[CompanyName]

Construction

Quality Assurance/Quality Control Plan

[ProjectName]

[ProjectNumber]

Management acceptance

This Construction Quality Assurance/Quality Control Plan has been reviewed and accepted.

Endorsed By: (Name / Title)	[QualityManagerName], Quality Manager		
Signature:	*[QualityManagerName]*	Date:	[Date]
Version	1.0	Notes	Initial Issue

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SIGNATURE SHEET

Plan Preparer

This [CompanyName] Project Quality Assurance/Quality Control Plan was prepared in accordance with the contract specifications and requirements of the [CompanyName] quality system and approved by:

[QualityManagerName] / [Date]

[QualityManagerName], Quality Manager /Date

Approval by Company Officer

This [CompanyName] Project Quality Assurance/Quality Control Plan is approved by:

[SeniorManagerName] / [Date]

[SeniorManagerName], Senior Manager /Date

Plan Concurrence

[CompanyName] Project Quality Assurance/Quality Control Plan concurrence by:

[ProjectManagerName] / [Date]

[ProjectManagerName], Project Manager /Date

[SuperintendentName] / [Date]

[SuperintendentName], Superintendent /Date

PROJECT-SPECIFIC CONSTRUCTION QUALITY PLAN

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G. SUBMITTALS

CONTRACT SUBMITTALS

The Quality Manager prepares submittals that provide additional details of how [CompanyName] plans to carry out quality-related aspects of the customer contract, contract technical specifications, and contract drawings and reporting of quality records to the customer.

The Quality Manager lists, schedules, and approves all quality-related submittals that are required by the project including submittals prepared by subcontractors and suppliers. The Quality Manager must review all submittals for compliance with the requirements of the [CompanyName] Quality System. The Quality Manager must sign approval of each contract submittal.

[CompanyName] extends compliance to contract specifications to all customer approved submittals. All [CompanyName] activities comply with customer approved submittals.

SHOP DRAWING SUBMITTALS

The Project Manager or Purchasing and Estimating Manager prepare shop drawing submittals that supplement contract drawings. Shop drawings are required when additional details are necessary for fabrication or installation. The following information is included, as applicable:

- Dimensions established by field measurement
- Relationships to adjoining construction
- Identification of products and materials
- Fabrication and installation drawings
- Diagrams showing locations of field-installations
- Shop fabricated manufacturing instructions
- Templates and patterns
- Design calculations
- Compliance with specified standards
- Seal and signature of professional engineer if required
- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

[CompanyName] extends contract specifications to include customer approved shop drawings.

- Description
- Intended use
- Size and physical characteristics including drawings when applicable
- Finish and color characteristics
- Product manufacturer's installation instructions, when applicable

- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

Allowances and Unit Prices Submittals

When customer contracts specify allowances and unit prices that the customer will select after the contract is awarded, the Project Manager prepares an allowance and unit price submittal for customer approval.

When a customer selects or approves allowances and unit prices, the customer indicates the allowance and unit price selection on the signed submission return.

[CompanyName] extends compliance to contract specifications to customer approved allowances and unit prices.

Request for Information (RFI) Submittals

The Project Manager submits a request for additional information to the customer when errors are found or when required information is not contained in the contract, contract technical specifications, or contract drawings.

Should any number of contract technical specifications or contract drawings result in conflicting requirements, the Quality Manager submits a request for information to the customer to select the standard that applies.

[CompanyName] extends compliance to contract specifications to customer requests for information.

Change Order Submittals

Contract requirements or contract technical specifications may require a change after the contract is awarded. The Project Manager submits the change order to the customer for approval, including any contract price adjustments.

When a customer approves a change order, the customer signs the submission return.

[CompanyName] extends contract specifications to include customer approved change orders.

Mock-up Submittals

The Superintendent prepares mock-up submittals as required by contract. Additionally, the Quality Manager specifies mock-up requirements when they are necessary to ensure customer expectations are

Submittal Schedule and Log

The Project Manager identifies submittals that apply to a specific contract and when they should be submitted, including:

- Contract requirement reference (if applicable)
- Submittal type: Shop drawing, product data, quality inspection and test plan, request for information, or allowances and unit prices
- Description
- Due date for submission to customer by [CompanyName]
- Due date for approval by the customer. Due dates may be a number of days after a project plan milestone.
- Approval date

SUBMITTAL REVIEW AND APPROVAL

The Quality Manager prepares submittals that provide additional details of how [CompanyName] plans to carry out quality-related aspects of the customer contract, contract technical specifications, and contract drawings and reporting of quality records to the customer.

The Quality Manager lists, schedules, and approves all quality-related submittals that are required by the project including submittals prepared by subcontractors and suppliers. The Quality Manager must review all submittals for compliance with the requirements of the [CompanyName] Quality System. The Quality Manager must sign approval of each contract submittal.

[CompanyName] extends compliance to contract specifications to all customer approved submittals. All [CompanyName] activities comply with customer approved submittals.

SUBMISSION TO CUSTOMER

See Submittal Forms exhibits in this subsection for all the forms that will be used to submit submittals on this project.

CUSTOMER APPROVED SUBMITTALS

The Project Manager obtains the signature of an authorized customer representative on the submittal form.

[CompanyName] extends compliance to contract specifications to customer approved submittals.

Work in the affected area of a pending submittal requirement does not start until the customer approves the submittal.

[CompanyName]
Project Submittal Form

Submittal ID#	Project ID	Project Name	Date
	[ProjectNumber]	[ProjectName]	

To:	From: [CompanyName] Location:
Type of Submittal: ☐ Shop drawing ☐ Product data ☐ Request for information ☐ Completed form or quality record ☐ Quality system document ☐ Other:	Description of submittal:
List of attachments:	Remarks:
Submittal Prepared by: [CompanyName] Name: Title: Signature / Date:	Submittal Approved by [CompanyName] Quality Manager: Name: Title: Signature / Date:
Customer Disposition: ☐ Approved ☐ Conditionally approved, resubmission not required (see comments) ☐ Disapproved, resubmission required ☐ Other:	Customer Representative: Name: Title: Signature / Date:
Comments:	

[CompanyName]
Project Submittals Schedule and Log

Contract ID	Contract Name	Preparer	Date	Notes
[ProjectNumber]	[ProjectName]	[ProjectManagerName]		

Contract Section Activity ID	Technical Specification Reference / Version Date	Type/Description of Submittal	Version /Date	Required Submittal Date	Date Submitted to Customer	Required Customer Approval Date	Customer Approval Date

[CompanyName]
List of Anticipated Mock-ups and Log

Contract ID	Contract Name	Preparer	Date	Notes
[ProjectNumber]	[ProjectName]	[ProjectManagerName]		

Contract Section Activity ID	Technical Specification Reference / Version Date	Description of Mock-up Submittal	Version /Date	Required Submittal Date	Date Submitted to Customer	Required Customer Approval Date	Customer Approval Date

K. Material Inspection Traceability and Quality Controls

Products and materials are controlled to assure the use of only correct and acceptable items. Controls include identification of the inspection status. Materials that require lot control traceability and the method of traceability are listed on the Controlled Materials form included as an exhibit in this subsection.

