drawings				
8.3 Check all title block info is filled in, and that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet				
8.4 Check title sheet is to standards and information/signatures are correct				
8.5 Check sheet numbering system is consistent				
8.6 Check key map showing project location and remainder of G-series for completeness				
8.7 Perform cursory spell check of drawings				
8.8 Check completeness of general notes and that they do not repeat information in Division One				
8.9 Check sheet titles and numbering agree w/ drawing Index				
8.10 Check notes are specific/modified for project				
8.11 Check all standards have been noted and referenced				
8.12 Review drawings for conditions/design requiring special detailing/specifications				
8.13 Check special inspection list is complete				
8.14 Check all required schedules are included				
8.15 Check floor plans, sections, elevations & details agree with all other disciplines				
8.16 Check pits, drains, ramps and other floor requirements agree with Structural layout, Plumbing drawings, etc.				
8.17 Check all partitions are located and labeled if required				
8.18 Confirm all Confidential or Confidential & Privileged information is identified, marked accordingly and coordinated with the project or Unit SIM				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
8.19 Construction Staging:				
a) Check Construction Staging requirements				
b) Check Construction Staging notes make clear in what order, if any, the stages shall be completed, and if one or more stages must be completed before proceeding to the next stage or stages.				
c) Check Construction Staging coordinates with hours of work				
9. RESILIENCE & SUSTAINABILITY				
9.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
9.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
9.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
9.4 Verify that documentation has been provided for all applicable credits.				
10. CONTRACT ITEMS (Discipline Specific)				
10.1 Check if a list of materials furnished by the PA is required and that any list provided includes quantities, descriptions and locations of items.				
10.2 Check that all consultant prepared Contract Drawings were audited by in-house PA Design Division Staff.				
10.3 Technical Specifications (Divisions 02 through 26):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Architect is optional.

QUALITY CONTROL CHECKLIST
LANDSCAPE ARCHITECTURE

LANDSCAPE ARCHITECTURE *Respond: <Y, N or N/A >*	100%			
	DA*	TL/C	PA*	COMMENTS
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to PP.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
10.4 Scales:				
a) Check all are correct and consistent with the Contract Drawings[1].				
b) Check the term “NTS” or “Not to Scale” is included where appropriate.				
c) Check the text size is legible on half-size drawings.				
d) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
e) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
f) If reference is made to “Applicable Codes”, check that these codes are indicated.				
10.5 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DA and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Architect is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:		Stage:	
Design Engineer (DE):		Lead?	☐Yes ☐No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

