



Cambridge Halls Planning Report - VMU Review CDN/26/0344

Document history

Revision	Reason for Issue	Date	Prepared by	Checked by
P01	For Information	01/04/2026	JB	CP
P02	For Information	02/06/2026	JB	CP

MCC Planning Comments - Aggregate

Received 21st May 2026;

- The specks of white aggregate should be removed from the red and green pre-cast concrete
-

Key information to review on following pages;

- Techrete Mineral Variability Statement
- CPA Summary
- Techrete precedent incl. schemes delivered in Manchester

Techrete Mineral Variability Statement



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Technical Note

Title: Mineral variability in aggregates
Author: Derek Russell – Director Techrete
Date: 1st June 2026

This note is written in response to queries raised on the presence of minerals present in a number of concretes which appear not to match the base sand and aggregate matrix.

Techrete procure aggregates from a well-established and long standing supply chain, following a full review of available options. Consideration is given to extraction methods and transport, as both of these contribute to the carbon load of concretes manufactured from these aggregates. Before use in concrete these aggregates are evaluated for suitability, to ensure compliance with the relevant standards and to ensure consistency of performance and appearance. All aggregates proposed for the Cambridge Halls project have been through this process to ensure the performance of the concretes in terms of structural performance, workability, carbon load and appearance.

It has been observed in a number of mixes that the aggregate matrix contains particles of minerals which differ from the base colour of the aggregate. These particles are not considered contamination or a quality issue. All aggregate is quarried from natural sources; as such, it reflects the inherent geological variability of the parent rock formation.

The different particles are typically associated with naturally occurring mineral veins within the quarry. During extraction and crushing processes, these minor structures can become exposed and distributed throughout the finished aggregate. Such variations are a normal characteristic of natural aggregates and are expected to occur occasionally, depending on the section of the quarry face being worked. Techrete select aggregates which best represent the required base colour or tone required for the concrete, and have selected the most appropriate aggregates available, but cannot prevent the presence of naturally occurring minerals within the matrix.

It should also be noted that these minerals are present throughout the concrete matrix but finishing processes can influence their visual appearance. In particular, polishing creates a smoother surface, which can make the white mineral particles more visible. By contrast, an acid-etched finish does not expose as much of the larger aggregates and produces a more textured surface that tends to visually soften and reduce the visibility of these inclusions.

The presence of these minerals does not adversely affect the performance, durability, or compliance of the material as this has been considered both in the testing specification, and many years production data captured. Routine quality control procedures remain in place to ensure consistent product performance and compliance with applicable standards, and this is monitored throughout the project.

These sands and aggregates have been employed as ingredients in concretes on a large number of projects over the past number of years, many of which are in the Manchester area. The performance and consistency of these materials have been a key component in the quality of the facades delivered.



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It has also allowed the refinement of our mixes in terms of carbon content with the Lanark sands and aggregates being employed in our lower carbon mixers on Stoke Good yard and University of Derby. In Manchester, panels containing Lanark are currently being installed on University of Salford. Other projects, with a green concrete, have been employed on Manchester recently at 4 Angel Square and 9a First Street both of which have a variety of finishes, including polishing.

Given that concrete is a material manufactured from naturally occurring materials it should be recognised that there will be some inherent variability in the appearance of the finished product. It is, therefore, important to consider the overall character and tone intended, and if that is achieved. To this end it is important that the finished concrete be viewed from an appropriate distance.

In summary, following a review of alternatives, Techrete has selected the best available material to achieve the overall colour and tonal intent, based on the Architectural requirements. There are rigorous quality control checks and testing procedures in place to ensure compliance with the project specifications and measures to prevent cross contamination during production. The materials have some minor mineral variability which will exhibited in all concretes to greater or lesser extents. The visibility of these will vary depending on the finish applied. These minerals are not a concern from a performance or durability point of view.



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Summary

Design Team Response;

Issue reviewed: Techrete have confirmed the occasional white particles arise from the Red Lanark aggregate, as set out in their report.

Options reviewed with Techrete

1) Filter the aggregate

The Red Lanark granite aggregate was selected to achieve the intended red tone and is consistent with mixes used by Techrete on other projects in Manchester.

This was explored, but Techrete advise it is not viable due to:

- the quarry source and natural variability of the material - Lanark is a preferred local source versus importing from further afield; and
- the fact that the polished finish relies on aggregate exposure, which limits any scope to filter/remove particles.

2) Prioritise tone and proximity of aggregate supply over limited instances of flecks

The VMU shows only limited instances of white flecks on the panels.

Techrete advise the scope to source an alternative, red-toned aggregate that eliminates occasional white particles without affecting the red tone is limited.

Summary / recommendation

The team has taken the comments on board and worked with Techrete to identify ways to remove the white flecks.

There is limited scope to remove the flecks without compromising the overall red tone of the panels.

On balance, achieving the correct red tone is considered preferable.