Identification of Lot Controlled Materials

The Quality Manager determines types of project materials that require quality controls.

For each type of quality-controlled material, the Quality Manager determines lot control traceability requirements, if any, and specifies the means of lot identification. Identification methods may include physical labels, tags, markings and/or attached certification documents.

When lot-controlled materials are received, the Superintendent verifies that materials have the specified lot identifications.

The Superintendent maintains lot identification at all production phases from receipt, through production, installation, or assembly, to final completion. Acceptable methods for preserving lot identification include physically preserving observable lot identifications, recording the lot identification on a work task quality inspection form or other work record, or collecting the physical lot identifier as a record along with supplemented with location.

If lot-controlled materials are without lot identification, the Superintendent deems the materials as nonconforming and segregates them and/or clearly marks them to prevent inadvertent use. The Superintendent treats the material according to the company policy for nonconformances. Only the Quality Manager can re-identify or re-certify the materials.

Material Receiving and Inspection

When lot-controlled materials are received, the Operations Manager inspects the materials and verifies that materials have the specified lot identifications. Received materials are listed on the Material Receiving and Inspection Report form included as an exhibit in this subsection.

proceeds only after the material has been accepted by the material quality inspection or test.

Equipment Inspections

All equipment is inspected and maintained daily or prior to use based on manufacturer's instructions. This includes all equipment whether in use or not while on the jobsite.

- Equipment is in good working condition and that there is no need for repair
- Equipment maintenance has been performed to meet manufacturer's specifications
- Equipment is safe to use

PRESERVATION AND PROTECTION OF MATERIALS AND COMPLETED WORK

[CompanyName] will preserve and protect work in process, completed work, component parts, materials, and when applicable, delivery to the destination to maintain compliance with project requirements and standards. This includes handling, storage, protection from natural elements, and reducing risks of damage.

Completed work is protected from damage as specified by government regulations, contract technical specifications, industry standards, or product installation instructions.

The Quality Manager identifies supplemental protection requirements that apply to a specific project when they are necessary to assure quality results.

MATERIAL AND EQUIPMENT STORAGE

The Superintendent ensures all materials and equipment will be delivered, stored, handled, and maintained in a manner that protects them from damage, moisture, dirt, and intrusion of foreign materials.

Delivery of materials and equipment will be planned according to the work progress to minimize storage on site, where there are higher possibilities of damages and deterioration of materials.

Preventive maintenance based on the manufacturer's recommendations will be performed on all stored materials and equipment if required.

If preventive maintenance is required:

- The Superintendent or qualified receiving inspector will record the item(s) on the Material and Equipment Receiving Inspection form and note that preventive maintenance is required
- Tag or label the material / equipment
- Record, on the tag or label, the type of preventive maintenance required, how often preventive maintenance is to be performed, and the date it was performed

Stored materials will be segregated to prevent cross contamination and limit losses should a delivery be rejected.

[CompanyName]
Material Inspection and Receiving Report

Contract ID	Contract Name	Purchase Order No.	Supplier	Bill of Lading No.	Date
[ProjectNumber]	[ProjectName]				

Item No.	Stock/Part No.	Description	Quantity Received	Condition	Marking	Accept	Conditional Use	Reject
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐
						☐	☐	☐

Receiving Quality Control

ACCEPTANCE

Listed items have been accepted by me or under my supervision

☐Conform to contract specifications EXCEPT as noted herein or on supporting documents.
☐Received in apparent good condition EXCEPT as noted

Signature of authorized person and date: _____

EXCEPTIONS:

L. CONSTRUCTION INSPECTION AND TEST PLAN

The Quality Manager prepares quality inspection and test plans for a project that identifies:

- Each required quality inspection and/or test
- Inspection and test specifications for each required quality inspection or test
- Hold points for purchaser quality inspection
- Specification requirements for each quality inspection and test

The Quality Inspection and Test Plan form lists inspections and tests (other than work task inspections) that will be performed on this project.

Results of inspections and tests will be recorded on the Inspection and Test Form. An Inspection and Test Plan and Log form exhibit is included as an exhibit in this subsection.

INDEPENDENT MEASUREMENT AND TESTS

The Quality Manager ensures that quality tests that apply to a specific project are clearly identified. Tests for a project include:

- Purchaser required quality tests as specified by the contract, contract technical specifications, contract drawings, and approved submittals.
- Additional quality tests necessary to assure quality results.

HOLD POINTS FOR PURCHASER INSPECTION

The Superintendent stops work when reaching a hold point specified on the inspection and test plan. The Superintendent ensures that work proceeds only with purchaser approval.

[CompanyName]
Inspection and Test Plan and Log

Project Number	Project Name	
[ProjectNumber]	[ProjectName]	**(All tests verified by Superintendent and/or QC Manager)**

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected

[CompanyName]
Testing & Inspection Results Log

Project ID	Project Name	Preparer	Date
[ProjectNumber]	[ProjectName]		

Report ID /Date of Issue	Description of Inspection / Test	Report Date	Results		Type of Corrective Action
			Approved	Rejected	

N. CONTROL OF CORRECTIONS AND NONCONFORMANCES

Should a problem occur in the quality of work, we systematically contain the issue and quickly make corrections. Our first action is to clearly mark the item by tape, tag, or other easily observable signal to prevent inadvertent cover-up.

Then we expedite a corrective action that brings the workmanship or material issue into conformance by repair, replacement, or rework. Previously completed work is reinspected for similar nonconformances. If we cannot correct the item to meet contract specifications, the customer will be notified, and customer approval of corrective actions is required before proceeding.

Fixing the problems found is not sufficient. [CompanyName] systematically prevents recurrences to improve quality. First enhanced controls and management monitoring are put into place to assure work proceeds without incident. Then using a structured problem-solving process, [CompanyName] identifies root causes and initiates solutions. Solutions may involve a combination of enhanced process controls, training, upgrading of personnel qualifications, improved processes, and/or the use of higher-grade materials. Follow-up ensures that a problem is completely resolved. If problems remain, the process is repeated.

Nonconformances and their resolution are recorded on a Nonconformance Report form. A Nonconformance Report form exhibit is included in this subsection.

MARKING OF NONCONFORMANCES AND OBSERVATIONS

When the Quality Manager, Superintendent, inspector, or customer identifies a nonconformance or an observation, the item is quickly and clearly marked by tape, tag, or other easily observable signal to prevent inadvertent cover-up.

CONTROL THE CONTINUATION OF WORK

After the item is marked, the Superintendent determines if work can continue in the affected area:

STOP WORK ORDER: When continuing work can adversely affect quality or hide the defect, work must stop in the affected area until the disposition of the item resolved. The Superintendent identifies the limits of the affected area. The Superintendent quickly and clearly identifies the boundaries of the stop work area.

RECORDING OF NONCONFORMANCES

If nonconformances or observed items exist by the work task completion inspection, the Superintendent or inspector records the nonconformances on a nonconformance report.

The Superintendent sends the nonconformance report to the Quality Manager.

QUALITY MANAGER DISPOSITION OF NONCONFORMANCE REPORTS

When the Quality Manager receives a Nonconformance Report, he or she assesses the effect the reported nonconformance has on form, fit, and function. The Quality Manager may assign a disposition of either:

REPLACE: The nonconformance can be brought into conformance with the original specification requirements by replacing the nonconforming item with a conforming item.