MECHANICAL *Respond: <Y, N or N/A>*	100% DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that C-specs are included, if required (Include sustainability language)				
2.6 Check that items required under "Instructions to specifier" are included on the contract drawings.				
2.7 Check that applicable contractor submittal requirements have been provided through SMS				
2.8 Coordinate compliance with PANYNJ Information Security Handbook and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
2.9 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.10 Check that the contract documents conform to applicable codes, standards, and design guidelines.				
2.11 Check that the Chief's approval for any code variances has been received.				
2.12 Check that printouts of computer -generated calculations are provided.				
2.13 Check that a construction staging strategy has been established, if required.				
2.14 Check that drawings reflect existing site conditions.				
2.15 Check if there are special conditions required for existing/future tenant space.				
2.16 Check that all design review comments have been addressed.				
2.17 Check that MEU (Materials) has provided input where required				
2.18 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.19 Check that drawings have been reviewed by the facility and the PM				
2.20 Ensure compliance with energy codes.				
2.21 Check that CAD review was passed.				
2.22 Check that net cost items were approved by CMD.				
2.23 Check if Building System Commissioning specifications have been provided, if required.				
2.24 Check if Detailed Systems O&M Manuals have been specified, if required.				
2.25 Check if Equipment Deliverable Chart has been specified, if required.				
2.26 Ensure compliance with asset management policy including division one clause, equipment lists, etc. (see contract questionnaire)				
2.27 Check if Equipment Training for the Facility Staff has been specified.				
3. DRAWING DETAIL				
3.1 Check that the drawing index matches the drawing titles.				
3.2 Check that drawing titles are consistent and have been coordinated with other trades.				
3.3 Check that seismic requirement notes are included on drawings.				
3.4 Check that special inspection notes are included on drawings.				
3.5 Check that additional rigging/crane notes, if required, are included on drawings.				
3.6 Check that net cost notes are included on drawings.				
3.7 Check that abbreviation and symbol lists are provided and complete.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
3.8 Check that equipment tags are included in abbreviation and symbol lists.				
3.9 Check that tagged equipment on drawings match the equipment listed in the schedules.				
3.10 Check that a location plan has been provided				
3.11 Check that a key plan and north arrow are shown on each plan drawing.				
3.12 Check that column lines and column identification numbers are shown on applicable drawings.				
3.13 Check that an appropriate graphic scale is shown on each drawing.				
3.14 Check that match lines, section or elevation marks, and detail callouts are included as needed.				
3.15 Check that proper reference has been made to drawings on callouts, labels, details, and sections.				
3.16 Check that floor plan/section titles match drawing titles.				
3.17 Check that equipment schedules are included (including schedules for dampers, diffusers, control valves, filters, etc.…)				
3.18 Check that control schematic diagrams and sequences of operation are included on drawings.				
3.19 Check that proper line weights and text sizes are used on each drawing. (Line weights of existing work should be lighter than line weights of new work.)				
3.20 Check that “area available for contractors use”, if required, is shown on the plans with dimensions and that the area is approved by facility.				
4. MECHANICAL EQUIPMENT				
4.1 Check that manufacturer’s recommended space requirements for equipment installation and maintenance be provided.				
4.2 Check that the design takes into consideration the worst-case scenario in regard to manufacturer’s space requirements				
4.3 Check that a route for future equipment replacement has been planned.				
4.4 Check that space for future equipment has been provided, and approved by the facility (If required).				
4.5 Check that emergency/standby power, if required, is provided for HVAC equipment.				
4.6 Check that access doors are provided in the equipment at all appropriate locations (e.g., motors, removable components, etc.…)				
4.7 Check that equipment noise levels are at or below required recommended levels.				
4.8 Ensure proper equipment and/or system redundancy.				
4.9 Check that housekeeping pads are provided.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
4.10 Check that vibration isolation mechanisms for equipment (i.e., inertia pads or flex connections) are provided.				
4.11 Check that the equipment specified is biddable by more than one supplier.				
4.12 Check that sole-source/sole-brand letters and documentation are provided where required, and are signed and approved by the respective parties.				
4.13 Check that boiler vent stack system is designed appropriately for the category to be used.				
4.14 Check relief valves are properly sized and calculations reviewed.				
4.15 Check relief valves are vented outdoors at safe locations				
5. HVAC SYSTEM DESIGN				
5.1 Verify the occupancy classification with the architect.				
5.2 Spot-check cooling capacity (square feet per ton).				
5.3 Spot-check heating capacity (Btuh/sqft).				
5.4 Spot-check chiller capacity (gpm/ton, depends upon delta T).				
5.5 Spot-check cooling tower capacity (gpm/ton, depends upon delta T)				
5.6 Spot-check condenser water capacity (e.g., river water, etc.…).				
5.7 Check that heating and cooling load calculations match equipment capacity.				
5.8 Ensure that exhaust air will not be recirculated into air intakes and/or other adjacent buildings.				
5.9 Check that outside air ventilation is code compliant.				
5.10 Check that all smoke control and/or post-fire smoke purge systems required by code are included.				
5.11 Ensure that temperature set points for system and program spaces are consistent with design criteria/BDR.				
5.12 Ensure that humidity set points for system and program spaces are consistent with design criteria/BDR.				
5.13 Check that schematic drawings match systems shown on floor plans.				
5.14 Check that proper heating equipment is provided where required (e.g., unit heaters, fin tubes, coils)				
5.15 Check pump head & flow calculations. Confirm that pump selection matches pump curves for specified pumps				
5.16 Check fan pressure & flow calculations. Confirm that fan selection matches fan curves for specified fans				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
5.17 Check that duct and pipe sizes do not exceed acceptable pressure drop and velocity limits, based on BDR or recommended guidelines.				
5.18 Check that proper duct & pipefittings and balancing devices are shown on drawings and/or specified (e.g., takeoffs, vaned elbows, volume dampers, balancing valves).				
5.19 Check that proper piping expansion joints and associated appurtenances (guides, anchors, etc.) are provided where necessary.				
5.20 Check that proper duct and pipe insulation have been specified (indoor and outdoor).				
5.21 Check that proper pipe sleeves/link seals are included at pipe penetrations.				
5.22 Check that door louvers and undercuts are provided as required.				
5.23 Check that smoke dampers, fire dampers, and combination fire/smoke dampers are indicated at smoke- and fire-rated walls.				
5.24 Check that duct access doors are specified at coil sections, smoke dampers, smoke detectors, fire dampers, combination fire/smoke dampers, control dampers, etc..				
5.25 Check that all required wire mesh screens (check size/material), grilles, and louvers are shown at duct terminations.				
5.26 Spot-check that diffuser locations are coordinated with architectural reflected ceiling plans.				
5.27 Check that special piping/ductwork materials have been specified where required.				
5.28 Check that CFM quantities are shown on all outlet and inlet devices.				
5.29 For systems higher than 2" external static pressure, check that duct pressure ratings are indicated on drawings.				
5.30 Check that locations of equipment control panels, thermostats/sensors, and humidity stats/sensors are shown on floor plans.				
5.31 Check that all sensors (temperature, pressure, humidity, etc.) and automatic control devices are shown on the flow diagrams/ control schematics.				
5.32 Check that all required details are shown on contract drawings (e.g., pipe/duct penetrations, dampers, coils, equipment connections, etc.).				
5.33 Check that boiler rooms are provided with proper combustion air and ventilation.				
6. COORDINATION				
6.1 Check clearances for ductwork, piping, and equipment located above the ceiling.				
6.2 Check that sensor and thermostat locations agree with Architectural and Electrical drawings.				
6.3 Check that all required inter-discipline coordination/support has been completed:				
a) Electrical – routing conflicts, electrical wiring & panels for equipment, motor sizes, heat tracing, fire alarm supervision				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL — *Respond: <Y, N or N/A >*	100% DE*	TL/C	PE**	COMMENTS
b) Structural – equipment support, clearances from columns, beams, penetrations through floors, steel, grade beams, duct openings, housekeeping pads				
c) Architectural – room & door sizes, shafts, lighting, clearances, penetrations, access doors, duct openings, louver locations/sizes				
d) Plumbing – water make-up and drainage requirements				
e) Structural – Support and anchorage requirements for seismic loads per applicable code and PA requirements.				
7. RESILIENCE AND SUSTAINABILITY				
7.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
7.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
7.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
7.4 Verify that documentation has been provided for all applicable credits.				
8. CONTRACTS ITEMS (Discipline Specific)				
8.1 Construction Staging:				
a) Check Construction Staging requirements.				
8.2 Check if a list of materials furnished by the PA is required, and that any list provided, includes quantities, descriptions and locations of items.				
8.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the title sheet.				
8.4 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
8.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
8.6 Check that all consultant prepared Contract Drawings were audited by in-house PA Design Division Staff.				
8.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to PP.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
8.8 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
8.9 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

QUALITY CONTROL CHECKLIST
MECHANICAL (HVAC)