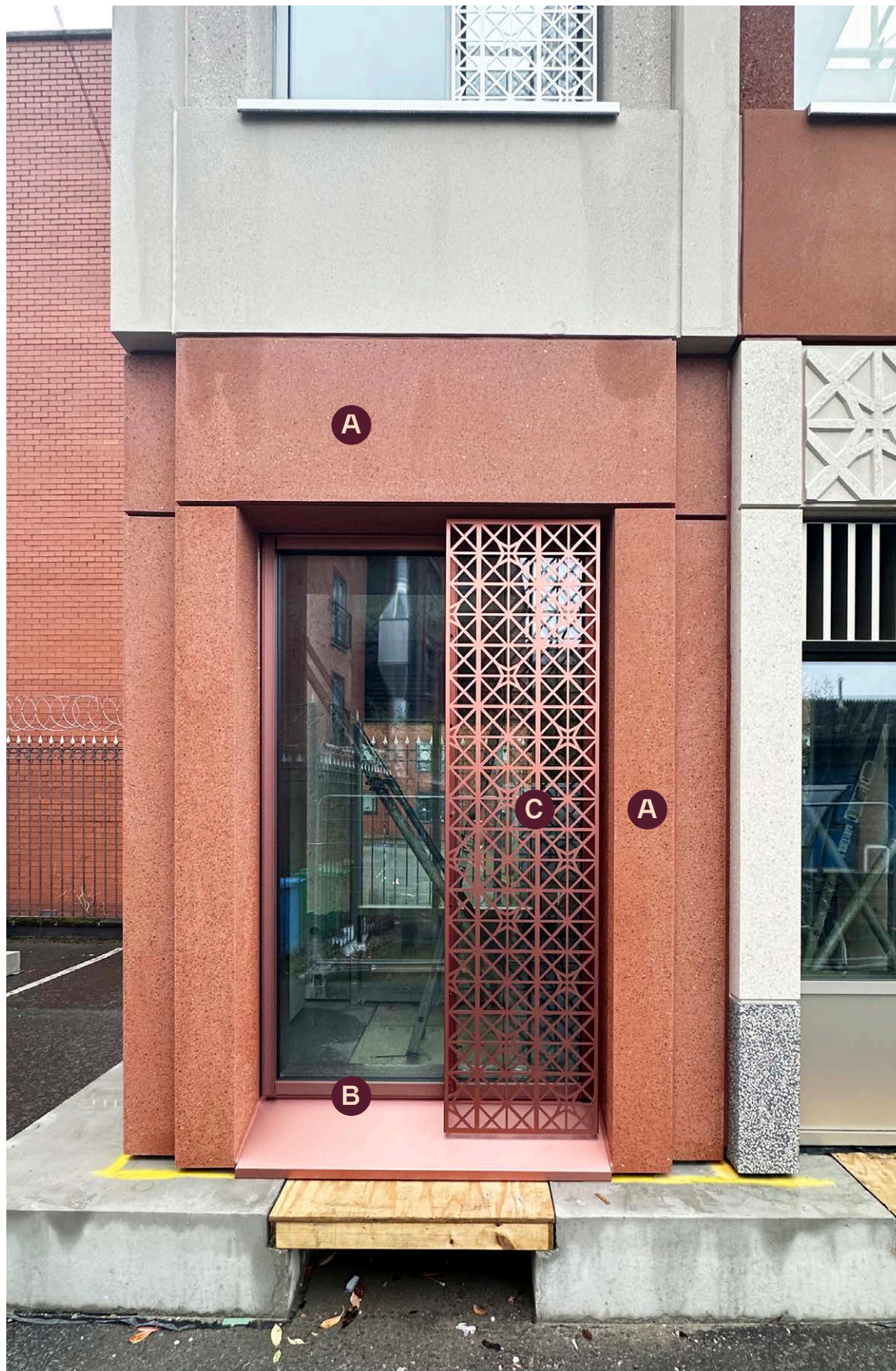
We also anticipate it is preferable to retain the polished finish (rather than moving to an acid-etched finish), as it:

- strengthens the base articulation; and
- provides a resilient, high-quality finish to the public realm.

Please refer to applicable precedent on following pages;

Phase 01

First Floor Panel (Amenity)



