

Introduction

The quality control process for the sample panel for the project at Spear Street is a vital stage in ensuring the overall quality of the design and construction of the building.

Northern Group as client is well-known for taking a design-led approach to delivering high-quality buildings and this project is no different.

Falconer Chester Hall (FCH) as architect has a close working relationship with Northern Group and have followed the design brief to replicate, on a smaller scale, the award-winning building by Northern Group and FCH, One Silk Street in Ancoats.

Ever since the original concept for both schemes was devised by Mecanoo and first submitted for planning in 2017, Spear Street was always intended to mirror the materiality of the now completed larger building. FCH have refined the concept design to the reduced massing in the updated 2022 application and both the Design and Access Statement addendum and the Materials Brochure presented to planning by FCH detail the evolution of the design.

In One Silk Street, the design team and contractors have a living example of the materiality and interfaces required on this project and the sample panel to be constructed on a nearby site in Ancoats will further serve to ensure quality of design is matched in the construction.

Roles and Responsibilities

Rick Hilton - Client Project Manager (Northern Group): oversees the entire project on behalf of the client, along with the construction manager, including quality control, programme, and design management.

Ryan McKeown - Construction Manager (Triple M): oversees all construction operations with overall responsibility for the quality control of all contractors on the project.

Gareth Jones / Rasheed Ennin - Falconer Chester Hall architects (FCH): responsible for the overall design and appearance of the facade working in close coordination with the client project manager and construction manager to ensure that work is carried out in accordance with the design. The architect, in conjunction with the client, will ensure the sample panel is ready for inspection by the Planning Officer. They will also be responsible as lead designer for reviewing and commenting on sub-contractor design information and coordination of information from other design team members. This includes building product specification and selection. FCH have produced detailed drawings for the façade which include the proposed visual mock-up to provide a physical benchmark for the rest of the scheme to be judged against from a quality perspective. This will ensure the final product not only replicates design intent from a visual perspective but offers a robust solution in terms of fixing, detailing, and sequencing. FCH will provide comment on the specialist sub-contractor design information for general compliance with the design

intent. In addition to this, the quality of the proposed solution will be assessed through material sampling prior to commencement and during the construction phase, regular site visits will be undertaken to review, as far as is reasonably practicable, the quality of the façade components and workmanship.

Darren Carr - Façade Manager (brickwork): was the brickwork supervisor and responsible for the high-quality of brickwork at the One Silk Street project using the same brick and bricklaying details on the previous project, engaged to oversee the construction of the sample panel to ensure the same details are delivered. Will approve the work for inspection by the construction manager.

Appointed façade subcontractors (brickwork and window systems): the appointed façade subcontractors will, as part of their quality management system, produce a thorough inspection and test plan (ITP). A review will take place on each element of works throughout the various stages of design, production and installation as detailed in this document. Off-site visits (where appropriate) will take place to inspect the manufacturing process and the quality of the components to be incorporated in the works. ITP's will be reviewed against the project specification and drawings to ensure they remain current throughout the project. The appointed façade subcontractor will be responsible for implementation of the approved ITP.

Façade Subcontractor Selection

All subcontractors tendering for involvement on the Spear Street project will be assessed using a number of criteria before they can be awarded the works:

1. Health & Safety performance history
2. Quality Management
3. Financial management
4. Standard of workmanship
5. Staff profile and experience
6. Review of relevant previous projects completed
7. Adherence to programme
8. Sufficiency of resource
9. Past projects for the client
10. Current company workload
11. References/ Awards received

Interface Management and Contractual Responsibility

Interface management is the responsibility of the Construction Manager, who ensures that component materials are compatible and meet contractual requirements.

The contractual responsibility for materials and component compatibility should be clearly defined in the contracts with suppliers and subcontractors.

Off Site Management:

Materials will be stored in a controlled environment to prevent damage or degradation.

Manufacturing and assembly processes will follow approved quality control procedures and specifications.

Preventing Damage and Managing Repairs:

Materials and panels will be securely packaged to prevent damage during transportation to the construction site.

On-site assembly will be carefully supervised to minimise the risk of damage.

In case of damage, a documented process for making repairs will be implemented.

Sub-Contractor Selection and Management:

Subcontractors will be selected based on their expertise, reputation, and past performance.

A subcontractor manager will oversee their work and ensure compliance with quality standards.

Samples and Detailed Design Verification:

Prior to presenting the facade panel to the Planning Officer, samples will be produced and reviewed.

Detailed design and verification processes will ensure that the panel meets all planning and quality requirements.

The Planning Officer will review and approve the final design before installation.

1. Acceptance Criteria

It's important to ensure that management and subcontractors are on the same page about what does and does not qualify as an acceptable result. When all the project participants understand what the goal is, they are better able to get it right the first time. This will include:

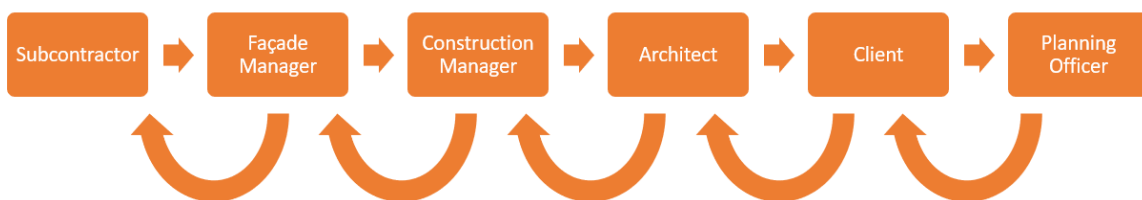
- No visible defects
- Complies with minimum building standards
- Meets all manufacturers' specifications
- Conforms to the customer's contract specifications
- Specific organisational preferences
- Project-specific quality standards
- Industry common practices

2. Inspection & Test Plan

The inspection process allows us to determine whether a specific task was completed to specification. The team needs to know what will be inspected, when inspections will happen, and who is responsible for doing them. In some cases, this might be third-party inspectors.

