

Quality Assurance and Design Checking Policy

Agnos Studio Limited

Document control

Document number	0002-PO-0006	Revision	00
Status	Approved	Issue date	27 September 2026
Policy owner	Scott Boote, Director	Next review	27 September 2027

1. Purpose and scope

Agnos Studio Limited is committed to producing structural engineering work that is safe, clear, coordinated, proportionate and fit for its intended purpose. All professional deliverables are subject to a defined level of review and checking before issue.

This policy applies to structural calculations, analysis models, drawings, sketches, reports, specifications, schedules, design advice and other engineering information prepared or issued by Agnos Studio Limited. It applies to work undertaken directly by the Director and to work prepared by freelancers, subconsultants or others on the company’s behalf.

The checking regime is risk-based. The level of scrutiny is selected with regard to the consequences of error, complexity, novelty, reliability of inputs, degree of engineering judgement, intended use of the information and any statutory, contractual or client requirements.

2. Principles

- The originator remains responsible for self-checking their work. Independent checking does not transfer design responsibility away from the designer.
- Checking is both validation and verification: the design approach, assumptions and tools must be suitable for the purpose, and the design process must also have been executed correctly.
- Checks are carried out at appropriate stages of design so that fundamental issues are identified before they become embedded in later work.
- The checking method must be proportionate to risk and must not rely solely on reviewing numerical output or software warnings.
- Calculations, models, drawings and specifications are checked as a coordinated set. A structurally correct calculation is not sufficient if the issued information does not accurately communicate the design.
- Comments arising from checks are resolved before final issue. Any accepted residual uncertainty, limitation or departure from normal practice is recorded and communicated clearly.
- The completed checking process is recorded so that the basis of the design, the level of checking and the status of the deliverable can be demonstrated later.

3. Roles and responsibilities

Role	Responsibility	Independence
Designer / originator	Defines the design basis, carries out the design, records assumptions and self-checks the work before submitting it for further review.	May also be the approver for Category 1 work, but must still complete a deliberate self-check.
Checker	Reviews the design at the level required by the selected checking category. Records comments and confirms when they are satisfactorily closed.	For Category 2 or 3 work, must not have been involved in producing the design being independently checked.
Approver	Confirms that the design and checking process has been completed by suitably competent people and that the deliverable is appropriate for issue.	Normally the Director. Approval is not a substitute for the required check.

As a sole-practitioner-led practice, Agnos Studio Limited will engage a suitably competent external engineer where the selected checking category requires a checker independent of the original design. A freelancer or subconsultant may act as checker only where they have had no involvement in the design being checked and their competence and scope are appropriate.

4. Checking categories

The following categories are based on the risk-proportionate framework promoted by the Institution of Structural Engineers. The category may apply to a whole project or to individual parts of a design. A project may therefore contain elements in more than one category.

Category	Typical application	Minimum checking approach	Agnos arrangement
1	Low-consequence, routine work using established methods and reliable inputs. Also discrete low-risk routine elements within otherwise higher-category projects.	Designer self-checks for accuracy, completeness, coordination and compliance. A second-person check may be added where useful.	Self-check by Director/originator, with a deliberate break from the original design where practicable.
2	Normally applicable to CC2 work, non-routine design, complex analysis, significant interpretation of inputs, or work where errors could have moderate consequences.	Designer self-check plus an independent detailed check by a competent person not involved in the original design. The checker should use the issued design information and undertake independent verification rather than simply following the original calculations.	External independent engineer engaged by Agnos, with scope proportionate to the risks and recorded.
3	High-risk, high-complexity, novel or sensitive work, CC3 work, or where third-party checking is required by regulation, contract or the project risk profile.	Designer self-check, Category 2-level independent review and additional third-party check by an external organisation independent of the design.	Specific checking plan agreed before detailed design. Agnos will not undertake work requiring Category 3 controls unless suitable independent checking arrangements are in place.

The category is selected at project start and reviewed if the design changes materially. Where there is doubt, the higher level of checking is adopted. Consequence class or reliability class informs the decision but does not determine it on its own; complexity, novelty and likelihood of error are also considered.

5. What is checked

5.1 Project setup and design basis

- appointment, scope, deliverables, exclusions and interfaces with other designers;
- applicable legislation, codes, standards, approvals and client performance requirements;
- available surveys, existing information, geotechnical data and other design inputs;
- structural form, vertical and lateral load paths, stability, robustness and foreseeable construction-stage assumptions;
- significant assumptions, uncertainties, departures from normal practice and information still required; and
- checking category and any need for specialist or independent review.

5.2 Calculations and analysis models

- geometry, loads & combinations, material properties, boundary & support conditions, and design parameters;
- overall behaviour, stability, deflections and load paths, including simple independent checks that test whether the model results are credible;
- member resistance, serviceability, robustness and relevant accidental or construction-stage conditions;
- consistency between analysis assumptions and the information received from other disciplines;
- software suitability, model limitations and any warnings or convergence issues; and
- results that appear unusual, highly sensitive or dependent on defaults, automated optimisation or assumptions that are not transparent.

Complex computer models are independently validated using simplified calculations, alternative models, equilibrium checks, sensitivity testing or other engineering judgement.

