

The Quality Plan is intended primarily for use by the project team and describes the framework of management tools, information, instructions, procedures and standards which they will use with others involved to achieve project requirements. This section provides an abridged version outlining the process.

Project Quality Management System

The Factory Project will implement a Quality Management system using the following 3 tier system:

- 1) Tier 1 - Project Quality Management Plan – This plan**
 - The QMP details the requirements for delivery of quality on the project
- 2) Tier 2 – Quality Specific Procedures/Project Specific Procedures**
 - Applicable Project Procedures are listed at end of each section in this plan.
 - All project specific procedures will be checked and approved before implementation
- 3) Tier 3 – Inspection and Test Plans, Method Statements**
 - Refer to below section for further details

Quality Leadership Team

The Quality Leadership Team will consist of all parties within the Project Team. Each party will nominate key senior individuals as lead representatives. The Quality Leadership Team will be responsible for driving conformance with project requirements and will meet on a monthly basis to review performance, discuss issues and identify areas for improvement

Client (MCC)	Tim Laycock (Project Manager)
Contract Administrator (G&T)	Ciaran Magee (Contract Administrator)
Architect Lead Designer (Ryder)	Lee Taylor (Lead Architect)
Architect (Concept Guardian) (OMA)	Carol Patterson (Lead Architect)
Structural Engineer (BHE)	John Edgell (Civil & Structural Engineer)
MEP Engineer (BDP)	Steve Merridew (Lead Engineer)
Management Contractor (LOR)	Neville Hodson (Project Director) Andy Bell (Technical Leader) Adam Crompton (Commercial Leader) Lee Dawson (Project Engineer) Darren Suttle (Project Leader) Anthony Walker (Planning Leader)

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Quality Risk Management

The management of quality risks is continuous throughout the duration of the project.

The process for the procurement of Work Contractors will include the following formal risk reviews which will include technical and quality issues:

- **Risk Review 1** – Project team review of issued tender project drawings and project specifications, review of designer's identified risks within issued project drawings and project specifications, and confirmation of how these risks are to be managed moving forward and in works package procurement.
- **Risk Review 2** – Project team review of tender returns and risk review 1, to establish progress in mitigating previously identified risks, and update the risk register to reflect the approach confirmed as the basis to which the project team are proceeding with regards the residual risks at that stage.

The risk items identified in the risk reviews will be formally recorded by LOR in the agreed format Work Package Risk Register, which will be shared with MCC and their cost consultant and design team, in order that this can be used to inform the Project cost plan and each party is able to act in accordance with the agreed mitigation strategies.

Any proposed derogations from project specification will be clearly identified during the procurement process and will be reviewed and agreed as part of the procurement and works package recommendation processes. Construction information will then be updated by the design team on behalf of MCC in line with the accepted derogations, and with any wider amendments required from a quality management perspective, before being instructed as appropriate.

The project drawings and project specifications will then form the basis of the Works Package Contractor's Quality, Inspection & Test Plan (QITP), which will establish the quality control processes to be followed in administering the delivery of the works.

Instructions

All works undertaken as part of the Management Contract are to be instructed by the Client. The Contract Administrator will prepare and issue all Instructions on behalf of the Client and maintain a register for reference.

A Contractors Administrators Instruction (CAI) is required for the following:

- Issue of Tender Information
- Procurement of Works Contractor
- Issue For Construction Information
- Revision to Construction Information
- Instruction relating to any activities required to enable completion of the Factory works in addition to those issued on the basis of design information

Inspections and Test Plans

All significant work activities and systems must be covered by an Inspection and Test Plan (ITP).

ITPs will be drafted by each Works Contractor. ITPs will be reviewed by relevant members of Manchester City Councils design team, and Manchester City Councils nominated representative, will have the opportunity to review and comment on the ITP's, prior to their ultimate approval by the following:

- MCC's Design Team (Context of this Approval is as described in the QITP Sign off sheet as agreed between MCC and their designers)
- Management Contractor's Project Technical Leader or delegated authority

The contract specification, trade guidance, manufacturers recommendations, best practise and lessons learned shall all be considered when determining the Inspection and Test stages. The stages of the ITP should also follow the logical order of the method statement.

The witnessing, verification and approval of the individual specific inspection and tests will be identified and allocated in the relevant ITP.

The below table identifies the Inspection and Test Stages that should be considered as the minimum requirements. These stages are included on the project template and are to be considered and shall not be removed from the document.

The below table also identifies the intended Inspection Authority and Code Requirements for each stage:

Item	Activity Stage	Inspection Authority and Codes				
		WC	MC	DT	CL	BC
1	Specification Review	S				A**
2	Drawing Review	S				A**
3	Factory / Works visits		W	W*	W*	
4	Review Works Contractor Drawings (where applicable)	H		A		A**
5	Product Approvals (materials/samples etc) where established as required by the Project Drawings and/or Project Specifications	H		A	A**	A**
6	Off-site Testing where established as required by the Project Drawings and/or Project Specifications	H	W	A	W	A**
7	Quality Benchmark, where established as required by the Project Drawings and/or Project Specifications	H	W	A	W	A**
8	Handover of area from previous trades	H	A			
9	Deliveries generally	W	S	S		
10	Deliveries – supply only Works Contracts	H	A	S*		