Creating a plan in advance allows you to determine all the necessary inspections and to confirm that they have been completed through a record of acceptance.

Approval Flow Chart



3. Inspection Checklists

A checklist can essentially be used as an agenda for pre-task conversations so you can communicate what areas warrant heightened awareness. Using checklists as a communication tool enables operatives to better understand how the work they are doing will be defined as acceptable.

The inspection process for a task concludes when all acceptance criteria have been met and all elements of a checklist, including high-risk items, have received sign-off.

4. Correct Deficiencies and Verify Acceptance Criteria

When deficiencies have been identified through the inspection process, they must be corrected. The process is:

- Physically mark the issue or area
- Take a picture to clearly identify the issue
- Correct the issue
- Document the correction

After all issues have been corrected, you must verify that the completed work meets the acceptance criteria.

5. Prevent Future Deficiencies

Learn why the deficiency happened and adjust the quality control process so it doesn't happen again. Make sure the item is included in the acceptance criteria and communicated to all parties.

Add to your checklist system and include it in your inspection plan. Success is when you don't see the issue again and you are that much closer to achieving first time quality with zero defects.

QA Process Summary

The QA process will commence immediately on appointment of each of the façade subcontractors as part of the detailed design process. Regular subcontract package design workshops will take place, running alongside consultant Project Design Team meetings for co-ordination of all elements of the overall project design. Subcontractor detailed design will be reviewed by the architect for compliance with the technical specification & the desired aesthetic.

Each façade subcontractor will be required to prepare an Inspection & Test Plan document (ITP). The ITP will be implemented on site to monitor and record all façade works as the installation progresses. This document will provide an audit trail in relation to the Quality Control of all phases of the works, from delivery to installation. This document makes references, where necessary, to comply with both sub-contract clauses and consultant specifications, together with the relevant standards, manufacturers technical literature and CWCT Technical Notes (where appropriate). The overall quality of the installation will be assessed and recorded daily by the façade subcontractor team, with QA documentation held on file as a contemporaneous record of inspections carried out.

Subcontractor Checklists: Brickwork

1. Early discussion with brick manufacturer regarding availability, special shapes and ordering.
2. Can delivery vehicles access safely to a suitable hard storage area on site?
3. Prepare an adequate base for site reference panels in an appropriate area.
4. Agreement of reference panel by all relevant parties.
5. Ensure bricks are correct type on arrival – compare to reference panel.
6. Is adequate protection in place for storage of the bricks?
7. Blend bricks adequately prior to laying and take from several packs in accordance with recommendations.
8. Protect bricks and brickwork at point of use when work is not proceeding.
9. Ensure mortar is correct specification and the constituents are correct.
10. Ensure any site mixing of mortar is accurately gauged and mixed in a clean area free from contaminants.
11. Is the brickwork set out to co-ordinating sizes and do the bricks conform to the specification.
12. Are bricks being laid with correct mortar joints?
13. Are bricks being laid to the manufacturer's recommendations?
14. Ensure cavities are being kept clean from mortar droppings and debris as the work proceeds.
15. Ensure consistencies in timing and profile of mortar joint finishing.
16. Protect newly built brickwork from inclement weather.

Material Samples & Mock-up Panels

In order to arrive at suitable material selection and retain control of the quality of the overall façade aesthetic, a number of samples will be obtained throughout the decision making & façade subcontractor appointment process.

Hand samples

Small scale handleable samples will be obtained for each material type proposed. These will be submitted in line with the materials sample schedule submitted to

MCC Planning. Samples will be obtained from the proposed manufacturers to represent the finish, colour and texture of the materials proposed. For the avoidance of doubt, this is small scale samples of the anodised aluminium finish to the curtain wall and window frames and the brick to be used.

Small-scale sample panels

Because the exact same materials, interfaces, and construction process will mirror the process which took place in the approval of the materials for the sister development at One Silk Street in Ancoats, it is proposed that this is reviewed as a “living example” of the materials to be used on the Spear Street project.

Large Scale Mock-up Panel

To ensure that the quality is equal to or better than the “living example” at One Silk Street, there will be a mock-up panel constructed on site (or if space does not permit, in a location local to the site) and this will form the main reference point for discharge of the Planning Consent. The panel will be constructed prior to any external visible façade works commencing on site and will remain in place for the duration of the works. As well as satisfying the Condition, it will also allow construction detailing and sequencing to be refined prior to the main works commencing, and in addition will be the benchmark for the quality of the finished appearance and workmanship for the completed façade.

Programme

Initial inspection w/c **18 December 2023**

Second inspection w/c **8 January 2024**

- Review any rectification to brickwork details raised at initial inspection
- Inspect window installation
- Inspect soffit installation

Final inspection w/c **22 January 2024**

- Review of any final alterations made to address comments from second visit