[CompanyName]

Fabrication and Installation
Quality Assurance/Quality Control Plan

[ProjectName]
[ProjectNumber]

Management acceptance

This fabrication and installation Quality Assurance/Quality Control Plan has been reviewed and excepted

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

PROJECT-SPECIFIC QUALITY PLAN

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C. 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 in 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 AND QUALIFICATION REQUIREMENTS

Personnel certifications are required for the following:

Certification or License Title	Reference Standard No.	Reference Standard Title
Ultrasonic Inspectors	ASNT SNT-TC-1A	Personnel Qualification and Certification in Nondestructive Testing
Welders of structural steel	AWS D1.1/D1.1M	Structural Welding Code – Steel
Inspectors of structural steel welds	AWS D1.1/D1.1M	Structural Welding Code – Steel

CERTIFIED WELDER QUALIFICATION REQUIREMENTS

Only certified welders may perform welding activities. A welder must be certified by the ASME welding code, and any welding procedures.

For each project, the Quality Manager will determine welder certification requirements for codes and welding procedures

Certified welders must meet the requirements of ASME for Certified Welders. Only a Certified Welding Inspector can conduct welding tests for the purposes of welder certification.

The Quality Manager approves the qualification of all welders before they begin welding on a specific project.

Qualification of Welders for Specific Welding Codes

When indicated on the welding procedure, the Quality Manager approves the qualification of welders to the specific welding procedure.

Qualification of Welders for Specific Welding Procedures

When indicated on the welding procedure, the Quality Manager approves the qualification of welders to the specific welding procedure.

NDE Welding Inspector Requirements

Radiographic Interpreters shall be certified in accordance with ASME.

Non-Radiographic NDE welding inspectors must be certified by the American Society of Mechanical Engineers Standard for ASME Certification of Welding Inspectors to the applicable code that applies to the inspections they perform.

The Quality Manager approves the qualification of all NDE welding inspectors.

Form QW-484A Welding Operator Qualification

QW-484A SUGGESTED FORMAT A FOR WELDER PERFORMANCE QUALIFICATIONS (WPQ)
(See QW-301, Section IX, ASME Boiler and Pressure Vessel Code)

Welder's name _____ Identification no. _____

Test Description

Identification of WPS followed _____ ☐ Test coupon ☐ Production weld
Specification and type/grade or UNS Number of base metal(s) _____ Thickness _____

Testing Variables and Qualification Limits

Welding Variables (QW-350)	Actual Values	Range Qualified
Welding process(es)		
Type (i.e.; manual, semi-automatic) used		
Backing (with/without)		
☐Plate ☐Pipe (enter diameter if pipe or tube)		
Base metal P-Number to P-Number		
Filler metal or electrode specification(s) (SFA) (info. only)		
Filler metal or electrode classification(s) (info. only)		
Filler metal F-Number(s)		
Consumable insert (GTAW or PAW)		
Filler Metal Product Form (solid/metal or flux cored/powder) (GTAW or PAW)		
Deposit thickness for each process		
Process 1 _____ 3 layers minimum ☐ Yes ☐ No		
Process 2 _____ 3 layers minimum ☐ Yes ☐ No		
Position qualified (2G, 6G, 3F, etc.)		
Vertical progression (uphill or downhill)		
Type of fuel gas (OFW)		
Inert gas backing (GTAW, PAW, GMAW)		
Transfer mode (sprey/globular or pulse to short circuit-GMAW)		
GTAW current type/polarity (AC, DCEP, DCEN)		

RESULTS

Visual examination of completed weld (QW-302.4) _____
☐ Transverse face and root bends [QW-462.3(a)] ☐ Longitudinal bends [QW-462.3(b)] ☐ Side bends (QW-462.2)
☐ Pipe bend specimen, corrosion-resistant weld metal overlay [QW-462.5(c)]
☐ Plate bend specimen, corrosion-resistant weld metal overlay [QW-462.5(d)]
☐ Pipe specimen, macro test for fusion [QW-462.5(b)] ☐ Plate specimen, macro test for fusion [QW-462.5(e)]

Type	Result	Type	Result	Type	Result

Alternative Volumetric Examination Results (QW-191): _____ RT ☐ or UT ☐ (check one)
Fillet weld — fracture test (QW-181.2) _____ Length and percent of defects _____
☐ Fillet welds in plate [QW-462.4(b)] ☐ Fillet welds in pipe [QW-462.4(c)]
Macro examination (QW-184) _____ Fillet size (in.) _____ × _____ Concavity/convexity (in.) _____
Other tests _____
Film or specimens evaluated by _____ Company _____
Mechanical tests conducted by _____ Laboratory test no. _____
Welding supervised by _____
We certify that the statements in this record are correct and that the test coupons were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME BOILER AND PRESSURE VESSEL CODE.

