[CompanyName]

Fire Protection
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

SIGNATURE SHEET

Plan Preparer

This [CompanyName] Project 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 Control Plan is approved by:

[SeniorManagerName] / [Date]

[SeniorManagerName] President /Date

Plan Concurrence

[CompanyName] Project Quality Control Plan concurrence by:

[ProjectManagerName] / [Date]

[ProjectManagerName], Project Manager /Date

[SuperintendentName] / [Date]

[SuperintendentName], Superintendent /Date

PROJECT-SPECIFIC FIRE PROTECTION QUALITY PLAN

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PROJECT QUALITY ASSURANCE/QUALITY CONTROL PLAN OVERVIEW

After [CompanyName] is awarded a contract to carry out a construction project, the Senior Manager 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 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.

C. PROJECT QUALITY COORDINATION AND COMMUNICATION

[CompanyName] has regular, planned communications with customers, subcontractors, and suppliers to coordinate quality expectations, priorities, activities, and improvements.

The process begins when we hold a project startup meeting where we discuss how quality of the project will be controlled and the quality responsibilities of key personnel. We also coordinate a schedule for weekly production meetings, monthly quality management meetings, and protocols for telephone and internet communications. Project Start Up Meeting are documented on a Project Startup Meeting Form included as an exhibit in this section.

Throughout the project, [CompanyName] holds preparatory meetings prior to the start of upcoming milestones, tasks, or phases of work. Preparatory meetings are documented on the Work Task Quality Management Planning Meeting form included as an exhibit in this section.

Preparatory meetings are attended by key company, subcontractor personnel responsible for carrying out, supervising, or inspecting the work, and interested customer representatives. We review quality requirements, coordinate quality inspections, and hold points. In the process, we listen to each stakeholder to understand their concerns for critical details. We add the critical details to inspection checklists. We also train production personnel on these details in weekly and toolbox talk meetings.

[CompanyName] weekly team meetings deploy findings of the preparatory meeting to field personnel. The venue is used to train personnel on technical requirements, reinforce critical details for heightened awareness, and institute improvements to work methods. It is also a forum for team communications and coordination.

[CompanyName]
Point of Contact List

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

Company	Name	Job Position(s)	Phone Contact Numbers	Email
[CompanyName]	[PresidentName]	President		
[CompanyName]	[SeniorManagerName]	Senior Manager		
[CompanyName]	[ProjectManagerName]	Project Manager		
[CompanyName]	[SuperintendentName]	Superintendent		
[CompanyName]	[QualityManagerName]	Quality Manager		
[CompanyName]	[SafetyManagerName]	Safety Manager		

[CompanyName]
Project Quality Communications Plan

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

Distribution of project organization chart and assigned responsibility and authority of the Project Manager, Quality Manager, and Superintendent:

All personnel listed on contact list

Points of contact list distribution:

All personnel listed on contact list

RFI response distribution:

All personnel listed on contact list

Project startup meeting participants, date, location:

TBD

Work task quality plan meeting participants, nominal location:

TBD

Weekly project communication meeting participants, and nominal day of week, time, and location:

TBD

Daily quality report distribution, frequency, and due date:

Friday of every week for the previous 7 days

Monthly project quality status report distribution and due date:

Third day of every month

Distribution of quality inspection and test records, and due date:

Friday of every week for the previous 7 days
Nonconformance report distribution and customer approval authority:
Immediately
Location of project quality records storage and point of contact for records access:
In the job office trailer. Superintendent is point of contact

D. PROJECT QC PERSONNEL

[CompanyName] ensures that quality control personnel remain independent from the pressures of production through our organizational lines of authority as defined by our QC Organization Chart.

The President appoints a Quality Manager, Superintendent, and Project Manager, and then assigns each with specific quality responsibilities and authorities of their job position.

PROJECT QC JOB POSITION ASSIGNMENTS

Table D-1 shows the job positions assigned to personnel on this project.

Table D-1

QC Personnel Name	Job Position
[SeniorManagerName]	Senior Manager
[ProjectManagerName]	Project Manager
[SuperintendentName]	Superintendent
[QualityManagerName]	Quality Manager
[SafetyManagerName]	Safety Manager