REPAIR: The nonconformance can be brought into conformance with the original requirements through completion of required repair operations.

REWORK: The nonconformance can be made acceptable for its intended use, even though it is not restored to a condition that meets all specification requirements. The Quality Manager may specify standards that apply to the completion of rework. Rework nonconformances must be approved by the customer.

USE AS-IS: When the nonconforming item is satisfactory for its intended use. Any use as-is items that do not meet all specification requirements must be approved by the customer.

CORRECTIVE ACTIONS

The Superintendent verifies that corrective actions eliminate the nonconformance to the requirements of the original specifications or as instructed by the disposition of the nonconformance report, and then removes, obliterates, or covers the nonconformance marker.

Furthermore, the Superintendent ensures that previously completed work is reinspected for similar nonconformances and corrective actions are taken to avert future occurrences (see section 9.3 Corrective Actions).

CONTROL OF CORRECTIVE ACTIONS

The Quality Manager identifies requirements for corrective actions with respect to frequency, severity, and detectability of quality nonconformances items found during and after completion of work activities.

When a solution requires changes to [CompanyName] quality standards, the Quality Manager makes modifications as necessary by making changes to:

[CompanyName]
Nonconformance Report

Nonconformance Report Control ID	Project ID	Project Name
	[ProjectNumber]	[ProjectName]
Preparer Signature/ Submit Date		**Quality Manager Signature / Disposition Date**
Description of the requirement or specification		
Description of the nonconformance, location, affected area, and marking		
Disposition	☐ Replace ☐ Repair ☐ Rework ☐ Use As-is Approval of disposition required by customer representative? Yes ☐ No ☐ Customer approval signature /date: _____	
Corrective Actions	☐ Corrective actions completed Name/Date:_____ Customer acceptance of corrective actions required? Yes ☐ No ☐ Name/Date:_____	
Preventive Actions	☐ Preventive actions completed Name/Date:_____	

[CompanyName]
Nonconformance Report Control Log

Project ID	Project Name	Preparer	Date
[ProjectNumber]	[ProjectName]		

Nonconformance Report ID #	Description of Nonconformance	Report Date	Disposition Decision Date	Corrective Action Completion	
				Initial	Date

[CompanyName]

Quality Manual

Operating Policies of the [CompanyName] Quality System

Management acceptance

This Quality Manual has been reviewed and accepted.

Endorsed By: (Name / Title)	[PresidentName], President		
Signature:	*[PresidentName]*	Date:	[Date]

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Revision History

DATE	DOCUMENT#	VERSION	COMMENTS	APPROVED BY
[Date]	QM	0	Original Issue	[PresidentName]

QUALITY MANUAL

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2. QUALITY SYSTEM MANAGEMENT AND RESPONSIBILITIES

SYSTEM OF PERSONAL QUALITY ACCOUNTABILITY

2.1. OVERVIEW

Responsibilities for quality are specified not only for compliance with policies and procedures but also so that decisions are based on principles that ensure quality.

Documented responsibilities ensure that expected behaviors are communicated throughout the company rather than left to discretionary interpretation.

2.2. [COMPANYNAME] QUALITY POLICY RESPONSIBILITIES

Quality is everyone's responsibility. The President holds everyone in the organization personally accountable for adhering to the [CompanyName] Quality System policies and procedures.

The [CompanyName] Quality Policy describes the [CompanyName] commitment to quality and reinforces compliance with the Quality System.

The President communicates the Quality Policy message throughout the company so that all employees understand their respective quality responsibilities.

The President reviews the [CompanyName] Quality Policy with all employees at least annually.

The President ensures that a copy of the [CompanyName] Quality Policy is distributed to all employees and is posted in all offices.

2.3. QUALITY DUTIES, RESPONSIBILITIES, AND AUTHORITY

2.3.1. PRESIDENT: QUALITY DUTIES, RESPONSIBILITIES, AND AUTHORITY

While everyone is responsible for quality, the President is the one person in the company ultimately responsible for quality. Regardless of other duties, quality responsibilities of the President include:

- Identify external and internal issues relevant to the purpose and strategic direction of the quality management system.
- Ensuring that each employee understands his or her quality responsibilities as well as [CompanyName] quality policies.

- Demonstrating commitment to the [CompanyName] Quality System and its integrity
- Ensuring achievement of [CompanyName] quality objectives
- Continuously improving the Quality System
- Fully support the Quality Manager in the execution of assigned quality responsibilities.

2.3.2. Quality Manager: Quality Duties, Responsibilities, and Authority

The Quality Manager is responsible for ensuring the overall effectiveness of the Quality System for a specific project. Regardless of other duties, the Quality Manager is responsible for:

- Planning project quality controls required by the [CompanyName] quality systems and contract requirements.
- Fully implementing all provisions of the [CompanyName] Quality System and related documents on the project.
- Manage the operation of the [CompanyName] Quality System on the project.
- Implement and manage all phases of quality control.
- Communicating project-specific quality requirements to all affected departments, subcontractors and suppliers, and customers
- Ensuring that the Quality System is established and implemented by persons doing work that impacts quality.
- Monitoring progress of activities
- Identify quality problems.
- Ensuring that the Quality System is maintained.
- Acting as the project quality liaison with parties outside the company on matters relating to quality
- Performing periodic quality system reviews and audits
- Reporting to senior management on performance of the Quality System, including needed improvements
- Review and approval of all project Quality System records
- Review and approval of project quality-related contract submittals
- Managing all project inspection and quality control activities
- Controlling corrective actions
- Verify implementation of corrective actions and preventive actions
- Resolving quality nonconformances

The Quality Manager has the authority to:

- Stop work when continuing work may adversely affect quality or cover up a defect.
- Prevent the use of equipment or materials that may adversely affect quality or cover up a defect.
- To direct the removal and replacement of any non-conforming work, equipment, or material by [CompanyName], any subcontractor, or any supplier.
- Suspend work and/or supply of materials by any staff member, subcontractor personnel, or supplier as deemed necessary to assure quality results.

Alternate Quality Managers acting in the role of the project Quality Manager has the same quality duties, responsibilities, and authority as the project Quality Manager.

2.3.3. Project Manager: Quality Duties, Responsibilities, and Authority

The Project Manager is the one person responsible for management of a specific project. Regardless of other duties, the Project Manager is responsible for:

- Demonstrating commitment to the [CompanyName] Quality System and its integrity
- Ensuring achievement of project quality objectives
- Providing adequate resources for effective operation of the Quality System on the project
- Ensuring that each design employee understands his or her quality responsibilities as well as [CompanyName] quality policies.
- Ensuring that each project employee understands his or her quality responsibilities as well as [CompanyName] quality policies.

- Conducting management reviews of the [CompanyName] Quality System
- Ensuring the availability of necessary resources and information for effective operation of the [CompanyName] Quality System

2.3.4. SUPERINTENDENT: QUALITY DUTIES, RESPONSIBILITIES, AND AUTHORITY

A Superintendent verifies that work performed by subcontractors and suppliers and [CompanyName] work crews conforms to [CompanyName] quality standards. The President appoints one or more Superintendents for each project.