Manufacturer or Contractor _____

Date _____ Certified by _____

(07/10)

E. WELD PROJECT QUALITY SPECIFICATIONS

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 fabrication and installation.

[CompanyName] personnel, subcontractors, and suppliers are accountable for compliance to standards-based written specifications.

To achieve expectations reliably and consistently, specifications are clearly spelled out, not only for results but also for processes. Specifications apply to materials, work steps, qualified personnel and subcontractors and suppliers, safe work rules, and environmental work conditions.

Standards ensure that results are specified rather than left to discretionary practices.

All [CompanyName] fabrication and installation activities comply with generally accepted good workmanship practices and industry standards.

PROJECT-SPECIFIC WELDING PROCEDURE STANDARDS

The Quality Manager approves welding procedures before they can be used to fabricate metal.

Welding procedures shall be qualified and approved, in accordance with the applicable AWS Welding Code(s) or Specification(s) (i.e., D1.1., D1.5) or AWS B2.1, Specification for Welding Procedure and Performance Qualification.

The welding procedure must identify the filler material.

When the governing AWS Welding Code(s) mandates that welding procedures be qualified by test, the Welding Fabricator shall have PQRs that support the applicable WPSs. When prequalified WPSs or Standard Welding Procedure Specifications (SWPSs) published by the AWS are permitted, PQRs are not required.

The Quality Manager or Certified Welding Inspector (CWI) reviews and approves the welding procedure before being used in production welding operations.

The WPSs and PQRs are controlled by the Quality Manager according to the document and record control procedures specified in the relevant section of this Quality Manual.

The applicable WPSs shall be available to welders or welding operators during testing and production welding.

LOCAL FABRICATION CODES

Applicable fabrication codes that apply to this project are listed on the Project Building Codes form. A Project fabrication Codes form exhibit is included in this subsection.

COMPLIANCE WITH INDUSTRY WELDING STANDARDS

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

Description	Reference Standard No.	Reference Standard Title
Standard practices for structural steel fabrication – bound series of standards	AISC Code of Standard Practice for Steel Buildings and Bridges	AISC Code of Standard Practice for Steel Buildings and Bridges
Detailing standards for the design of structural steel details	AISC Detailing for Steel Construction	Detailing for Steel Construction
Minimum spacings and edge distances for screws	AISI SG02-KIT	North American Specification for the Design of Cold-Formed Steel Structural Members
Standard design symbols	ANSI/AWS A2.4	Symbols
Standard terms	ANSI/AWS A3.0	Terms and Definitions
Beveling, alignment, heat treatment, and inspection of weld	ASME B31.1	Power Piping
Specifications for the minimum requirements for materials, design, fabrication, testing, and inspection of process piping systems	ASME B31.3	Process Piping Systems
Welding standards	AWS B2.1/B2.1M	Specification for Welding Procedure and Performance Qualification
Workmanship and techniques for welded construction	AWS D1.1/D1.1M	Structural Welding Code – Steel
QA recommended practices	AWS Welding Quality Assurance Guideline for Fabricators (WQAG)	Welding Quality Assurance Guideline for Fabricators (WQAG)
Installation of bracing and permanent bracing and bridging	CFSEI	Field Installation Guide for Cold-Formed Steel Roof Trusses
Installation of chimneys, vents, and smokestacks	NFPA 211	Standard for Chimneys, Fireplaces, Vents, and Solid Fuel-Burning Appliances
Structural steel joints	RCSC Specification for Structural Joints Using ASTM A325 or A490 Bolts	RCSC Specification for Structural Joints Using ASTM A325 or A490 Bolts
Framing and reinforcing openings through a steel deck	SDI DDP	Deck Damage and Penetrations

Form QW-483 Welding Procedure Qualification Record

QW-483 SUGGESTED FORMAT FOR PROCEDURE QUALIFICATION RECORDS (PQR)
(See QW-200.2, Section IX, ASME Boiler and Pressure Vessel Code)
Record Actual Variables Used to Weld Test Coupon

Company Name _____
Procedure Qualification Record No. _____ Date _____
WPS No. _____
Welding Process(es) _____
Types (Manual, Automatic, Semi-Automatic) _____

JOINTS (QW-402)

Groove Design of Test Coupon
(For combination qualifications, the deposited weld metal thickness shall be recorded for each filler metal and process used.)