MECHANICAL — *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
8.10 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
8.11 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e) If reference is made to “Applicable Codes”, check that these codes are indicated.				
8.12 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PPif yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PPas such.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
8.13 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:		Stage:	
Design Engineer (DE):		Lead?	☐Yes ☐No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Check that the contract documents comply with design criteria.				
2.3 Check that the Estimating Group has approved the cost estimate.				
2.4 Check that all applicable Port Authority standard specs are included.				
2.5 Check that C-specs are included, if required (Include sustainability language)				
2.6 Check that items required under "instructions to specifier" are included on the contract drawings.				
2.7 Check that applicable contractor submittal requirements have been provided through SMS				
2.8 Coordinate compliance with PANYNJ Information Security Handbook and Protection Information Practices and Procedures (PIPP) Manual through discipline SIM				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
2.9 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.10 Check that the contract documents conform to applicable codes, standards, and design guidelines.				
2.11 Check that the Chief's approval for any code variances has been received.				
2.12 Check that printouts of computer -generated calculations are provided.				
2.13 Check that a construction staging strategy has been established, if required.				
2.14 Check that drawings reflect existing site conditions.				
2.15 Check if there are special conditions required for existing/future tenant space.				
2.16 Check that all design review comments have been addressed.				
2.17 Check that MEU (Materials) has provided input where required				
2.18 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.19 Check that drawings have been reviewed by the facility and the PM				
2.20 Ensure compliance with energy codes.				
2.21 Check that CAD review was passed.				
2.22 Check that net cost items were approved by CMD.				
2.23 Check if Building System Commissioning specifications have been provided, if required.				
2.24 Check if Detailed Systems O&M Manuals have been specified, if required.				
2.25 Check if Equipment Deliverable Chart has been specified, if required.				
2.26 Ensure compliance with asset management policy, including division one clause, equipment lists, etc. (see contract questionnaire)				
2.27 Check if Equipment Training for the Facility Staff has been specified.				
3. DRAWING DETAIL				
3.1 Check that the drawing index matches the drawing titles.				
3.2 Check that drawing titles are consistent and have been coordinated with other trades.				
3.3 Check that seismic requirement notes are included on drawings.				
3.4 Check that special inspection notes are included on drawings.				
3.5 Check that additional rigging/crane notes, if required, are included on drawings.				
3.6 Check that net cost notes are included on drawings.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
3.7 Check that abbreviation and symbol lists are provided and complete.				
3.8 Check that equipment tags are included in abbreviation and symbol lists.				
3.9 Check that tagged equipment on drawings match the equipment listed in the schedules.				
3.10 Check that a location plan has been provided				
3.11 Check that a key plan and north arrow are shown on each plan drawing.				
3.12 Check that column lines and column identification numbers are shown on applicable drawings.				
3.13 Check that an appropriate graphic scale is shown on each drawing.				
3.14 Check that match lines, section or elevation marks, and detail callouts are included as needed.				
3.15 Check that proper reference has been made to drawings on callouts, labels, details, and sections.				
3.16 Check that floor plan/section titles match drawing titles.				
3.17 Check that equipment schedules are included (including schedules for dampers, diffusers, control valves, filters, etc…)				
3.18 Check that control schematic diagrams and sequences of operation are included on drawings.				
3.19 Check that proper line weights and text sizes are used on each drawing. (Line weights of existing work should be lighter than line weights of new work.)				
3.20 Check that "area available for contractors use", if required, is shown on the plans with dimensions and that the area is approved by facility.				
4. PLUMBING/FIRE PROTECTION EQUIPMENT				
4.1 Check that manufacturer's recommended space requirements for equipment installation and maintenance be provided.				
4.2 Check that the design takes into consideration the worst-case scenario in regard to manufacturer's space requirements				
4.3 Check that a route for future equipment replacement has been planned.				
4.4 Check that space for future equipment has been provided, and approved by the facility (If required).				
4.5 Check that emergency/standby power, if required, is provided for equipment.				
4.6 Check that access doors are provided in the equipment at all appropriate locations (e.g., motors, removable components, etc…)				
4.7 Check that equipment noise levels are at or below required recommended levels.				
4.8 Ensure proper equipment and/or system redundancy.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
4.9 Check that housekeeping pads are provided.				
4.10 Check that vibration isolation mechanisms for equipment (i.e., inertia pads or flex connections) are provided.				
4.11 Check that the equipment specified is biddable by more than one supplier.				
4.12 Check that sole-source/sole-brand letters and documentation are provided where required, and are signed and approved by the respective parties.				
4.13 Check that boiler vent stack system is designed appropriately for the category to be used.				
4.14 Check relief valves are properly sized and calculations reviewed.				
4.15 Check relief valves are vented outdoors at safe locations				
5. PLUMBING SYSTEM DESIGN				
5.1 Verify the occupancy classification with the architect.				
5.2 Verify the incoming street pressure to ensure that the supply water enters the building within the allowable pressure range.				
5.3 Check that pressure calculations for the plumbing system were performed.				