A Superintendent has specific responsibilities for:

- Ensuring that work meets government regulatory and code requirements, customer requirements, contract requirements, contract technical specifications, contract drawings, approved contract submittals, and company quality standards and specifications.
- Ensuring that subcontractors and suppliers begin work in accordance with [CompanyName] start-work policies.
- Ensuring that subcontractors and suppliers receive a notice to work only when conditions will not adversely affect quality results.
- Conducting quality inspections, tests, and recording findings
- Accurately assessing subcontractor quality and on-time performance
- Ensuring that quality standards are achieved before approving subcontractor or work crew completion of work.

The Superintendent has the authority to:

- Stop work when continuing work may adversely affect quality or cover up a defect.
- Prevent the use of equipment or materials that may adversely affect quality.
- Direct the removal or replacement of any non-conforming work, equipment, or material.
- Suspend work and/or supply of materials as deemed necessary to assure quality results.

Alternate Superintendent has the same quality duties, responsibilities, and authority as the Superintendent. Multiple Superintendents may be assigned to the project.

- Stop work when continuing work may adversely affect quality or cover up a defect.
- Prevent the use of equipment or materials that may adversely affect quality.

2.4. Quality System Performance Measures

Company-wide quality performance measures evaluate the effectiveness of the Quality System. The following indicators are the primary measures of quality performance:

- Number of customer correction items identified at the project closeout quality inspection.
- Customer satisfaction feedback

At least annually, the President evaluates [CompanyName] quality performance and set improvement goals.

2.5. Customer Satisfaction Performance Measures

[CompanyName] obtains feedback after project completion on whether customer quality expectations are being met, and to what extent. The President analyzes customer satisfaction data to determine opportunities for improvement and address any items of customer dissatisfaction.

2.6. Exceptions

Exceptions to the [CompanyName] Quality System and customer contract requirements are tightly controlled:

- Exceptions to compliance with contract specifications are approved only by the customer and the Quality Manager.
- Exceptions to the [CompanyName] Quality System not specified by contract requirements are approved only by President or the Quality Manager.

Exceptions are recorded in memoranda, change orders (Section 4.6.6 Change Order), or otherwise clearly documented.

3. PROJECT QUALITY ASSURANCE/QUALITY CONTROL PLAN

3.1. OVERVIEW

After [CompanyName] is awarded a contract to carry out a construction project, the President forms a team consisting of a Quality Manager, Project Manager, and Superintendent.

First, the Quality Manager develops a set of project specifications that align project requirements with customer specifications and requirements, regulations, industry standards, product instructions, and [CompanyName] quality standards.

The Quality Manager evaluates personnel, subcontractors and suppliers, materials, and suppliers, and ensures that only those that are capable and qualified are included on the project. Training is provided to ensure that all personnel involved in the project understand their quality responsibilities and authorities.

The Quality Manager then details how the quality is controlled throughout the construction process through a quality inspection and test plan that specifies requirements and pass/fail criteria for quality inspections and tests. [CompanyName] operating policies assure compliance to the project specifications.

As the project proceeds and prior to starting each construction task, the Superintendent coordinates detailed requirements and resources, site conditions, and communicates them through a meeting with all interested parties. The task, the Superintendent amends inspection specific checklists with items for heightened awareness based on the concerns of all parties.

The subcontractors and suppliers and Superintendent use the quality inspection forms to monitor execution of the construction process through a series of quality inspections before, during, and at the completion of each construction task. Laboratory and functional tests are performed to assure performance results.

Should nonconformances occur, they are systematically controlled and corrected. Improvements are made to prevent recurrences.

Throughout the project there are standard operating procedures and forms for creating, maintaining, and controlling quality documents and records.

Throughout the project, the Quality Manager performs on-site quality audits to ensure that the [CompanyName] Quality System is operating effectively.

3.2. PROJECT QUALITY RISK ASSESSMENT

3.3. [COMPANYNAME] PROJECT LICENSE AND QUALIFICATION REQUIREMENTS

The Quality Manager identifies the company license and qualification credentials required by contract specifications and government regulators. The Quality Manager obtains records, certificates, and license records that provide verification of [CompanyName] credentials.

3.3.1. Required Company Licenses and Certifications

The Quality Manager defines quality-related company credentials for each project work task that affects quality.

3.4. Project Personnel and Qualifications

3.4.1. Project Organization Chart

The President defines the organization chart for the project. The organizational chart includes job titles, names of assigned personnel, and organizational and administrative interfaces with the customer. The organization chart defines lines of authority as indicated by solid connection; dotted lines indicate lines of communication. The lines of authority preserve independence of quality control personnel from the pressures of production.

When a person with authority is unavailable only a person with higher authority may assume the responsibility of the unavailable person.

The President assesses the qualification requirements for each position on the project organization chart, qualifications of each person, and then appoints only qualified persons to the project organization.

3.4.3. Personnel Qualifications

The Quality Manager qualifies employee capabilities to ensure that they are capable of completely carrying out their assigned quality responsibilities including the following capabilities:

- Knowledge of Company quality standards
- Knowledge of job responsibilities and authority
- Demonstrated skills and knowledge.
- Demonstrated ability.
- Demonstrated results.
- Required training.
- Required experience.

The Quality Manager also evaluates independent contractor personnel on the same standards that apply to employees.

3.4.4. Required Licenses and Certification

The Quality Manager defines quality-related credentials for each project job position that affects quality.

3.5. Project Quality Assurance/Quality Control Plan

Before project work begins, the Project Manager prepares a construction process plan that defines the

- Required quality inspections and tests (Section 9.2 Required Work Task Quality Inspections and Tests) and the project Quality Inspection and Test Plan when required
- The Contract Submittal Schedule (Section 4.6.1 Contract Submittal Schedule)

3.6. Identification of Quality Controlled Work Tasks

The Quality Manager identifies each phase of construction work task that requires separate quality controls. Each work task triggers a set of requirements for quality control inspections before, during and after work tasks.

3.7. Project Quality Inspection and Test Plan

The Quality Manager prepares quality inspection and test plans for a project that identifies:

- Each required quality inspection and/or test
- Inspection and test specifications for each required quality inspection or test
- Hold points for customer quality inspection.
- Specification requirements for each quality inspection and test

3.8. Project Quality Communications Plan

After [CompanyName] is awarded a contract, the Project Manager plans the methods of communications among the customer, subcontractors, and suppliers and [CompanyName].

3.9. Project Quality Training Plan

The project quality training plan is based on the required body of knowledge to perform work that meets [CompanyName] quality requirements then makes sure that all personnel know what is necessary to perform their work.

3.9.1. [CompanyName] Body of Knowledge

The Quality Manager determines the body of knowledge necessary to perform work that meets [CompanyName] quality standards.

3.9.2. Quality Training

The Quality Manager ensures that all employees receive training relevant to their quality responsibilities.

The Quality Manager ensures that all subcontractors and suppliers receive training on relevant elements of the [CompanyName] Quality System, Project Quality Assurance/Quality Control Plan, and quality standards.