BASE METALS (QW-403)
Material Spec. _____
Type/Grade, or UNS Number _____
P-No. ____ Group No. ____ to P-No. ____ Group No. ____
Thickness of Test Coupon _____
Diameter of Test Coupon _____
Maximum Pass Thickness _____
Other

POSTWELD HEAT TREATMENT (QW-407)
Temperature _____
Time _____
Other

GAS (QW-408)

	Gas(es)	Percent Composition (Mixture)	Flow Rate
Shielding			
Trailing			
Backing			
Other			

FILLER METALS (QW-404)	1	2
SFA Specification		
AWS Classification		
Filler Metal F-No.		
Weld Metal Analysis A-No.		
Size of Filler Metal		
Filler Metal Product Form		
Supplemental Filler Metal		
Electrode Flux Classification		
Flux Type		
Flux Trade Name		
Weld Metal Thickness		
Other		

ELECTRICAL CHARACTERISTICS (QW-409)
Current _____
Polarity _____
Amps. _____ Volts _____
Tungsten Electrode Size _____
Mode of Metal Transfer for GMAW (FCAW) _____
Heat Input _____
Other

POSITION (QW-405)
Position of Groove _____
Weld Progression (Uphill, Downhill) _____
Other

TECHNIQUE (QW-410)
Travel Speed _____
String or Weave Bead _____
Oscillation _____
Multipass or Single Pass (Per Side) _____
Single or Multiple Electrodes _____
Other

PREHEAT (QW-406)
Preheat Temperature _____
Interpass Temperature _____
Other

07/10

QW-483 (Back)

PQR No. _____

Tensile Test (QW-150)

Specimen No.	Width	Thickness	Area	Ultimate Total Load	Ultimate Unit Stress, (psi or MPa)	Type of Failure and Location

Guided-Bend Tests (QW-160)

Type and Figure No.	Result

Toughness Tests (QW-170)

Specimen No.	Notch Location	Specimen Size	Test Temperature	Impact Values			
				ft-lb or J	% Shear	Mils (in.) or mm	Drop Weight Break (Y/N)

Comments _____

Fillet-Weld Test (QW-180)

Result — Satisfactory: Yes ☐ No ☐ Penetration into Parent Metal: Yes ☐ No ☐

Macro — Results _____

Other Tests

Type of Test _____

Deposit Analysis _____

Other

.....

Welder's Name _____ Clock No. _____ Stamp No. _____

Tests Conducted by _____ Laboratory Test No. _____

We certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of Section IX of the ASME Boiler and Pressure Vessel Code.

Manufacturer or Contractor _____

Date _____ Certified by _____

(Detail of record of tests are illustrative only and may be modified to conform to the type and number of tests required by the Code.)

03/08

G. INSPECTIONS AND TESTS

INSPECTION OF WELDING WORK

DIMENSIONAL INSPECTIONS – SIZE, LENGTH, AND LOCATION OF WELDS

A qualified welding inspector inspects all weld dimensions to ensure that the size, length, and location of all welds conform to the requirements of the applicable AWS Welding Code(s) or Specification(s) (i.e., D1.1., D1.5) as specified in the Manual Conformance section of this Manual, and to the detail drawings; and that no unspecified welds have been added without the approval of the contract Engineer.

WELD INSPECTIONS

During the welding process, at suitable intervals, a qualified welding inspector performs weld inspections. Such inspections will be conducted, on a sampling basis, prior to assembly, during assembly, and during welding. The welding inspector will observe joint preparation, assembly practice, and the welding techniques, and performance of each welder, welding operator, and tack welder to endure that the applicable requirements of the AWS Welding Code(s) or Specification(s) (i.e., D1.1., D1.5) as specified in the Manual Conformance section of this Manual are met.