5.4 Check that backflow prevention devices meet applicable code requirements.				
5.5 For service piping, ensure compliance with all local regulations regarding necessary components, clearances, valving, and locations.				
5.6 Ensure that all pipe materials, fittings, and valves follow the schedule outlined in the appropriate specification.				
5.7 Check that pipe sizes do not exceed recommended pressure and velocity limits.				
5.8 Check that systems are sized to meet space requirements and the manufacturer's recommendations.				
5.9 Check that riser diagrams match systems shown on floor plans.				
5.10 Check that piping expansion joints are provided where necessary.				
5.11 Review expansion joint calculations for conformance with the manufacturer's recommendation.				
5.12 Check that pipe insulation has been specified.				
5.13 Verify that the insulation thickness shown complies with the application requirement				
5.14 Check that pipe sleeves, fire stopping, or water proofing (Link Seal or as approved) have been included at all pipe penetrations				
5.15 Verify that the fire stopping have the appropriate rating.				
5.16 Check if there is any specialized equipment requiring plumbing services.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
5.17 Check that storage type hot water heaters are provided with expansion tanks.				
5.18 Check that make up lines have backflow prevention (BFP) devices as per the degree of hazard.				
5.19 Check that all required approval and coordination with outside agencies are complete. (Coned, PSE&G, DEP, etc.)				
6. FIRE PROTECTION SYSTEM DESIGN				
6.1 Verify the occupancy classification with the architect.				
6.2 Verify the incoming street pressure to ensure that the supply water enters the building with adequate pressure for the fire suppression system. (Hydrant flow test)				
6.3 Check fire pump calculations.				
6.4 Check fire pump location and system design complies with NFPA requirements.				
6.5 Check that emergency power is provided for fire pumps.				
6.6 For service piping, ensure compliance with all local regulations regarding necessary components, clearances, valving, tamper switches, water flow switches, and locations.				
6.7 Check that backflow prevention devices meet applicable code requirements.				
6.8 Check that all areas that are subject to freezing are identified with the appropriate piping protection.				
6.9 Check that appropriate fire protection systems (pre-action or clean agent) are provided for all electrical/communication rooms.				
6.10 Check that all necessary suppression system calculations were performed.				
6.11 Verify that the sprinkler calculations meet the appropriate remote area and density requirements as per applicable codes and regulations.				
6.12 Check that all systems are sized to meet capacity requirements				
6.13 Verify that water flow switches are shown where required.				
6.14 Check that tamper switch devices are shown on all fire service valves. Verify that locations have been coordinated with Electrical and Architectural (for proper access).				
6.15 Check that valve rooms are heated.				
6.16 Check that the fire suppression systems are zoned appropriately and coordinated with Architectural, Electrical, and Mechanical				
6.17 Check that temperature ratings for sprinkler heads are appropriate for space use.				
6.18 Ensure that all pipe material, fittings, and valves follow the schedule outlined in the appropriate specification and their intended area of use.				
6.19 Check that riser diagrams match systems shown on the floor plans.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
6.20 Check low point drains are indicated.				
6.21 Check that drum drip are provided for dry system.				
6.22 Check that pipe sleeves, fire stopping, or water proofing (link seals) have been included at pipe penetrations.				
6.23 Verify that the fire stopping have the appropriate rating.				
6.24 Check if there is any specialized equipment requiring a fire protection system that is not water-based.				
6.25 Check fire department connection location and coordinate with the architectural plan.				
6.26 Confirm that at least one fire hydrant is within 100 feet of the fire department connection.				
7. COORDINATION				
7.1 Check clearances for ductwork, piping, and equipment located above the ceiling.				
7.2 Check that sensor and thermostat locations agree with Architectural and Electrical drawings.				
7.3 Check that all required inter-discipline coordination/support has been completed:				
a) Electrical – routing conflicts, electrical wiring & panels for equipment, motor sizes, heat tracing, fire alarm supervision				
b) Structural – equipment support, clearances from columns, beams, penetrations through floors, steel, grade beams, duct openings, housekeeping pads				
c) Architectural – room & door sizes, shafts, lighting, clearances, penetrations, access doors, duct openings, louver locations/sizes				
d) HVAC – water make-up and drainage requirements				
e) Structural – Support and anchorage requirements for seismic loads per applicable code and PA requirements.				
8. RESILIENCE AND SUSTAINABILITY				
8.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
8.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
8.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
8.4 Verify that documentation has been provided for all applicable credits.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
9. CONTRACTS ITEMS (Discipline Specific)				
9.1 Construction Staging:				
a) Check Construction Staging requirements.				
9.2 Check if a list of materials furnished by the PA is required, and that any list provided, includes quantities, descriptions and locations of items.				
9.3 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
9.4 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
9.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				
9.6 Check that all consultant prepared Contract Drawings were audited by in-house PA Design Division Staff.				
9.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided to PP.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
9.8 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
9.9 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
9.10 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
10.17 Miscellaneous Drawing Comments				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
d) If reference is made to “Applicable Codes”, check that these codes are indicated.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST