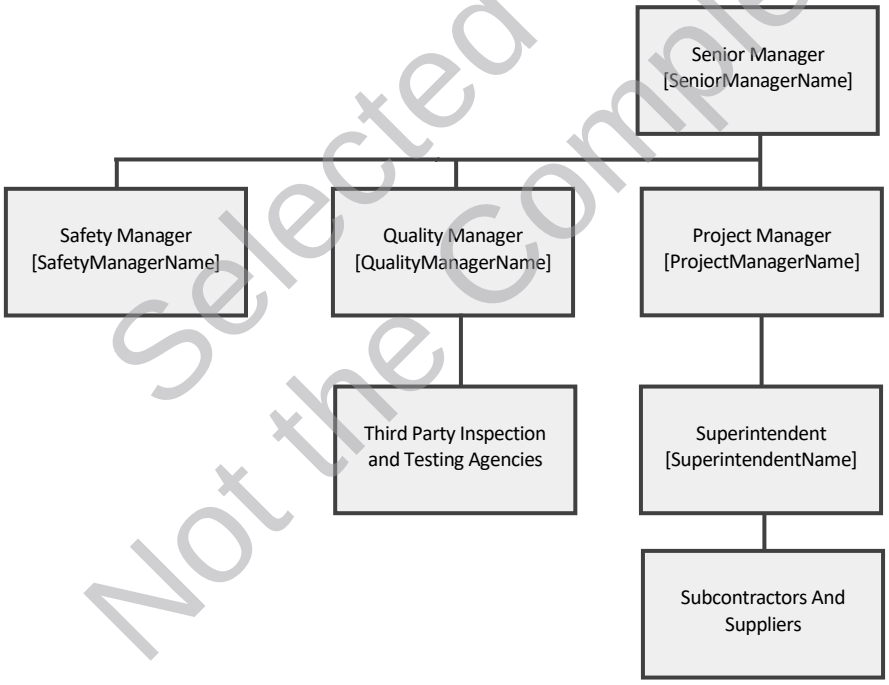
PROJECT QC ORGANIZATION CHART

The Project QC Organization Chart shows the QC organizational structure. The chart includes job positions along with the name of each person appointed to that position. Figure C-1 shows the QC Organization Chart for this project.

The Senior Manager 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.

The Senior Manager 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.

Figure C-1



F. Personnel Qualifications and Technical Certifications

[CompanyName] ensures that only knowledgeable, capable employees carry out the planning, execution, and control of the project.

We train our employees on quality standards and procedures based on project requirements as well as their job positions. Then we validate their capabilities before they are assigned to carry out their quality job responsibilities on the project. Ongoing monitoring of performance continually validates qualifications of each employee.

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.

Personnel Certification Requirements

Personnel certifications are required for the following:

Certification or License Title	Reference Standard No.	Reference Standard Title
Welders to structural steel	AWS D1.1/D1.1M	Structural Welding Code - Reinforcing Steel
Plumbers	DOL	Department of Labor
Plumbers	NITC	National Inspection Testing Certification
Plumbers	ABPA	American Backflow Prevention Association
Plumbers	IAPMO	International Association of Plumbing and Mechanical Officials

H. SUBMITTALS

SUBMITTALS

Lists of documents and records that will be submitted to the customer appear on the Submittal Schedule and Log form. The Submittal Schedule and Log Form exhibit is included in this subsection.

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.

PRODUCT DATA SUBMITTALS

The Project Manager prepares product data submittals that consist of the manufacturer's product information. The information included in this submittal is:

- Manufacturer, trade name, model or type number
- 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 an 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 ensures 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.

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.

[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:	

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 or Metals Materials Receiving and Inspection form included as an exhibit in this subsection.

Material quality inspections and tests ensure that purchased materials meet purchase contract quantity and quality requirements. The Superintendent inspects or ensures that a qualified inspector inspects materials prior to use for conformance to project quality requirements.

The Superintendent ensures that each work task that uses the source inspected materials proceed 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.

[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. FIRE PROTECTION 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.

INSPECTION AND TESTING FIRE PROTECTION STANDARDS

Inspection and testing standards that may apply to this project include those listed below.

Description	Reference Standard No.	Reference Standard Title
Hydrostatic testing	NFPA 14	Standard for the Installation of Standpipes and Hose Systems
Plumbing pipe weldments	ASME B31.1	Power Piping
Plumbing system tests	ICC IPC	International Plumbing Code
Vertical pump tests	HI 2.6	Vertical Pump Tests
Testing of concrete pressure lines	AWWA M9	Manual: Concrete Pressure Pipe
Hydrostatic testing of DIP	AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
Pressure & leakage testing of PVC	UBPPA UNI-B-3	Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Pressure Pipe (Nominal Diameters 4-36 Inch)
Hydrostatic testing of steel pressure lines	AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
Low-pressure air tests for DIP pipelines	ASTM C 924M	Installation of Ductile-Iron Water Mains and Their Appurtenances

Low-pressure air tests for PVC pipelines	UBPPA UNI-B-6	Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
Deflection testing for plastic pipe	ASTM D 2412	Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading

[CompanyName]
Inspection and Test Plan and Log

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

Item	Spec Section Number and Title		Applicable Standard	Inspections & Tests Description	Test and Inspection Methods	Number required	Time Schedule/ Frequency	Inspection/ Test By	Sample Reqd. Yes/No	Unique characteristics of QC Service
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										

[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 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:

CONTINUE WORK: When continuing work does not adversely affect quality or hide the defect, work may continue in the affected area while the disposition of the item is resolved. The Superintendent may place limitations on the continuation of work.

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 affect 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

When a nonconformance is found, the Superintendent ensures that:

- Previously completed work is reinspected for similar nonconformances
- Corrective actions are taken to avert future occurrences

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:

- Material specifications
- Personnel qualifications
- Subcontractor and Supplier qualifications
- Company standards
- Inspection processes

CORRECTIVE ACTION TRAINING

The Superintendent initiates corrective action training to address quality nonconformances. Personnel and subcontractors and suppliers performing or inspecting work participate in the training.

[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:_____	