FINAL INSPECTIONS

After completion of the work, a certified welding inspector performs a final visual inspection of every weld to ensure that the requirements of the applicable sections of code are met. Other acceptance criteria, different from those described in the applicable AWS Welding Code(s) or Specification(s) (i.e., D1.1., D1.5) as specified in the Manual Conformance section of this Manual, may be used when approved by the Engineer on the contract.

Size and contour of welds will be measured with suitable gages. Visual inspection for cracks in welds and base metal and other discontinuities will be observed with the aid of a strong light, magnifiers, or such other devices as may be found helpful.

WELD INSPECTION AND TEST STATUS

The inspector identifies final acceptance or rejection of the work either by marking the work or with other recording methods.

Final product acceptance inspection shall be indicated by permanent stamping or marking adjacent to the weld or must be unambiguously identified in the inspection report.

WELD INSPECTION RECORDS

The inspector shall make a record of the inspection which shall include the following information:

- Unique part identifier (serial number, shop order, or batch number)

[CompanyName]
Visual Weld Inspection Report

Report ID #	Unique Part ID (Serial #, Shop order, or batch number)	Project ID	Project Name	Drawing # & Rev.	Date of Inspection

Procedure and Acceptance Criteria / Ref#	Inspection Result Pass/Fail	Nominal	Actual	Tolerance	Comments

Final acceptance of completed work (sign and date)

Inspector Sign and Date	Supervisor Sign and Date

[CompanyName]
Daily Production Report

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

* On behalf of the contractor, I certify that this report is complete and correct, and equipment and material used, and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

	Description
Job-ready and WIP Inspections (Active work tasks)	
Work Tasks Completion Inspections	
Sampling/Tests Performed	
Nonconformance Reports	
Problems encountered, actions taken, problems, and delays	
On Site Subcontractors and Suppliers, Company Crews, and Visitors	
Meetings held and decisions made	
General Remarks and improvement ideas	
Weather conditions	Temperature: Low: _____ F High:_____F Precipitation: ❑ No ❑ Yes, type and amount: _____

[CompanyName]
Work Task Inspection Form

Work Task :		
Project: Id# [ProjectNumber]	Project Name: [ProjectName]	Subcontractor and Supplier Company ID/Name:
Location/Area:	Reference drawing version #:	Crew ID/Name

Compliance Verification	**Heightened Awareness Checkpoints**
☐ Compliance with initial job-ready requirements ☐ Compliance with material inspection and tests ☐ Compliance with work in process first article inspection requirements ☐ Compliance with work in process inspection requirements ☐ Compliance with work task completion inspection requirements ☐ Compliance with inspection and test plan	☐ [Insert items identified at project startup and preparatory meetings] ☐ ☐ ☐ ☐

Production Notes:
Reported Nonconformances:

Verification of Work Task Completion (sign and date)	
Subcontractor and Supplier Sign and date*: Work task verified complete to specifications (sign and date)	
Project Superintendent Sign and date*: Work task verified complete to specifications (sign and date)	
Project Superintendent score subcontractor/crew performance and feedback notes	**Quality:** 5 4 3 2 1 **Safety:** 5 4 3 2 1 **Delivery:** 5 4 3 2 1
Quality Manager Sign and date*: Work task verified complete to specifications (sign and date)	
Quality Manager score quality performance and feedback notes	**Quality: 5 4 3 2 1**

* On behalf of the contractor, I certify that this report is complete and correct, and equipment and material used, and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.

Form P-4A Welded Piping Inspection

FORM P-4A MANUFACTURER'S DATA REPORT FOR FABRICATED PIPING
As Required by the Provisions of the ASME Code Rules, Section I

1. Manufactured by _____ (Name and address of manufacturer) Order No. _____ P-4A ID No. _____

2. Manufactured for _____ (Name and address of purchaser) Order No. _____

3. Location of installation _____ Boiler Registration No. _____

4. Identification _____ (Main steam, boiler feed, blow-off, or other service piping — state which) Piping Registration No. _____

5. Design Conditions of Piping _____ (Pressure) _____ (Temperature) . Specified by _____ (Name of Co.)

Code Design by _____

6. The chemical and physical properties of all piping meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The construction and workmanship conform to Section I of the ASME BOILER AND PRESSURE VESSEL CODE _____ (Year).