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11	Storage (on-site)	S				
12	Dimensional Control		S			
13	Stage Inspections of Installation	H	A	S*		
14	As-Built	H	S	S*		A*
15	Site Testing, where established as required by the Project Drawings and/or Project Specifications	H	A	W	W	A*
16	Protection		S	S	S	
17	Final Inspection and Handover to Commissioning	H	A	S*		A*
Inspection Authority: WC = Works Contractor MC = Management Contractor DT = Design Team CL = Client BC = Building Control		Inspection Code: H= Hold Point A = Approval Point (A* where required - MC organises, A** where required – MCC design team co-ordinates) W= Witness Point W* = Witness Point where established as required by the design team in the Project Drawings and/or Project Specifications S = Surveillance S* = Surveillance may be enhanced to approval where MCC/design team/LOR deem risk/specialist nature warrants				

Note: It is expected that items 6 & 12 shall be expanded suitably to cover the works and requirements of the works information.

The Management Contractor will maintain a live register for ITPs throughout the project duration.

Any material, work or process which has been inspected and found not to conform with the appropriate drawings/specification will be positively marked/identified and recorded as not meeting the required standard. A Non-Conformity Report (NCR) shall then be raised.

At handover, all elements of the relevant ITP shall be checked to ensure that substantiated evidence of inspections have been made available, consolidated and form part of the handover pack.

Non-Conformance Report (NCR)

A Non-Conformity Report (NCR) shall be raised to record a defect in the works i.e. product, workmanship, or electronic system or failure to comply with quality management documents such as procedures for managing the works.

The Management of Non-Conformity procedure will be followed to review each event, establish the root cause and determine the most appropriate course of action. Where remedial measures can be introduced these will be determined and documented on the NCR. Further action may also be required, such as a change to the current management system.

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The Non-Conformance procedure is intended to ensure that:

- Products and services that meet requirements are consistently provided to our internal and external customers (Clients)
- Outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.
- Nonconformity of products and services are identified before release.
- Nonconformities are analysed and reviewed.
- Correction and Corrective actions are carried out and recorded.
- Concessions are obtained and recorded
- Customers are informed

The procedure includes the following stages:

- 1) Identify and raise nonconformity record – by the responsible Works Contractor, relevant LOR Work Package Manager, or MCC's design team.
- 2) Identify correction and corrective actions – having established the appropriate action with the relevant designer/s
- 3) Agree correction and corrective actions – with formal consent recorded from the relevant designer/s, approval from LOR Project Technical Leader or delegate authority, and MCC if/as deemed necessary.
- 4) Implement actions in accordance with the accepted corrective actions.
- 5) Verify and close nonconformity record – with records of the corrective actions recorded, and close out confirmed from the relevant designer/s, approval from LOR Project Technical Leader or delegate authority, and MCC if/as deemed necessary. The LOR Fieldview system is being used to manage records associated with NCR's.
- 6) Analyse and evaluate nonconformity data

Refer to the Management of Non-Conformity procedure for further details

Samples and Benchmarks

Samples and benchmarks will be produced in line with the requirements of the project specifications and are to be reviewed and responded to within 10 working days of submission, and approved prior to works commencing unless agreed otherwise with relevant project stakeholders. Requirements will be assessed on a package by package basis taking into account time related impacts

The requirement for samples and benchmarks will be identified on the Works Contractor ITP as a Hold Point to be approved prior to proceeding.

Field View Data Management System

The fieldview system is used to raise and track closure of NCRs. The system is also used by area managers, client Representatives and contractors to mark out Snags, Defects, Incomplete works and observations.

The system will also be used to track the completion process on the project on a room by room basis. Contractors inspections and testing are to be maintained by the package manager, and

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the contractor. The output signoff of elements are then input onto the Closeout process on Fieldview. This allows a real time tracking of the current status of room finish.

Reporting

Quality Assurance progress will be included in the monthly report to the Client. Progress status will be measured against an agreed set of Key Performance Indicators.

Auditing programme

Quality Audits will be undertaken on a regular basis monitor that the project is managed efficiently and effectively in accordance with all specified systems, procedures and process. The Laing O'Rourke Project Engineer co-ordinates the undertaking of audits in accordance with the project specifications, the Management Contractors audit procedure, and specific audits are identified as required in response to project matters. Reports associated with these audits are held on the project server.

The purpose of audits will be to:

- Determine effectiveness of the operating management systems
- Advise Project Leadership of compliance with stated requirements
- Provide recommendations to identify and support the project procedures as required
- Support the implementation of lessons learnt and provide continuous improvement where identified

Audits will be conducted in accordance with the Management Contractor's audit procedure and the Project Quality Audit Programme. The Project Quality Audit Programme will be implemented and maintained by the Management Contractor for the duration of the Project. The Audit Programme is a 'live' document and will be reviewed and updated by the Quality Leadership Team as part of the Monthly Quality Meeting.

The Audit Programme aims to provide a 3 month look ahead of planned audits, driven by the project works package and risks identified. The programme will be used to monitor and record audit progress, log audit findings and control close out of audit findings.

All Works Contractors will be expected to provide commitment to quality audits as a key deliverable. The Works Contractor Leadership will be expected to ensure that corrective / preventive actions are implemented on reported Non-Conformities in a timely manner as required by quality audit procedure.

The audit results will be reviewed for trends and a report prepared. The report will form part of the management review in accordance with the Project Management Review procedure to determine the effectiveness and efficiency of the management system, leading to continual improvement. Records of this review will be maintained.

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