



## Utility Construction Essentials QA/QC Plan Sample

Good for smaller projects and bid qualifications

*Has All the Essential Elements of a well-founded  
Quality Control Plan*

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# PROJECT-SPECIFIC CONSTRUCTION QUALITY PLAN

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## B. KEY ELEMENTS OF THE UTILITY CONSTRUCTION QUALITY PLAN

Key elements of the [CompanyName] Quality Assurance/Quality Control Plan include:

**Quality Management and Responsibilities.** [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Maintain a documented quality system consisting of a quality manual with policies and procedures.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Systematically maintains quality system documents and records.

**Quality Control Personnel.** [CompanyName] fully integrates its quality management system into the organizational structure and performance management systems for each project. We:

- Appoint a Quality Manager, Superintendent, and Project Manager to each project, each with well-defined quality responsibilities and the authority to carry them out.
- Have well-defined quality responsibilities for every employee with specific quality responsibilities for key job positions.
- Plan project quality records and documentation that will be maintained.
- Tightly control exceptions to the quality system so company standards are applied uniformly to every project
- Enforce policies that monitor work conditions before and during work so that quality results are assured.

**Project Quality Coordination and Communication.** [CompanyName] tightly controls the construction process to ensure quality results. We:

- Plan quality communications through meetings, reporting requirements, and points of contact.
- Have a project startup meeting to communicate project goals and expectations.
- Conduct preparatory meetings in advance of each scheduled work task to communicate requirement details and coordinate work activities.

**Quality Assurance Surveillance.** [CompanyName] audits the quality system to assure it is operating effectively. We:

## COMPLIANCE WITH INDUSTRY CONSTRUCTION STANDARDS

Codes that may apply to this project include those listed below.

<b>Regulatory Codes and Industry Standards</b>			
<b>Division</b>	<b>Description</b>	<b>Reference Standard No.</b>	<b>Reference Standard Title</b>
31,33	Bedding for buried piping and DIP installation	AWWA C600	Installation of Ductile-Iron Water Mains and Their Appurtenances
31	Welding lengths of pipe together for bore holes	AWS D1.1/D1.1M	Structural Welding Code - Steel
31	Geotextile storing and handling	ASTM D 4873	Identification, Storage, and Handling of Geosynthetic Rolls and Samples
31	Shoring installation	EM 385-1-1	Safety and Health Requirements Manual
31	Precast prestressed concrete pile installation	PCI JR-382	Recommended Practice for Design, Manufacture and Installation of Prestressed Concrete Piling
31	Drilled shaft foundation installation	ACI 336.1	Specification for the Construction of Drilled Piers
33	Clay sewer pipe installation	ASTM C 12	Standard Practice for Installing Vitrified Clay Pipe Lines

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# I. CONSTRUCTION WORK TASK QUALITY INSPECTIONS

[CompanyName] identifies a list of work tasks, phases of production, which will be quality controlled.

## WORK TASKS SERIES OF INSPECTIONS

Each work Task is subject to a series of inspections; before, during, and after the work is complete. Each inspection verifies compliance with full scope of the relevant specifications; not limited to checkpoints for heightened awareness.

- The initial task-ready inspection occurs when crews are ready to start work and ensures that work begins only when it does not adversely impact quality results.
- Incoming material inspections verify that materials are as specified and meet all requirements necessary to assure quality results.
- Work-in-process inspections continuously verify that work conforms to project specifications and workmanship expectations. Work continues only when it does not adversely impact quality results.
- At completion of the Task an inspection verifies that work, materials, and tests have been completed in accordance with project quality requirements. When appropriate, functional tests are performed.

Inspection results are recoded and maintained as part of the project files.

## SPECIAL PROCESS INSPECTIONS

The Quality Manager identifies special processes where the results cannot be verified by subsequent inspection or testing and determines if continuous work in process inspections are required. For these special processes, a qualified inspector continuously inspects the work process.

## MATERIAL QUALITY INSPECTION AND TESTS

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.

## DAILY QUALITY CONTROL REPORT

## J. QUALITY CONTROL OF CORRECTIONS, REPAIRS, 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. In the event that 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.