MECHANICAL (PLUMBING/FIRE PROTECTION)

PLUMBING/FIRE PROTECTION *Respond: <Y, N or N/A >*	100%			
	DE*	TL/C	PE**	COMMENTS
9.11 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e) If reference is made to “Applicable Codes”, check that these codes are indicated.				
9.12 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PPif yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PPas such.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
9.13 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Discipline:	Structural	Stage:	
Design Engineer (DE):		Lead?	☐Yes ☐No
Task Lead (TL) / Checker (C):		Date:	
Principal Engineer (PE):		PID:	

STRUCTURAL *Respond: <Y, N, or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check that the "Energy Analysis Notes" and "Progress Inspection Notes" have been included on a General Drawing				
1.6 Check key map showing project location				
1.7 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Check that the contract documents comply with design criteria.				
2.2 Check that the Estimating Group has approved the cost estimate.				
2.3 Check that applicable contractor submittal requirements have been provided through SMS				
2.4 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.5 Check that the Chief's approval for any code variances has been received.				
2.6 Check if there are special conditions required for existing/future tenant space.				
2.7 Check that MEU (Materials) has provided input where required				
2.8 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
2.9 Check that drawings have been reviewed by the facility and the PM				
2.10 Check that CAD review was passed.				
2.11 Check that net cost items were approved by CMD.				
2.12 Check if Building System Commissioning specifications have been provided, if required.				
2.13 Check if Detailed Systems O&M Manuals have been specified, if required.				
3. DRAWINGS & CALCULATIONS				
General Drawings				
3.1 Check structural notes, including special inspection notes				
3.2 Check use of materials and techniques including but not limited to:				
a) Proprietary products				
b) Anchors and fasteners				
c) Adhesives, waterproofing and sealants				
3.3 Check drawings coordination				
3.4 Check construction staging, sequence of work, and required procedures				
3.5 Check analytical method and model				
3.6 Check computer input and output				
3.7 Check computer program documentation				
3.8 Check loads calculation and selection of loading cases				
3.9 Check special loads and loaded areas identified				
3.10 Check critical computed stresses (existing elements)				
3.11 Check computed deflections and vibration				
3.12 Check AISC certification category identified				
Buildings				
3.13 Check selected structural system				
3.14 Check overall stability				
3.15 Check lateral load resisting system meets all requirements per applicable building code				
3.16 Check framing plans, including removal plans (if applicable)				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
3.17 Check plans correlate with architectural, electrical and mechanical design				
3.18 Check existing utility interferences				
3.19 Check building foundations, including pile caps and piles				
3.20 Check grade beams and tie beams				
3.21 Check building columns				
3.22 Check building beams & girders				
3.23 Check building lateral bracing components				
3.24 Check floor and roof steel decking				
3.25 Check floor slabs				
3.26 Check construction joints, expansion joints and control joints				
3.27 Check base plates and anchor bolts				
3.28 Check building connections (or criteria if delegated design) for:				
a) Shear				
b) Moment				
c) Axial				
d) Bolts and welds type				
e) Splice design				
3.29 Check concrete anchors:				
a) Edge distances				
b) Mechanical Anchor type, size, embedment and applicability				
c) Adhesive Anchor type, size, embedment and applicability				
3.30 Check building walls, pits and details				
3.31 Check precast concrete components and details				
3.32 Check masonry wall anchorage, reinforcement, bracing, and details, including joints, openings and lintels				
3.33 Check details at the interface of existing buildings				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL — *Respond: <Y, N or N/A>*	100% DE*	TL/C	DE*	COMMENTS
3.34 Check ceiling for Tenant Construction Review Manual (TCRM) requirements, and specify pull test requirements (if applicable)				
3.35 Check other non-structural elements supports including utility supports, façade, railing, elevators, escalators, equipment, and penetrations				
3.36 Note on support and anchorage requirements for mechanical and electrical systems to be designed for seismic loads per applicable code and PA requirements. Specify notes to delegate design to Contractor's engineer (if applicable)				
3.37 Check modification, repair, or strengthening details of existing structural components				
Bridges				
3.38 Check selected structural system				
3.39 Check overall stability				
3.40 Check lateral loading resisting system for seismic meets all requirements per applicable code				
3.41 Check bridge plans correlate with civil, mechanical & electrical design				
3.42 Check existing utilities interferences				
3.43 Check bridge foundations				
3.44 Check abutments and wingwalls				
3.45 Check bridge columns/ piers				
3.46 Check bridge beams & girders				
3.47 Check bridge diaphragms & bracing				
3.48 Check trusses				
3.49 Check bridge steel decking				
3.50 Check bridge deck including reinforcement				
3.51 Check expansion joints				
3.52 Check construction joints and control joints				
3.53 Check fracture critical members and components identified				
3.54 Check AISC certification category identified				
3.55 Check bridge connections for:				
a) Shear				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL — *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
b) Moment				
c) Splice design				
3.56 Check bridge bearings				
3.57 Check concrete inserts:				
a) Edge distances				
b) Mechanical Anchor type				
c) Adhesive Anchor type and applicability				
3.58 Check non-structural elements anchorage				
3.59 Check waterproofing and sealants				
3.60 Note on support and anchorage requirements for mechanical and electrical systems to be designed for seismic loads per applicable code and PA requirements				
Marine Structures				
3.61 Check selected structural system				
3.62 Check design live loads and equipment loading				
3.63 Check lateral load resisting system				
3.64 Check framing plan				
3.65 Check plans correlate with civil, mechanical & electrical design				
3.66 Check existing utility interferences				
3.67 Check selected type of piles				
3.68 Check pile caps				
3.69 Check crane girders				
3.70 Check cross beams				
3.71 Check deck slabs				
3.72 Check construction joints and control joints				
3.73 Check pile anchorage connection				
3.74 Check rock anchor				
3.75 Check bulkhead				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
3.76 Check details at the interface of existing wharves				
3.77 Check fendering system				
3.78 Check mooring system				
3.79 Check anchorage of other non-structural elements				
Other Structures				
3.80 Check sign structures				
3.81 Check canopy structures				
3.82 Check retaining walls				
3.83 Check other steel and concrete structures				
3.84 Check special structural systems				
3.85 Check equipment pads, platform, and dunnage				
3.86 Check rated bollards, gates and crash walls				
3.87 Check rigging plans, temporary supports and protection (if applicable)				
3.88 Check flood protection system, including flood doors, stop logs, fabric barriers, and portable barriers				
4. DRAWINGS SPECIFIC				
4.1 Check presentation				
4.2 Check completeness				
4.3 Check all notes				
4.4 Check design sizes (computed vs. specified)				
4.5 Check dimensions, elevations & geometry, and scales				
4.6 Check schedules and tables completed				
4.7 List all special inspection items				
4.8 Check review comments have been incorporated				
5. SPECIFICATIONS				
5.1 Check Non-Standard Technical Sections				
5.2 Check Standard Technical Sections (specify only applicable spec sections)				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

V1.0 Last Updated: 06/12/2026

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
5.3 Check Performance Type Sections				
5.4 Check Instructions to Specifier were followed				
5.5 Check Section appendices marked-up, including submittals list				
6. ESTIMATES				
6.1 Check items included				
6.2 Check Unit Prices				
6.3 Check Quantities				
6.4 Check inflation applied (if applicable), subcontractor OH&P, and premium time				
6.5 Check classified and net cost items defined				
7. ELECTRONIC FILE/FOLDER				
7.1 Check file folder structure was followed				
7.2 Check folder is properly indexed, dated and initialed				
7.3 Check folder is electronically transferred to “M” drive				
7.4 Check review comment sheets have been resolved and filed				
8. RESILIENCE & SUSTAINABILITY				
8.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
8.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
8.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
8.4 Verify that documentation has been provided for all applicable credits.				
9. CONTRACTS ITEMS (Discipline Specific)				
9.1 Construction Staging:				
a) Check Construction Staging requirements.				
9.2 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.				
9.3 Titles:				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

V1.0 Last Updated: 06/12/2026

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
9.4 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items, and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
9.5 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				
9.6 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
9.7 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approval.				
h) Check that list of Specifications is complete and has been provided to Project Principal (PP) .				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer, inform PP.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
9.8 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
9.9 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
9.10 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
9.11 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				
b) Check the text size is legible on half-size drawings.				
c) Check that Quality Control testing is performed by the PA or its designees and not by the Contractor.				
d) Check the term “Provided by Manufacturer” is not used unless the item is being provided at no cost to the Contractor.				
e) If reference is made to “Applicable Codes”, check that these codes are indicated.				
9.12 Protected Information (PI):				
a) Obtain written confirmation from the discipline’s Security Information Manager (SIM) whether or not the Contract Drawings and/or technical specifications contain PI and inform PP if yes.				
b) If the Contract Drawings and/or technical specifications contain Protected Information, obtain written confirmation from the discipline SIM that they have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department’s Protected Information Practices and Procedures Manual and inform the PP as such.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
STRUCTURAL