The Quality Manager identifies the training needs of all personnel performing activities that affect quality. Training topics may include:

- The [CompanyName] Quality System
- The [CompanyName] Quality Policy
- Operating policies identified in the Corporate Quality Manual
- Quality standards cited in the Corporate Quality Manual, or project documents, or records.
- [CompanyName] body of knowledge
- Relevant quality standard operating procedures

3.10. Project Subcontractor And Suppliers

The Quality Manager identifies key subcontractors and suppliers for each project work task on the Project subcontractor and supplier List form.

Each selected supplier must be previously qualified as specified in section 7.2 Qualification of Outside Organizations and Company Departments.

4. CONTRACT SPECIFICATIONS

DEFINE CUSTOMER QUALITY EXPECTATIONS

4.1. OVERVIEW

Fulfilling customer contract expectations is a primary objective of the [CompanyName] Quality System. To ensure that customer expectations will be fulfilled, [CompanyName] clearly defines the requirements for each contract before it is approved.

The Project Manager ensures that the information in customer contracts clearly defines customer expectations and that the necessary details are provided to set requirements for construction.

4.2. CONTRACT TECHNICAL SPECIFICATIONS

The Project Manager obtains contract technical specifications from the customer.

For each specific contract, The President identifies supplemental technical specifications on the Project Quality Assurance/Quality Control Plan when they are not otherwise specified by the contract or the approved drawings. Superintendents have jobsite access to contract technical specifications for the construction activities they supervise.

All [CompanyName] activities comply with the contract technical specifications.

4.3. CONTRACT DRAWINGS

The Project Manager obtains customer supplied drawings that have been approved by local government regulators. Superintendents have jobsite access to approved architectural drawings for the construction they supervise.

All [CompanyName] activities comply with the drawing details and specifications cited in the drawings.

4.3.1.1. AS-BUILT RED-LINE DRAWINGS

As the project progresses, the Superintendent will mark the original design drawings to indicate as-built conditions including changes to specified materials, dimensions, locations, or other features.

4.4. NEEDS AND EXPECTATIONS OF INTERESTED PARTIES

The Quality Manager identifies interested parties, their expectations, quality requirements including governmental regulators, special interest organizations, and the public.

4.5. CONTRACT RISK ASSESSMENT

The Quality Manager performs a general assessment and identifies project quality risks. Quality risks include the ability to satisfy customer expectations for quality or on-time delivery as well as company risks related to time and cost related to possible quality issues.

4.6. CONTRACT SUBMITTALS

The Quality Manager prepares submittals that provide additional details of how [CompanyName] plans to carry out quality-related aspects of the customer contract, contract technical specifications, and contract drawings and reporting of quality records to the customer.

[CompanyName] extends compliance to contract specifications to all customer approved submittals. All [CompanyName] activities comply with customer approved submittals.

4.6.1. CONTRACT SUBMITTAL SCHEDULE

The Project Manager identifies submittals that apply to a specific contract and when they should be submitted, including:

- Contract requirement reference (if applicable)
- Submittal type: Shop drawing, product data, quality inspection and test plan, request for information, or allowances and unit prices
- Description
- Due date for submission to customer by [CompanyName]
- Due date for approval by the customer. Due dates may be a number of days after a project plan milestone.
- Approval date

4.6.2. STRUCTURAL PLAN AND SHOP DRAWING SUBMITTALS

The Project Manager or Purchasing and Estimating Manager prepare shop drawing submittals that supplement contract drawings. Shop drawings are required when additional details are necessary for fabrication or installation. The following information is included, as applicable:

- Dimensions established by field measurement.
- Relationships to adjoining work.
- Identification of products and materials
- Fabrication and installation drawings
- Diagrams showing locations of field installations.
- Shop fabricated manufacturing instructions.
- Templates and patterns
- Design calculations
- Compliance with specified standards
- Seal and signature of professional engineer if required.
- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

[CompanyName] extends contract specifications to include customer approved shop drawings.

- Intended use.
- Size and physical characteristics including drawings when applicable.
- Finish and color characteristics
- Product manufacturer's installation instructions, when applicable
- Additional requirements as specified in the contract, contract technical requirements, or contract drawings.

4.6.4. ALLOWANCES AND UNIT PRICES SUBMITTALS

When customer contracts specify allowances and unit prices that the customer will select after the contract is awarded, the Project Manager prepares an allowance and unit price submittal for customer approval.

When a customer selects or approves an allowance and unit prices, the customer indicates the allowance and unit price selection on the signed submission return.

[CompanyName] extends compliance to contract specifications to customer approved allowances and unit prices.

Contract requirements or contract technical specifications may require a change after the contract is awarded. The Project Manager submits the change order to the customer for approval, including any contract price adjustments.

When a customer approves a change order, the customer signs the submission return.

[CompanyName] extends contract specifications to include customer approved change orders.

4.6.7. MOCK-UP SUBMITTALS

The Superintendent prepares mock-up submittals as required by contract. Additionally, the Quality Manager specifies mock-up requirements when they are necessary to ensure customer expectations are clearly identified.

The Quality Manager ensures that each mock-up demonstrates specific elements of form and/or function, and that they are specified in the submittal documents.

[CompanyName] extends contract specifications to include customer approved mock-up submittals.

4.7. CUSTOMER SUBMITTAL APPROVAL

The Project Manager obtains the signature of an authorized customer representative on the submittal form.

[CompanyName] extends compliance to contract specifications to customer approved submittals.

Work in the affected area of a pending submittal requirement does not start until the customer approves the submittal.

4.8. Contract Warranty

The Quality Manager determines warranty services that are required by regulatory requirements, customer requirements, and customer expectations.

The Project Manager ensures that customer contracts clearly specify warranty coverage including:

- Scope
- Starting date
- Duration

The Project Manager ensures that customer contracts also clearly specify owner responsibility for:

- Restrictions of use
- Maintenance requirements
- Exclusions for customer supplied materials or equipment.
- Timely notification of problems

4.9. Contract Review and Approval

The President conducts customer contract reviews to ensure that:

- Customer requirements and specifications are complete.
- Customer requirements and specifications are compatible with the relevant regulations, [CompanyName] quality standards, and Quality System requirements.
- [CompanyName] has the capability to deliver the completed project in the time allotted.

Before construction begins, the President makes sure that all contract requirements are clearly understood, all discrepancies are resolved, and all requirements are agreed upon. Once these requirements are met, the President signs the contract.

8. PROCESS CONTROLS

HOW WORK IS CARRIED OUT

8.1. OVERVIEW

The construction process plan defines how project work is to be done and approved for the overall project. The construction process plan is communicated to all key personnel, subcontractors, and suppliers in a startup meeting. As the project proceeds, work task plans provide additional details of how each individual work task is carried out. Work tasks planning meetings are used to communicate expectations of the work task plan to key personnel responsible for carrying out the work task.