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<b>[CompanyName]</b> <b>Nonconformance Report</b> <small>Version 20140413</small>		
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	<input type="checkbox"/> Replace <input type="checkbox"/> Repair <input type="checkbox"/> Rework <input type="checkbox"/> Use As-is	
	Approval of disposition required by customer representative? Yes <input type="checkbox"/> No <input type="checkbox"/> Customer approval signature /date: _____	
Corrective Actions		
	<input type="checkbox"/> Corrective actions completed Name/Date: _____ Customer acceptance of corrective actions required? Yes <input type="checkbox"/> No <input type="checkbox"/> Name/Date: _____	
Preventive Actions		
	<input type="checkbox"/> Preventive actions completed Name/Date: _____	

# LIST OF INCLUDED INSPECTION FORMS FOR UTILITY CONSTRUCTION

## EARTHWORK

- Bored Piles
- Caissons
- Clearing and Grubbing
- Driven Piles
- Excavation and Fill
- Grading

## UTILITIES

- Culverts
- Public Water Utility Distribution Piping
- Sanitary Utility Sewerage Force Mains
- Sanitary Utility Sewerage Piping
- Storm Drainage Structures
- Storm Utility Water Drains
- Subdrainage
- Water Utility Distribution Equipment

## EXTERIOR IMPROVEMENTS

- Base Courses
- Curbs// Gutters// Sidewalks// and Driveways
- Fences and Gates
- Flexible Paving
- Irrigation
- Planting
- Retaining Walls
- Rigid Paving



## Utilities - Culverts 33.42.00

Project:	Phase:	Contract#:	Subcontractor:	Crew:
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<p><b><u>Compliance Verification</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Compliance with initial job-ready requirements</li> <li><input type="checkbox"/> Compliance with material inspection and tests</li> <li><input type="checkbox"/> Compliance with work in process first article inspection requirements</li> <li><input type="checkbox"/> Compliance with work in process inspection requirements</li> <li><input type="checkbox"/> Compliance with Task completion inspection requirements</li> <li><input type="checkbox"/> Compliance with inspection and test plan</li> <li><input type="checkbox"/> Compliance with safety policies and procedures</li> </ul> <p>Reported Nonconformances and incomplete items:</p>	<p><b><u>FTQ 2TQ Heightened Awareness Checkpoints</u></b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> <input type="checkbox"/> Culverts have sufficient cover for anticipated traffic</li> <li><input type="checkbox"/> <input type="checkbox"/> Culvert laid true / even between ends and free of deformations</li> <li><input type="checkbox"/> <input type="checkbox"/> Joints are soil// silt// or water tight (as specified by ENGINEER)</li> <li><input type="checkbox"/> <input type="checkbox"/> Push-on joints fully inserted</li> <li><input type="checkbox"/> <input type="checkbox"/> Bell and groove ends laid facing up slope</li> <li><input type="checkbox"/> <input type="checkbox"/> Protective coating is intact// uniform// and free of damage</li> <li><input type="checkbox"/> <input type="checkbox"/> Lifting holes sealed</li> <li><input type="checkbox"/> <input type="checkbox"/> Culverts free of debris</li> <li><input type="checkbox"/> <input type="checkbox"/> End walls / end sections / riprap outfalls secure and stable</li> <li><input type="checkbox"/> <input type="checkbox"/> All culvert final locations// type// size// and usage indicated on Record Drawings</li> </ul>
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### FTQ Scores and Completion Sign-off

**Field Mgmt.-91.45.01**

**Quality**     5   4   3   2   1   *Notes:*

**On-Time**    5   4   3   2   1   *Notes:*

**Safety**     5   4   3   2   1   *Notes:*

Sign and date\*: Cell # / ID #: \_\_\_\_\_ Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Task has been has been verified complete and in compliance with contract drawings and specifications except for non-conformances a n d incomplete items reported above.

<u>Quality Score</u>	5 = 100% NO problems	4 = 1 minor problems	3 = Hotspot or 2-3 minor	2 = 6+ or major problems	1 = Excessive problems
<u>On-Time Score</u>	5 = On Time	4 = Late	3 = Late by 1 day	2 = Late by 2 days	1 = Late more than 2 days
<u>Safety Score</u>	5 = 100% NO problems	4 = 1 minor problem	3 = Hotspot or 2-3 minor	2 = 4+ or major problem	1 = Injury



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