5.3 Spreadsheets, scripts and reusable calculation tools

- The purpose, inputs, outputs, assumptions, units, limitations and applicable design standards must be identifiable.
- New or materially modified tools are validated before routine use against hand calculations, published examples, known solutions or another independent method.
- Important formulae and logic are checked rather than relying on appearance or previous use.
- Edge cases and inputs outside the normal range are considered. Reusable tools should make limitations or invalid input ranges clear where practicable.
- Project-specific inputs and outputs remain subject to normal design checking even where the underlying tool has previously been validated.

5.4 Drawings, specifications and reports

- geometry, setting out, levels, member sizes, materials, reinforcement or connection intent and key design notes;
- coordination with the architectural and other relevant design information, using the correct revisions;
- consistency with calculations and analysis models;
- clarity of information needed for pricing, fabrication, construction or approval, appropriate to the issue stage;
- design assumptions that affect temporary works, construction sequence or contractor-designed elements;
- significant residual design risks and CDM information that needs to be communicated; and
- document number, title, revision, issue status and purpose of issue.

6. Checking through the project stages

Checks are not deferred until the end of Stage 4. The focus changes as the design develops:

Stage	Primary checking focus
Early / feasibility	Brief, existing information, constraints, site investigations, structural feasibility, key risks, responsibilities and assumptions.
Concept / coordination	Basis of Structural Design, structural form, load paths, stability, foundation assumptions, key details, interfaces, performance criteria and suitability of information for planning/pricing.
Technical design	Detailed calculations and models, member design, drawings/specifications, coordination, contractor-designed elements, constructability, temporary works interfaces, sustainability requirements and completeness for manufacture/construction.
Construction / close-out	Design changes, RFIs, substitutions and site-driven revisions are incorporated into the controlled design record. Final issued information reflects significant design development and relevant records are retained.

7. Issue, revisions and change control

- All externally issued engineering information is checked to a level appropriate to its purpose before issue, including preliminary or pricing information.
- Issue status must be clear. Information not suitable for construction, fabrication or final reliance must be marked accordingly.
- A revision that changes the structural design, assumptions or interfaces is rechecked to a level proportionate to the change. The check must also consider knock-on effects elsewhere in the design.
- Comments from the checker are resolved and closed before final approval. Unresolved matters must not be hidden by issuing the document.
- Where information from another designer or contractor is relied upon, its status, assumptions and compatibility with Agnos Studio Limited's design are checked before incorporation.

8. Digital tools and AI

- Software, automated design tools and AI may assist the engineering process but do not replace professional judgement, verification or checking.
- AI-generated technical content is treated as unverified input. Any engineering statement, calculation method, code reference or technical conclusion obtained from an AI system must be independently verified against reliable primary or authoritative sources before it is relied upon.
- Where scripts, spreadsheets, parametric tools or automated workflows materially influence a structural design, their logic, limitations and outputs must be capable of being understood and checked by a competent engineer.
- The Director remains responsible for the professional output issued by Agnos Studio Limited, regardless of the software or automated process used to produce it.

9. Records

A proportionate record of checking is retained with the project file. As a minimum this should identify:

- the deliverable or design item checked;
- the selected checking category;
- the designer/originator, checker and approver as applicable;
- the date of the check and the revision/status checked;
- significant comments and evidence that they were resolved; and
- any agreed limitation to the scope of an independent or third-party check.

Calculations, analysis files, checking records and final issued design information are retained in accordance with the company's records-retention arrangements, contractual obligations and professional indemnity requirements.

10. Checking work prepared by others

Where Agnos Studio Limited is appointed specifically to review or check another engineer's design, the scope and purpose of the review must be agreed in writing. The appointment should define the information to be provided, the extent of the review, whether independent calculations are required, and the form of the opinion or certification to be issued. The original designer remains responsible for their design unless the appointment expressly states otherwise.

11. Monitoring and review

- This policy is reviewed at least annually and after any significant design error, near miss, claim, regulatory change or material change in the company's work.
- The Director periodically reviews a representative sample of completed projects to confirm that the selected checking category, records and issue controls have been applied consistently.
- Lessons from checking comments, site feedback, design changes, complaints, claims and professional guidance are used to improve templates, calculation tools and working procedures.

12. Key references

- Institution of Structural Engineers, Code of Conduct: Responsibilities of a Member, particularly Quality Procedures.
- Institution of Structural Engineers, Checking regime for permanent building works, Part 1: Categories of checking (2026).
- Institution of Structural Engineers, Checking regime for permanent building works, Part 2: What to check and when (2026).
- Institution of Structural Engineers, Calculation Models (2026) and associated guidance for spreadsheets, scripting and computer-model checking.
- Building Regulations 2010 and current dutyholder requirements applicable to the jurisdiction of the project.
- Construction (Design and Management) Regulations 2015.
- BS EN 1990, Basis of structural design, and applicable project-specific standards and regulatory requirements.

Approved by: Scott Boote CEng BEng (Hons), Director

Signature:



Date: 27.09.2026

© 2026 Agnos Studio Limited. Internal quality assurance policy. Uncontrolled if printed.