8.2. PROJECT STARTUP AND QUALITY CONTROL COORDINATION MEETING

Prior to the commencement of work, the Project Manager holds a meeting to discuss and coordinate how project work will be performed and controlled. Key personnel from [CompanyName], subcontractors and suppliers meet to review expectations for project quality results as well as quality assurance and quality control policies and procedures including:

- Key requirements of the project
- The Project Quality Assurance/Quality Control Plan
- Required quality inspections and tests.
- The project submittal schedule
- Quality policies and heightened awareness of critical quality requirements
- Project organization chart and job responsibilities
- Methods of communication and contact information
- Location of project documents and records

8.3. PREPARATORY PROJECT QUALITY ASSURANCE/QUALITY CONTROL PLAN PLANNING

8.3.1. WORK TASK REQUIREMENTS REVIEW

In preparation for the start of an upcoming work task, the Superintendent reviews an integrated and coordinated set of documents that collectively define quality requirements for the work task including:

- Objectives and acceptance criteria of the work task
- Quality standards that apply to the work task
- Work instructions, process steps, and product installation instructions that apply to the work task.

- Customer contract requirements
- Required quality inspections and tests.
- Method for clearly marking nonconformances to prevent inadvertent use.
- Location of quality system records and documents
- Personnel training

8.3.2. Preparatory Site Inspection

The Superintendent also performs a quality inspection of the work area and:

- Assesses completion of required prior work.
- Verifies field measurements.
- Assures availability and receiving quality inspection status of required materials.
- Identifies any nonconformances to the requirements for the work task to begin.
- Identifies potential problems.

8.4. Weekly Quality Planning and Coordination Meetings

The Superintendent conducts a meeting with key company, subcontractor, and supplier personnel responsible for carrying out, supervising, or inspecting the work, and interested customer representatives.

The meeting is held on a nominal weekly schedule. During the meeting, the Superintendent facilitates coordination among the participants, communication among the participants, and reinforces heightened awareness for critical requirements.

The Superintendent maintains a record of the meeting event in the Daily Quality Control Report.

8.5. Process Control Standards

8.5.1. Control of Customer Property

Care will be exercised for customer property used by or under [CompanyName] control. [CompanyName] will identify, inspect, verify, control, and protect customer property with the procedures that apply to company purchased materials. If any customer property is lost, damaged, or otherwise found to be unsuitable for use [CompanyName] will report this to the customer.

8.5.2. Job-ready Start Work Standards

Work on a work task starts only when conditions do not adversely impact quality, comply with government regulations, contract technical specifications, industry standards, or product installation instructions.

The Quality Manager identifies supplemental work in process requirements that apply to a specific project when they are necessary to assure quality results.

8.5.4. Preservation and Protection of Materials and Completed Work

[CompanyName] will preserve and protect work in process, completed work, component parts, materials, and when applicable, delivery to the destination to maintain so that compliance with project requirements and standards. This includes handling, storage, protection from natural elements, and reducing risks of damage.

Completed work is protected from damage as specified by government regulations, contract technical specifications, industry standards, or product installation instructions.

The Quality Manager identifies supplemental protection requirements that apply to a specific project when they are necessary to assure quality results.

8.5.5. Material storage

The Superintendent ensures all materials will be delivered, stored, and handled in a manner that protects them from damage, moisture, dirt, and intrusion of foreign materials.

Delivery of materials will be planned according to the work progress to minimize storage on site, where there are higher possibilities of damage and deterioration of materials.

Stored materials will be segregated to prevent cross contamination and limit losses should a delivery be rejected.

The Superintendent surveys stored materials during daily jobsite reviews and identifies any material that has incurred damage or otherwise become defective and therefore unfit for use.

8.5.6. Controlled Use of Materials

The Project Manager ensures that contracts and purchase orders are awarded only to outside

purchase and/or subcontracts.

Materials that are defective, deteriorated, damaged, or not approved are not used. The Superintendent clearly marks such materials for non-use or otherwise holds them aside.

When customer-supplied materials are lost, damaged, or otherwise found unsuitable for use, the Superintendent reports such findings to the customer.

When subcontractor–supplied materials are damaged or otherwise found unsuitable for use, the Superintendent reports such findings to the subcontractor.

8.5.6.1. Controlled Product Use and Installation

[CompanyName] construction activities conform to manufacturers' product use and installation instructions that apply to the construction process.

When installing a product, the Superintendent has access to all applicable product installation instructions.

8.7. Monthly Quality Control Report

When a monthly quality control report is required by the Project Quality Plan, the Superintendent records a monthly status report. The report includes:

- A summary of work completed and work in progress.
- Outstanding issues
- Issues resolved during the reporting period.
- Outstanding potential change orders
- Project status with current project costs and estimated completion date
- A cost analysis summarizing actual costs to date and estimated future costs.
- Project pictures as appropriate

a product, the Superintendent has access to all applicable product installation instructions.

List of Included Forms

Standard Forms:

- Point Of Contact List
- Project Organization Chart
- Project Quality Communications Plan
- Quality Manager Appointment Letter
- Project Manager Appointment Letter
- Superintendent Appointment Letter
- Personnel Certifications and Licenses
- Project Personnel Resumes
- Project Subcontractor and Supplier List
- Training Plan
- Training Log
- Regulatory Codes and Industry Standards
- Project Regulatory Building Codes
- Controlled Materials Form
- Metals Material Receiving Inspection Report
- Material Inspection and Receiving Report
- Inspection and Testing Standards
- Quality Inspection and Test Plan
- Test Equipment Calibration Plan and Log
- Quality Controlled Work Task List
- Daily Production Report
- Work Task Inspection Form
- Nonconformance Report
- Punch List
- Project Completion Inspection Form
- System Document Control Form
- Project Records Control Form
- Project Quality System Audit Form