STRUCTURAL *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	DE*	COMMENTS
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
9.13 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

PROJECT INFORMATION			
Contract Title:			
Contract Number:		Discipline:	Traffic
Stage:		Design Engineer (DE):	
Task Lead (TL) / Checker (C):		Lead?	☐Yes ☐No
Principal Engineer (PE):		Date:	

☐ ALIGNMENT ☐ ANALYSIS ☐ SINGING/STRIPING ☐ RSD ☐ SIGNAL ☐ MOT ☐ ITS ☐ TEMP

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
1. LEAD DISCIPLINE (If checked)				
1.1 Check that Architect has verified building or space classifications, if necessary				
1.2 Check that the index of drawings matches the sheet title blocks and that drawing titles are consistent				
1.3 Check disposal areas, stockpile sites, staging areas, storage areas, water sources, area available for contractor's use (if required) are shown, dimensioned and approved by facility and the PM				
1.4 Verify that an energy compliance statement was prepared (buildings only)				
1.5 Check key map showing project location				
1.6 Check hauling and access restrictions or requirements are spelled out and any imposed weight limits have been verified				
2. GENERAL				
2.1 Ensure compliance to Project Definition Statement, proposal scope, and Design Standards.				
2.2 Confirm approvals from applicable utility companies and any other government agencies having jurisdiction				
2.3 Check that the Chief's approval for any code variances has been received.				
2.4 Check that all design review comments have been addressed.				
2.5 Check that the contract documents (specs, notes, etc.) have been reviewed by the Contracts Unit.				
2.6 Check that drawings have been reviewed by the facility and the PM				
2.7 Check that CAD review was passed.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
3. DESIGN CRITERIA				
3.1 Alignment **(if applicable)**				
a) Check design exception avoided or documented.				
b) Check lane widths on curves.				
c) Check clear zone width criteria met or documented.				
d) Check standard lane, shoulder, and median widths				
e) Check pedestrian and bicycle safety considered (proper separation between travel way and bicycle/pedestrian facilities, proper width of facility etc.)				
f) Check roadway alignment/superelevation meets AASHTO standards.				
g) Check minimum stopping sight distances and intersection sight distances.				
h) Check proper turning radii and widths at intersections.				
i) Check sufficient acceleration/deceleration lane lengths provided for speed conditions and storage.				
j) Check ADA requirements were coordinated with Civil				
k) Check appropriate offsets to landscape materials, retaining walls, fences, etc. provided to maintain sight distances.				
l) Check proper design speed selected.				
m) Check proper posted speed selected.				
n) Check handicap ramps are shown on plan.				
o) Check appropriate crosswalk widths and locations provided.				
p) Check intersection spacing in accordance with Access Management				
q) Check buffer area in accordance with Access Management				
3.2 Traffic Analysis **(if applicable)**				
a) Check analysis was performed for capacity, queuing and delays.				
b) Check Synchro model was developed.				
c) Check safety studies were performed and crash history was reviewed.				
d) Check traffic signal warrant analysis was performed and documented.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
3.3 Permanent signing **(if applicable)**				
a) Check signposts meet PA standards.				
b) Check all sign symbols defined.				
c) Check permanent sign locations can physically be placed where indicated.				
d) Check all sign installations within the clear zone are breakaway or shielded with appropriate roadway safety devices.				
e) Check signs meet applicable design requirements				
3.4 Permanent pavement markings **(if applicable)**				
a) Check pavement markings meet applicable design requirements				
b) Check plan includes all applicable details				
c) Check plan shows sufficient dimensions for permanent markings.				
3.5 Roadside Safety Devices **(if applicable)**				
a) Check length of need calculation is performed and documented.				
b) Check design includes proper flare rates & offsets to terminal ends.				
c) Check sufficient distance provided behind roadside barriers for deflection.				
d) Check standard details are provided.				
e) Check barrier selection based on appropriate test level.				
f) Check barrier is provided where clear zone is not met, where grades are too steep, and when fixed objects require protection.				
g) Check appropriate impact attenuators are chosen for site conditions.				
3.6 Permanent traffic signals **(if applicable)**				
a) Check drawings conform to the format shown in PA Traffic Signal Guidelines				
b) Verify drawings were checked for overhead and underground conflicts.				
c) Check cone of vision for signal heads.				
d) Check advance visibility of signal heads.				
e) Check pedestrian access to all corners.				
f) Check pedestrian signals, are countdown.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
g) For coordinated system, check all communication hardware provided.				
h) Check pole offset from the curb.				
i) Check pedestrian pushbuttons and pushbutton signs are APS-type.				
j) Check pedestrian signal mounting height.				
k) Check need for aesthetic coating for hardware.				
l) Check need for back plate.				
m) Check need for limiting visibility of signals				
n) Check need for multiple timing plans.				
o) Check need for protected turn.				
p) Check need for RTOR restriction.				
q) Check UPS is provided in separate cabinet/enclosure.				
r) Check signal timing and phasing.				
s) Check traffic signal wiring plan.				
t) Check conduit type and size.				
u) Check grounding of the underground conduit system.				
v) Check that maximum loading was used for mast arm, pole, and foundation as per details.				
w) Check traffic signal details and conformance to drawings.				
x) Check signal display matches all movements (including protected & protected/permissive).				
y) Check loop inductance calculation performed and submitted.				
z) Check that equipment is in conformance with traffic signal specs.				
aa) Check location and labeling of detection zones.				
bb) Check pedestrian walk interval and pedestrian clearance interval calculations submitted, approved, and match drawings.				
cc) Check yellow and all red intervals submitted, approved, and match drawings.				
dd) Check controller cabinet location for maximum visibility of signal heads.				
ee) Check signal spacing in accordance with Access Management Guide				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
3.7 Temporary traffic control **(if applicable)**				
a) Check special detour signing plan (if needed).				
b) Check special one-lane road signing plan. Use of flagger services where applicable. (PAPD Right of First Refusal)				
c) Check all sign symbols defined in legend.				
d) Check sign designations conform to MUTCD. If not, special details are included or referenced for each special sign.				
e) Check regulatory speed adjustments during the construction phase have been adequately addressed.				
f) Check temporary concrete barrier is used for excavations deeper than 6".				
g) Check temporary concrete barriers are designed with proper flare rates and offsets to terminal ends.				
h) Identify permits required from other agencies for lane closures and sidewalk closures and construction signs within their jurisdictions.				
i) Check pedestrian and bicycle signing and traffic control devices (if needed).				
j) Check sign quantity for multiple set-ups and stages accounted for (signing, devices, striping, etc.) in cost estimate.				
k) Check signs installed according to Standard Details and Part 6 of the "Manual on Uniform Traffic Control Devices (MUTCD)", current edition.				
l) Check above ground appurtenances considered for construction conflicts (temporary widening, equipment requirements such as clear area for swinging cranes, etc.)				
3.8 ITS Devices (if applicable)				
a) Check ITS devices conform to latest ITS Master Plan or Stage I/II drawings.				
b) Check ITS device identification numbers on drawings conform to ITS design guidelines.				
c) Check ITS technologies used conform to ITS design guidelines or an updated technology evaluation.				
d) Check power requirements for ITS devices coordinated with Electrical Engineering.				
e) Check communication requirements for ITS devices coordinated with Electronics Engineering.				
f) Check communications and software for ITS devices coordinated with Port Authority's Technology Department.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".

* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.

** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
g) Check software integration requirements for control of the ITS equipment have been included in drawings and/or specification.				
h) Check that all project specific functional requirements for the ITS devices are included in the testing requirements of the specifications.				
3.9 Transportation Management Plan (TMP) (if applicable)				
a) Check if the TMP was initiated.				
b) Check if the Agency Operations Center was notified of the Stage IV work schedule.				
c) Check that traffic impacts are acceptable to the Facility.				
4. PLANS IN GENERAL				
4.1 Traffic Drawing format				
a) Check match lines are correctly labeled.				
b) Check plans conform to PA CADD Standards.				
c) Check use of standard file naming convention for drawings.				
d) Check cross-reference sheet numbers, and footnotes correct.				
e) Check “Designed by”, “Drawn by”, “Checked by” and “Date” are filled out on all sheets (first initial and last name).				
f) Check use of appropriate drawing titles.				
g) Check applicable Standard Drawings included.				
h) Check north arrow is used on all plans.				
i) Check details are readable with adequate information.				
j) Check graphic scale bar is provided where applicable.				
k) Check least possible number of sheets used.				
l) Check dividing major structures, highway intersections, interchanges, or grade separations between sheets.				
m) Check existing features such as roadways, bridges, and building shown and labeled as appropriate.				
n) Check drawings have been saved in DWF and CAD format in the appropriate submittal folder.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
o) Check list of abbreviations is correct.				
p) Check provision for dates and signatures for the appropriate approvals.				
q) Check consultant title block (if applicable)				
4.2 Notes				
a) Check notes are clear, concise, descriptive, and as brief as possible to convey message. Do NOT include on plan sheets any instructions covered in the specifications or information that would be more appropriate in the specifications.				
b) Check required advance notice for lane or roadway closures spelled out.				
4.3 General drawings				
a) Check Net Cost and Sole Source items identified and justifications prepared for traffic items, coordinate with LEA.				
5. TRAFFIC ESTIMATE				
5.1 Check estimate unit prices justified with supporting documentation (PA, supplier quotes, etc.)				
5.2 Check Lump Sum amounts documented and reflect the work identified in the Lump Sum item.				
5.3 Check mathematical extensions of costs for each item and the overall total cost are correct.				
6. TRAFFIC SPECIFICATIONS				
6.1 Check list of standard specifications.				
6.2 Check C-specs included (As necessary).				
6.3 Check Edited Division 1 MPT specification.				
7. RESILIENCE & SUSTAINABILITY				
7.1 Verify compliance with *Design Guidelines – Climate Resilience* with EAD Resilience & Sustainability staff. (if applicable, check design flood elevation against guidelines)				
7.2 Verify compliance with *Sustainable Design Guidelines* [*Sustainable Building Guidelines* or *Sustainable Infrastructure Guidelines,* as applicable] with EAD Resilience & Sustainability staff.				
7.3 Ensure sustainability language is coordinated with Contract Book and inserted in Specifications and Drawing Notes. Verify that documentation has been provided for all applicable credits.				
7.4 Verify that documentation has been provided for all applicable credits.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
8. CONTRACTS ITEMS (Discipline Specific)				
8.1 Construction Staging:				
a) Check Construction Staging requirements.				
8.2 Check if a list of materials furnished by the PA is required, and that any list provided includes quantities, descriptions and locations of items.				
8.3 Check Contract Drawing Notes.				
8.4 Titles:				
a) Check that Contract title, Contract No., and facility name are correct and consistent with those found on all other drawings and the Title sheet.				
8.5 Sole Source/Sole Brand Items[1]:				
a) Check that Sole Source/Sole Brand items are labeled with “No Substitutions Permitted” on the Contract Drawings and technical specifications.				
b) Check that internal approval memo for Sole Source and Sole Brand items and quotation from Sole Source entity for Sole Source items have been provided.				
c) Check that sole source letters prepared by the sole source entities conform to Engineering Department Design Division Advisory Bulletin 10-01.				
8.6 Check that the completed PA-Wide Milestone Review table documents that all comments from both PA-Wide review, and Law Review if applicable, have been incorporated, or if they have not been, the reasons for such non-compliance have been stated and discussed.				
8.7 Prepare the PP’s certification that all PA Review comments have been resolved and provided to the Contract Engineer.				
8.8 Check that all Contract terminology are in accordance with the “Contract Terminology" guidelines[1].				
8.9 Check that all consultant prepared Contract Drawings were reviewed and approved by in-house PA Design Division Staff.				
8.10 Technical Specifications (Divisions 02 through 35):				
a) Check that list of Specifications includes only those required by the work shown and specified, and not for Net Cost (Field Ordered Work on certain federally funded contracts) or Extra Work.				
b) Check Specifications are appropriate for certain types of work shown on the Contract Drawings.				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
c) Check that the terminology used on the Contract Drawings is consistent with the Specifications[1].				
d) When a manufacturer is listed in the technical specifications, check that a location for the company is also provided.				
e) Non-Standard Specifications (C-Specs, M-Specs): Check all items specified are quantifiable and can be priced for bidding.				
f) Non-Standard Specifications: Check if Sole Source/Sole Brand items are identified in the C-Specs.				
g) Non-Standard Specifications: Check that all C-Specs are initialed by the appropriate functional Chief or designee, denoting review and approval, and provide Contract Engineer with documentation of such approvals.				
h) Check that list of Specifications is complete and has been provided.				
i) Check that electronic copies of all Non-Standard Specifications have been provided to the Contract Engineer.				
j) Check that electronic copies of all Consultant-prepared Non-Standard Specifications have been correctly formatted in the PA style template.				
8.11 Scales:				
a) Check all are graphic scales.				
b) Check all are correct and consistent with the Contract Drawings[1].				
c) Check the term “NTS” or “Not to Scale” is included where appropriate.				
8.12 Legends:				
a) Check symbols and hatching patterns shown in the Legend are consistent with those on other drawings.				
b) Check that legends indicate to which drawings they apply (e.g., Civil drawings, Electrical drawings, Structural drawings).				
8.13 Details:				
a) Check the titles and terminology in details are consistent with those on other drawings.				
b) Check the term “New” is not used in titles of details.				
8.14 Miscellaneous Drawing Comments:				
a) Check all existing features are labeled as such, unless an entire drawing (or individual detail) is existing features and is noted in the title of the drawing (or individual detail).				

