

AB DETAILING ENGINEERING

Structural Steel Detailing Quality Assurance & Checking Procedure

AB-QA-SOP-26 | Revision 01 | Effective Date: 25 June 2026

Document Owner	AB Detailing Engineering
Document Type	Quality Assurance & Detailing Procedure
Applicable Work	In-house and subcontract structural steel detailing
Website	www.abdetailers.com

1. Purpose

This procedure describes the controlled workflow used by AB Detailing Engineering for structural steel 3D modeling, detailing, checking, drawing release, revision control and related quality records. The objective is to maintain consistency, accuracy and traceability throughout the detailing process.

2. Scope

The procedure applies to structural steel detailing services performed by AB Detailing Engineering, including project document review, 3D modeling, connection detailing, shop and erection drawings, bills of material, CNC/DSTV outputs, checking, revisions and document control. Where subcontract detailing is involved, the same review and checking principles are applied to the agreed project scope.

3. Reference Standards

Reference	Application
AISC 207-25	Steel Building Structures: Specification for Structural Steel Fabrication and Erection – Quality Control/Quality Assurance requirements, where applicable to the project scope.
AISC 303	Code of Standard Practice for Steel Buildings and Bridges, where applicable.
AWS D1.1 / D1.5	Welding requirements and related project requirements, where applicable.
RCSC Specification	Structural joints using high-strength bolts, where applicable.
Project Specifications	Contract documents, IFC drawings, approved connection information and project-specific requirements take precedence where applicable.

4. Roles & Responsibilities

Role	Responsibility
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Engineering / Project Manager

Overall technical coordination, project requirements, review of deliverables and approval of controlled releases.

Team Leader

Coordinates detailing activities, resolves technical issues and supports the checking process.

Detailer

Creates and updates the 3D model, drawings, BOM and related outputs in accordance with approved project information.

Checker

Performs independent verification of models, drawings, connections, BOM and revisions before release.

Document Control

Maintains drawing registers, issue status, revision records and controlled distribution of approved deliverables.

5. Detailing Workflow

5.1 Project & Document Review — Review contract documents, IFC drawings, specifications, approved design information, connection requirements and project standards before detailing begins.

5.2 3D Modeling — Develop the structural steel model using the approved project information. Verify grids, elevations, member sizes, orientations and model geometry.

5.3 Connection Detailing — Detail connections, plates, bolts, welds and fit-up requirements based on approved engineering information and project specifications.

5.4 Drawings & BOM — Prepare shop/erection drawings and bills of material from the checked model. Maintain consistency between model, drawings and schedules.

5.5 Independent Checking — A checker independently verifies the model and drawings before controlled issue. Identified comments are resolved and rechecked as required.

5.6 CNC/DSTV Output — Generate CNC/DSTV files from the checked model and perform the applicable output verification before release.

5.7 Release & Document Control — Issue approved drawings and files with the correct revision, status and drawing register information.

5.8 Revision Control — Record revisions, identify changes, update affected documents and repeat the applicable checking before re-issue.

6. Quality Checking Checklist

ID	Category	Verification Requirement	Check Method
CHK-01	Model Accuracy	Grid lines, elevations, member sizes and geometry checked against approved project information.	Model vs. IFC / project documents
CHK-02	Connections	Connection components, bolt arrangement, edge distances and fit-up requirements reviewed.	Drawing / connection review
CHK-03	Welding	Weld symbols, sizes, lengths and applicable NDT	Drawing / specification

		requirements reviewed.	review
CHK-04	Fasteners	Bolt grade, diameter, length and tightening requirements reviewed where applicable.	Fastener schedule / drawing
CHK-05	BOM Accuracy	Material grades, quantities, lengths and relevant fabrication information checked.	Model / BOM comparison
CHK-06	Coatings & Paint	Surface preparation, coating/paint requirements and non-painted zones checked against project specifications.	Drawing note / specification audit
CHK-07	CNC / DSTV	NC files generated from the checked model and applicable output verification performed.	Software/output verification
CHK-08	Revision Control	Revisions identified, recorded and affected documents rechecked before release.	Revision overlay / document register

7. Responsibility Matrix

Activity	Manager	Team Leader	Detailer	Checker	Doc Control
Contract / IFC Review	A	R	C	C	I
3D Model Creation	I	A	R	C	I
Connection Detailing	C	A	R	C	I
Independent Checking	I	A	I	R	I
RFI Coordination	A	R	C	C	I
BOM / CNC Generation	I	A	R	C	I
Drawing Issue / Register	A	C	I	I	R
Revision Control	A	R	C	C	I

Legend: R = Responsible | A = Accountable | C = Consulted | I = Informed

8. Document & Revision Control

AB Detailing Engineering maintains controlled records of project drawings, revisions, RFIs, checking information and released deliverables within the agreed project workflow. Revised documents are identified by the applicable revision and issue status. Affected drawings and files are rechecked before release.

9. Customer Deliverables

Depending on the project scope, deliverables may include Tekla/3D models, shop drawings, erection drawings, assembly details, bills of material, CNC/DSTV files, reports and related detailing documents. Final deliverables are issued according to the approved project requirements and agreed document format.

10. Quality Commitment

AB Detailing Engineering is committed to providing accurate and traceable structural steel detailing services through disciplined modeling, independent checking, revision control and document management. Project-specific requirements and approved engineering information are incorporated into the detailing workflow.

11. Document Control

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