[CompanyName]
Testing Plan and Log

Project ID	Project Name	CONTRACTOR

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
DIV 08 OPENINGS								
081113 Hollow Metal Doors and Frames		Fire-Rated Door Inspections						
081113 Hollow Metal Doors and Frames		Egress Door Inspections						
087100 Door Hardware		Functional testing and inspection of fire door assemblies in accordance with NFPA 80						
087100 Door Hardware		Inspection of egress door assemblies in accordance with NFPA 101						
DIV 21 FIRE SUPPRESSION								
211313 Wet Pipe Sprinkler Systems		Sprinkler System Test in accordance with all applicable codes and reviewed by local authorities having jurisdiction						
211313 Wet Pipe Sprinkler Systems		Leak Test						
211313 Wet Pipe Sprinkler Systems		Test and adjust controls for safety						
211313 Wet Pipe Sprinkler Systems		Flush, test, and inspect sprinkler systems according to NFPA 13, “Systems Acceptance” Chapter						
211313 Wet Pipe Sprinkler Systems		Sprinkler system inspection after circuits energized to electrical equipment and devices						
211316 Dry Pipe Sprinkler Systems		Leak Test after installation and charging of system						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
211316 Dry Pipe Sprinkler Systems		Test and adjust controls for safety						
211316 Dry Pipe Sprinkler Systems		Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter						
211316 Dry Pipe Sprinkler Systems		Sprinkler system inspection after circuits energized to electrical equipment and devices						
DIV 22 PLUMBING								
221116 Domestic Water Piping		Roughing-in Piping Inspection						
221116 Domestic Water Piping		Test for leaks and defects						
221119 Domestic Water Piping Specialties		Test each reduced-pressure-principal backflow preventer according to local standards and device's reference standards						
221316 Sanitary Waste and Vent Piping		Roughing-in Inspection (H)						
221316 Sanitary Waste and Vent Piping		Final Inspection (H)						
221316 Sanitary Waste and Vent Piping		Test sanitary drainage and vent piping according to procedures of local authorities						
221413 Storm Drainage Piping		Roughing-in Inspection (H)						
221413 Storm Drainage Piping		Final Inspection (H)						
221413 Storm Drainage Piping		Test storm drainage according to procedures of local authorities						
223400 Fuel-Fired Domestic Water Heaters		Inspect components, assemblies and equipment installations, including connections						
223400 Fuel-Fired Domestic Water Heaters		Leak Test after installation and charging of system						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
223400 Fuel-Fired Domestic Water Heaters		Operational Test after electrical circuitry has been energized						
223400 Fuel-Fired Domestic Water Heaters		Test and adjust controls and safeties						
224700 Drinking Fountain & Water Cooler		Water Cooler Testing after electrical circuitry has been energized						
224700 Drinking Fountain & Water Cooler		Test and adjust controls and safeties						
DIV 23 HVAC								
230593 Testing, Adjusting and Balancing		Balancing Air Systems – Constant-volume air systems and variable air volume systems						
230593 Testing, Adjusting and Balancing		Balancing Hydronic Piping Systems: Constant-flow Variable-flow Primary-secondary						
230593 Testing, Adjusting and Balancing		Testing, adjusting and balancing equipment: Motors Boilers Heat-transfer coils						
231123 Natural Gas Piping		Test, inspect and purge natural gas according to the International Fuel Gas Code and local authority						
232113 Hydronic Piping		Test hydronic piping						
232300 Refrigerant Piping		Test refrigerant piping, specialties and receivers						
232300 Refrigerant Piping		Test high- and low-pressure piping of each system separately						
233113 Metal Ducts		Leakage Test in compliance with SMACNA's HVAC Air Duct Leakage Test Manual. Test no less than 25 percent of total installed duct area for each designated pressure class						
233300 Air Duct Accessories		Test and Inspect Air Duct Accessories						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
233423 HVAC Power Ventilators		Test and Inspect HVAC Power Ventilators						
235216 Condensing Boilers		Installation and startup inspections						
235216 Condensing Boilers		Leak Test: hydrostatic test						
235216 Condensing Boilers		Operational Test for proper motor rotation and unit operation						
235216 Condensing Boilers		Test and adjust controls and safeties						
237223.19 Packaged Indoor Fixed Plate Energy Recovery Units		Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation						
237413 Packaged Outdoor Central Station Air-Handling Units		Test Packaged Outdoor Central Station Air-Handling Units for compliance with requirements						
237413 Packaged Outdoor Central Station Air-Handling Units		Operational Test to confirm proper motor rotation and unit operation						
237413 Packaged Outdoor Central Station Air-Handling Units		Test and adjust controls and safeties						
218239 Cabinet Unit Heaters		Operational Test to confirm proper motor rotation and unit operation						
218239 Cabinet Unit Heaters		Test and adjust controls and safeties						
DIV 26 ELECTRICAL								
260526 Grounding and Bonding		Inspect physical and mechanical condition						
260526 Grounding and Bonding		Test completed grounding system at each location						
260543 Underground Ducts and Raceways		Inspect completed installation of underground duct, duct bank and utility structures						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
260543 Underground Ducts and Raceways		Test ducts for joint integrity, bend and out-of-round						
260543 Underground Ducts and Raceways		Test manhole and handhole grounding						
260923 Wiring Devices		Operational Test to confirm proper unit operation						
260923 Wiring Devices		Test and adjust controls and safeties						
262726 Wiring Devices		Inspect/Test Straight-Blade Receptacles						
263213.16 Gas-Engine-Driven Generators		Visual and Mechanical Inspection						
263213.16 Gas-Engine-Driven Generators		Electrical and Mechanical Tests						
263213.16 Gas-Engine-Driven Generators		NFPA 110 Acceptance Tests						
263213.16 Gas-Engine-Driven Generators		Battery-Charger Tests						
263213.16 Gas-Engine-Driven Generators		System Integrity Tests						
263213.16 Gas-Engine-Driven Generators		Exhaust-System Back-Pressure Test						
263213.16 Gas-Engine-Driven Generators		Leak Test after installation, charge exhaust, coolant, and fuel systems						
263213.16 Gas-Engine-Driven Generators		Operational Test to confirm proper motor rotation and unit operation for generator and associated equipment						
263213.16 Gas-Engine-Driven Generators		Test and adjust controls and safeties						
263600 Transfer Switches		Visual and Mechanical Inspections						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
263600 Transfer Switches		Electrical Tests: All control wiring with respect to ground Contact/pole-resistance test Automatic transfer tests Operation and timing verification						
263600 Transfer Switches		Phase-to-phase and phase-to-ground Insulation Resistance test						
263600 Transfer Switches		Electrical tests for transfer switches to demonstrate interlocking sequence and operational function for each switch at least three times						
263600 Transfer Switches		Ground-Fault Tests						
264313 Surge Protection for Circuits		Inspect/compare equipment nameplate data for compliance with Drawings and the Specifications						
264313 Surge Protection for Circuits		Inspect anchorage, alignment, grounding, and clearances						
264313 Surge Protection for Circuits		Inspect/verify electrical wiring installation complies with manufacturer's written installation requirements						
265119 LED Interior Lighting		Operational Test to confirm proper operation						
265119 LED Interior Lighting		Test for Emergency Lighting						
265213 Emergency and Exit Lighting		Test for Emergency Lighting						
265619 LED Exterior Lighting		Inspect each installed luminaire for damage						
265619 LED Exterior Lighting		Operational Test to test units to confirm proper operation						
265619 LED Exterior Lighting		Illumination Test to confirm proper operation						
260519 LV Conductors and Cables		Test entrance and feeder conductors for compliance with requirements						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
260519 LV Conductors and Cables		Visual Inspection of conductor and cable for physical damage						
260519 LV Conductors and Cables		Test bolted connections for high resistance						
260519 LV Conductors and Cables		Visual inspection of compression-applied connectors, correct identification, cable jacket and condition						
260519 LV Conductors and Cables		Test insulation-resistance on each conductor for ground and adjacent conductors						
260519 LV Conductors and Cables		Continuity test on each conductor and cable						
260519 LV Conductors and Cables		Test uniform resistance of parallel conductors						
260526 Grounding and Bonding		Test Grounding and Bonding for compliance with requirements						
260526 Grounding and Bonding		Visual inspection of physical and mechanical condition						
260526 Grounding and Bonding		Test completed grounding system at each location where a maximum ground-resistance level is specified, at service disconnect enclosure grounding terminal, at ground test wells, and at individual ground rods.						
260543 Underground Ducts and Raceways	Installation of Underground duct, duct bank, and utility structures	Underground duct, duct bank, and utility structures Completion Inspection						
260543 Underground Ducts and Raceways		Test for joint integrity, bend radii and out of round duct						
260543 Underground Ducts and Raceways		Test manhole and handhole grounding for continuity of electrical grounding and bonding connections						
260923 Wiring Devices		Operational test (W)						
260923 Wiring Devices		Test and adjust controls and safeties (W)						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site	Date Conducted	Date Sent to Engineer	Accepted/ Rejected
252213 LV Distribution Transformers		Visual and Mechanical Inspections of physical and mechanical condition; anchorage, alignment, and grounding; resilient mounts; unit cleanliness					
252213 LV Distribution Transformers		Manufacturer's recommended inspections and mechanical tests					
252213 LV Distribution Transformers		Test as-left tap connections as per spec.					
252213 LV Distribution Transformers		Test surge arresters for compliance as per spec					
252213 LV Distribution Transformers		Electrical Test measuring resistance at each winding, tap, and bolted connection					
252213 LV Distribution Transformers		Insulation-resistance test of winding-to-winding and each winding-to-ground					
252213 LV Distribution Transformers		Turns-ration test at all tap positions					
252213 LV Distribution Transformers		Test to verify correct secondary voltage, phase-to-phase and phase-to-neutral					
262416 Panelboards		Visual and mechanical inspection and electrical test for low-voltage air circuit breakers and low-voltage serve arrestors as per NETA ATS					
262416 Panelboards		Infrared scan tests and inspections: Initial Infrared Scanning, Follow-up Infrared Scanning, Instruments and Equipment					
262726 Wiring Devices for wall-box dimmers, non-networkable wall-switch occupancy sensors and manual light switches		Test and inspect straight-blade receptacles					
		Visual and Mechanical Inspection of Switches					