Addenda to _____ (Date) (if applicable), and Code Cases _____ (Numbers).

7. Description of Piping (include material identifications by ASME specification or other recognized Code designation)

8. Shop Hydrostatic Test _____ .

9. Remarks

CERTIFICATE OF SHOP COMPLIANCE

We certify the statement in this data report to be correct and that all details of design, material, construction, and workmanship of the described piping conform to Section I of the ASME BOILER AND PRESSURE VESSEL CODE.

Our Certificate of Authorization No. _____ to use the (S) or (PP) Designator _____ Expires _____ .

Date _____ (mm/dd/yyyy) Signed _____ (Manufacturer or Fabricator) by _____ (Authorized Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by _____ have inspected the piping described in this Manufacturer's Data Report and state that, to the best of my knowledge and belief, the manufacturer has constructed this piping in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE.

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the piping described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ (mm/dd/yyyy)

_____ (Authorized Inspector) Commission _____ (National Board Commission Number and Endorsement)

(07/11)

FORM P-4A

P-4A ID No. _____

10. Description of Field Fabrication

11. Field Hydrostatic Test _____ .

CERTIFICATE OF FIELD FABRICATION COMPLIANCE

We certify the statement in this data report to be correct and that all details of design, material, construction, and workmanship of the described piping conform to Section I of the ASME BOILER AND PRESSURE VESSEL CODE.

Our Certificate of Authorization No. _____ to use the (S) or (PP) Designator expires _____ .

Date _____ (mm/dd/yyyy) Signed _____ (Authorized Representative) Name _____ (Fabricator)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly of the described piping conforms with the requirements of Section I of the ASME BOILER AND PRESSURE VESSEL CODE. Our Certificate of Authorization No. _____ to use the (A), (S), or (PP) Designator expires _____ .

Date _____ (mm/dd/yyyy) Signed _____ (Authorized Representative) Name _____ (Assembler)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by _____ have compared the statements in this Manufacturer's Data Report with the described piping and state that the parts referred to as Data Items _____ , not included in the Certificate of Shop Inspection, have been inspected by me and that, to the best of my knowledge and belief, the manufacturer and/or assembler has constructed and assembled this piping in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE. The described piping was inspected and subjected to a hydrostatic test of _____ .

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the piping described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ (mm/dd/yyyy)

_____ (Authorized Inspector) Commission _____ [National Board Commission Number and Endorsement]

Form P-4B Assembled Piping Inspection

FORM P-4B MANUFACTURER'S DATA REPORT FOR FIELD INSTALLED MECHANICALLY ASSEMBLED PIPING
As Required by the Provisions of the ASME Code Rules, Section I

1. Manufactured by _____ (Name and address of manufacturer) Order No. _____ P-4B ID No. _____
2. Manufactured for _____ (Name and address of purchaser) Order No. _____
3. Location of Installation _____ Boiler Registration No. _____
4. Identification _____ (Main steam, boiler feed, blow-off, or other service piping — state which) Piping Registration No. _____
5. Design Conditions of Piping _____ (Pressure) _____ (Temperature) . Specified by _____ (Name of Co.)

   Code Design by _____
6. The chemical and physical properties of all piping meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The construction and workmanship conform to Section I of the ASME BOILER AND PRESSURE VESSEL CODE _____ (Year), Addenda to _____ (Date) (if applicable), and Code Cases _____ (Numbers).
7. Description of Piping (include material identifications by ASME specification or other recognized Code designation)

8. Field Hydrostatic Test _____ .
9. Remarks

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the field assembly of the described piping conforms with the requirements of Section I of the ASME BOILER AND PRESSURE VESSEL CODE. Our Certificate of Authorization No. _____ to use the (A), (S), or (PP) Designator expires _____ .

Date _____ (mm/dd/yyyy) Signed _____ (Authorized Representative) Name _____ (Assembler)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by _____ have compared the statements in this Manufacturer's Data Report with the described piping and state that the parts referred to as Data Items _____ have been inspected by me and that, to the best of my knowledge and belief, the manufacturer and/or assembler has assembled this piping in accordance with the applicable sections of the ASME BOILER AND PRESSURE VESSEL CODE. The described piping was inspected and subjected to a test of _____ .