FOR INFORMATION ONLY

Note: 1. Refer to “Engineering Department’s Contract Document Standards”.
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

QUALITY CONTROL CHECKLIST
TRAFFIC

TRAFFIC *Respond: <Y, N or N/A>*	100%			
	DE*	TL/C	PE**	COMMENTS
b) Check the text size is legible on half-size drawings.				
c) Check the term "Provided by Manufacturer" is not used unless the item is being provided at no cost to the Contractor.				
d) If reference is made to "Applicable Codes", check that these codes are indicated.				
8.15 Protected Information (PI):				
a) Obtain written confirmation from the Security Information Manager (SIM) of each discipline whether or not the Contract Drawings or technical specifications, or both, contain PI.				
b) If the Contract Drawings or technical specifications, or both, contain Protected Information, obtain written confirmation from the SIM of each discipline that the Contract Drawings or technical specifications, or both, have been prepared in accordance with the latest versions of the Information Security Handbook and the Engineering Department's Protected Information Practices and Procedures Manual.				
c) Appropriately mark and number Confidential Privileged (CP) information, and package separately from non-CP documents.				
d) Provide appropriate documentation for previously marked PI that is downgraded or unmarked prior to bid.				
8.16 Check if Available Documents, Reference Drawings or Reference Documents are required, that they are submitted to the PP.				

FOR INFORMATION ONLY

Note: 1. Refer to "Engineering Department's Contract Document Standards".
* Checklist identifies the DE and serves a guideline for preparing the design and contract documents.
** Review of line items by Principal Engineer is optional.

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ESTIMATING

PROJECT INFORMATION			
Contract Title:		Contract Number:	
Design Manager:		Stage:	
Consultant:		PID:	
Estimating Auditor (EA):		Date:	

Consultant Audit

The review list presented below is intended to be used as a guidance document in the review of the submittal. Comments shall be logged in the Comment Review Matrix for the Designer to address. Any potential issues identified should also be highlighted for the Design Manager to review in further detail or for the Designer to clarify.

ESTIMATING < Respond Y, N, or N/A >	100%	
	EA	COMMENTS
GENERAL ITEMS		
1.1 Check access:		
a) Cramped conditions		
b) Confined space		
1.2 Check Airport Operations		
1.3 Check contingency		
1.4 Check dewatering pumps		
1.5 Check economic climate/market conditions		
1.6 Check if there is a contractor already on site		
1.7 Check hazardous conditions		
1.8 Check hazardous waste disposal location		
1.9 Check high water table		
1.10 Hours of Work:		
a) Check if no restrictions		

FOR INFORMATION ONLY

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ESTIMATING

ESTIMATING < Respond Y, N, or N/A >	100%	
	EA	COMMENTS
b) Check scheduled work hours		
1.11 Check labor availability		
1.12 Check location of utilities		
1.13 Check number of bidders		
1.14 Check if piles are needed		
1.15 Check if RR insurance is required (near live tracks)		
1.16 Season:		
a) Check additives		
b) Check winterization		
1.17 Check security personnel and equipment		
1.18 Check if sheeting will be left in place		
1.19 Check soil conditions		
1.20 Check Sole Source items		
1.21 Check if special equipment is required for installation		
1.22 Check staging area		
1.23 Subcontracting:		
a) Check number of subcontractors vs. work by GC		
b) Check if there will be a GC or if it is specialty work		
1.24 Check temporary barriers		
1.25 Check for tidal consideration		
1.26 Check traffic protection		
1.27 Check for appropriate type of bid/contracting strategy		
1.28 Check for unidentified utilities, underground obstructions		
1.29 Check wage rates:		
a) Regular		
b) Overtime		
c) Off-shift rate		

FOR INFORMATION ONLY

PORT AUTHORITY NY NJ
AIR LAND RAIL SEA

QUALITY CONTROL CHECKLIST
ESTIMATING

ESTIMATING < Respond Y, N, or N/A >	100%	
	EA	COMMENTS
1.30 Check that Estimate is complete and conforms to the PA Engineering General Estimating Guidelines and Procedure No. C-3: Construction Cost Estimates		
1.31 Verify that all work shown on the contract documents has been included in the Estimate		
1.32 Check that Estimate was prepared using the Standard Cost Estimating Forms (latest versions)		
ADDITIONAL ITEMS		
2.1 Check if Sustainable Design is included in estimate if necessary.		
2.2		

FOR INFORMATION ONLY