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
262816 Enclosed Switches and Circuit Breakers		Electrical Tests: Resistance measurements through bolted connections; Contact resistance across each switchblade fuseholder; Insulation-resistance for one minute on each pole, phase-to-phase and phase-to-ground with switch closed and across each open pole; Fuse resistance; Ground fault test according to NETA ATS 7.14						
262816 Enclosed Switches and Circuit Breakers		Visual and Mechanical Inspection of Molded Case Circuit Breakers						
262816 Enclosed Switches and Circuit Breakers		Electrical Tests: Resistance measurements through bolted connections; Insulation-resistance for one minute on each pole, phase-to-phase and phase-to-ground with circuit breaker closed and across each open pole; Contact/pole resistance test; Insulation resistance tests on all control wiring; Determine primary current injection for long-time-pickup and delay, short-time pickup and delay, ground-fault pickup and time delay, instantaneous pickup; Functionality of trip unity by means of primary current injection; Minimum pickup voltage tests on shunt trip and close coils in accordance with manufacturer's published data; Correct operation of auxiliary features; Operation of charging mechanism						
263213.16 Gas-Engine-Driven Generators		Visual and Mechanical Inspection						
263213.16 Gas-Engine-Driven Generators		Electrical and Mechanical Tests						
263213.16 Gas-Engine-Driven Generators		NFPA 110 Acceptance Tests						
263213.16 Gas-Engine-Driven Generators		Battery Tests						
263213.16 Gas-Engine-Driven Generators		Battery-Charger Tests						
263213.16 Gas-Engine-Driven Generators		System Integrity Tests						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
263213.16 Gas-Engine-Driven Generators		Exhaust-System Back-Pressure Test						
263213.16 Gas-Engine-Driven Generators		Exhaust Emissions Test						
263213.16 Gas-Engine-Driven Generators		Voltage and Frequency Transient Stability Tests						
263213.16 Gas-Engine-Driven Generators		Harmonic-Content Tests						
263213.16 Gas-Engine-Driven Generators		Noise Level Tests						
263213.16 Gas-Engine-Driven Generators		Leak Test						
263213.16 Gas-Engine-Driven Generators		Operational Test						
263213.16 Gas-Engine-Driven Generators		Test and adjust controls and safeties						
263600 Transfer Switches		Visual and Mechanical Inspections of Transfer Switches in compliance with NETA ATS						
263600 Transfer Switches		Electrical Tests for insulation resistance; contact/pole resistance; settings and operations of control devices; calibrate and set all relays and timers; verify phase rotation, phasing, and synchronized operation; automatic transfer tests; operation and timing tests.						
263600 Transfer Switches		Test insulation resistance phase-to-phase and phase-to-ground with insulation-resistance tester						
263600 Transfer Switches		After energizing circuits, perform all electrical tests for transfer switches stated in NETA ATS and demonstrate interlocking sequence and operational function for each switch at least three times						
263600 Transfer Switches		Ground-fault Tests						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
264313 Surge Protection for Circuits		Inspections and Tests for Surge Protection for Circuits: Compare equipment nameplate data for compliance with drawing and specs; Inspect anchorage, alignment, grounding, and clearance; Verify electrical wiring installation complies with manufacturer's written installation requirements.						
265119 LED Interior Lighting		Operational Test and Test Emergency Lighting						
265213 Emergency and Exit Lighting		Test for Emergency Lighting						
265619 LED Exterior Lighting		Inspect each luminaire for damage						
265619 LED Exterior Lighting		Perform operational test and verify operation of photoelectric controls						
265619 LED Exterior Lighting		Illumination Operational Test						
DIV 27 COMMUNICATIONS								
270536 Cable Trays for Telecommunications Systems		Tests and Inspections: Survey for compliance with requirements; visually inspect cable insulation for damage; verify that the number, size, and voltage of cables in cable trays; verify that there are no intruding items; remove any blockage of tray ventilation; visually inspect each cable tray joint and each ground connection for mechanical continuity; check for improper sized or installed bonding jumpers						
DIV 28 ELECTRONIC SAFETY AND SECURITY								
PLC Hardware for Electronic Security		Inspect and verify that units and controls and properly labeled, and interconnecting wires and terminals are identified						

Technical Specification Section	Scheduled Activity	Inspection/Test Required	Inspected/ Tested By	Location Of Inspection/Test On/Off Site		Date Conducted	Date Sent to Engineer	Accepted/ Rejected
284621.11 Addressable Fire-Alarm Systems		Visual inspection of addressable fire-alarm system prior to testing based on drawings and system documentation. Comply with NFPA 72 Visual inspection frequencies table.						
284621.11 Addressable Fire-Alarm Systems		System testing in compliance with NFPA 72 (W)						
284621.11 Addressable Fire-Alarm Systems		Test audible appliances for public operating mode in accordance with manufacturer's written instructions (W)						
284621.11 Addressable Fire-Alarm Systems		Test audible appliances for private operating mode in accordance with manufacturer's written instructions (W)						
28500 Miscellaneous Systems for Electronic Security		Inspect and verify that units and controls are properly labeled, and interconnecting wires and terminals are identified						
285123 Integrated Intercom and Paging System for Electronic Security		Inspect and verify that units and controls are properly labeled, and interconnecting wires and terminals are identified						
DIV 31 EARTHWORK								
312000 Earth Moving	Site Clearing & Earth Moving	Subgrade Inspection (H)						
DIV 32 EXTERIOR IMPROVEMENTS								
321313 Concrete Paving		Testing of composite samples of fresh concrete obtained according to ASTM C 172						
DIV 33 UTILITIES								
333000 Sanitary Sewerage		Inspect interior piping for line displacement or other damage						
333000 Sanitary Sewerage		Hydrostatic tests of sanitary sewerage system according to authorities having jurisdiction						
333000 Sanitary Sewerage		Force Main hydrostatic test						

For More Information:

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