By signing this certificate, neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the piping described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date _____ (mm/dd/yyyy)

_____ (Authorized Inspector) Commission _____ [National Board Commission Number and Endorsement]

(07/11)

H. WELD INSPECTION AND TEST PLAN

[CompanyName] identifies inspections and tests that will be performed during the project. A test report is completed for each test. The test reports are then used for monitoring compliance to the plan and tracking results.

If independent laboratories are required to perform tests or quality inspections, we ensure that the laboratories are certified by a nationally recognized testing accreditation organization as appropriate for the scope of the inspection or 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.

Form exhibits are included as an exhibit in this subsection

WELDING INSPECTION AND TESTING STANDARDS

Inspection and testing standards that may apply to this project include those listed below. Specifications that determine the rules for controlling the welding process and weld acceptance include, but are not limited to the following:

Description	Reference Standard No.	Reference Standard Title
Identification markings to conform to ASTM standards specified in the approved construction documents	AISC 360 Section A3.3 and applicable ASTM material Standards	Material verification of high-strength bolts, nuts, and washers
Identification markings to conform to AWS specification in the approved construction documents	AISC 360, Section A3.5 and applicable AWS A5 documents	Material verification of weld filler materials
Inspection of high-strength bolting	AISC 360, Section M2.5	Inspection of high-strength bolting
For structural steel, identification markings to conform to AISC 360	AISC 360, Section M5.5 and applicable ASTM material standards	Material verification of structural steel and cold-formed steel deck
Ultrasonic weld inspecting techniques	ASNT SNT-TC-1A Q&A Bk C	Ultrasonic Testing Method
Ultrasonic Inspection	ASTM E 164	Standard Practice for Contact Ultrasonic Testing of Weldments
Liquid Penetrant Inspection	ASTM E 165	Standard Practice for Liquid Penetrant Examination for General Industry
Magnetic Particle Inspection	ASTM E 709	Standard Guide for Magnetic Particle Testing
Radiographic Inspection	ASTM E 94.D	Standard Guide for Radiographic Examination
Non-destructive weld testing and visual examination	AWS B1.11	Guide for the Visual Examination of Welds

Specification for Welding Procedure and Performance Qualification	AWS B2.1/B2.1M	Specification for Welding Procedure and Performance Qualification
Test frequency for ferrous materials	AWS D1.1/D1.1M	Structural Welding Code – Steel
Visual inspection of welds	AWS D1.1/D1.1M	Structural Welding Code – Steel
Structural Welding Code - Sheet Steel	AWS D1.3	Structural Welding Code - Sheet Steel
Inspection of Reinforcing Steel welding	AWS D1.4 ACI 318, Section 3.5.2	Required verification and inspection of concrete construction

CONTROL OF INSPECTION, MEASURING, AND TEST EQUIPMENT

Inspection, measuring, and test equipment that will be controlled, calibrated, and maintained.

The Quality Manager evaluates the project requirements and determines if there are measuring devices that require controls to assure quality results.

For each type of device, the Quality Manager identifies:

- Restrictions for selection
- Limitations on use.
- Calibration requirements including the frequency of calibration. All calibrations must be traceable to national measurement standards.

When a measurement device is found not to conform to operating tolerances, the Quality Manager validates the accuracy of previous measurements.

A list of controlled and calibrated test equipment is listed on the Test Equipment Calibration Plan and Log included as an exhibit in this subsection.

[CompanyName]
Quality Inspection and Test Plan

PROJECT ID	PROJECT NAME	CONTRACTOR
[ProjectNumber]	[ProjectName]	[CompanyName]

SPECIFICATION SECTION AND PARAGRAPH NUMBER		SCHEDULE ACTIVITY ID	TEST REQUIRED	ACCREDITED / APPROVED LAB YES /NO		SAMPLED BY	TESTED BY	LOCATION OF TEST ON/OFF SITE/SITE		DATE COMPLETED	DATE FORWARDED TO CUSTOMER	REMARKS

[CompanyName]
Test Equipment Calibration Plan and Log

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

Type of measuring device	Calibration Type and Frequency	Measuring Device ID	Calibrated By/ Calibration Date	Calibration certificate #	Next Calibration Due Date
					Project Start