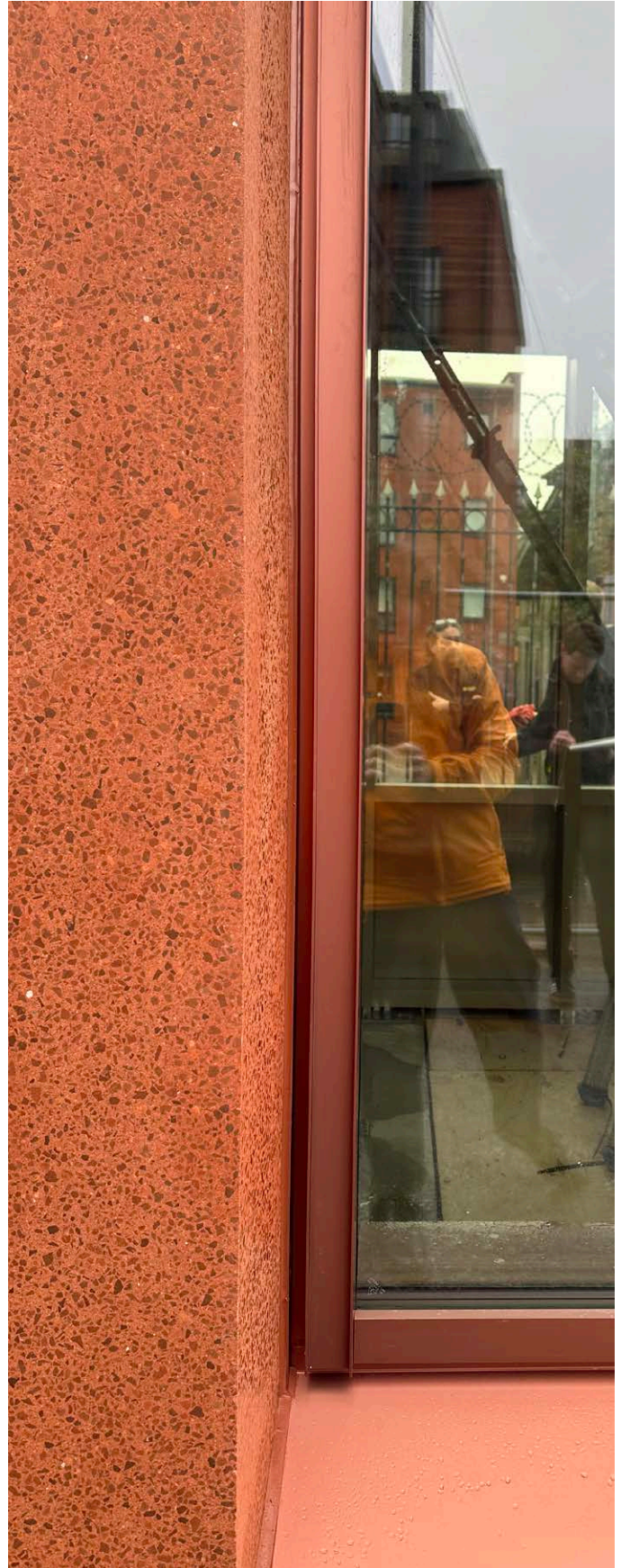
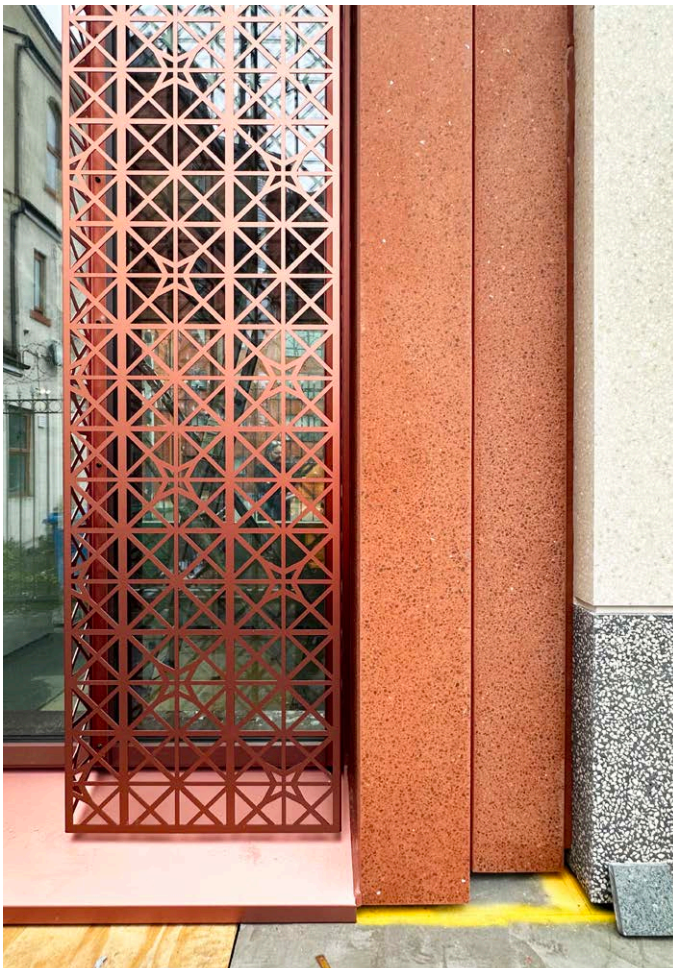
A
Polished precast
piers and
spandrel - red

B
Anodised
curtain walling &
cill - red

C
Anodised
patterned panel
- red

Phase 01

First Floor Panel (Amenity)



Phase 02

First Floor Panel (Amenity)



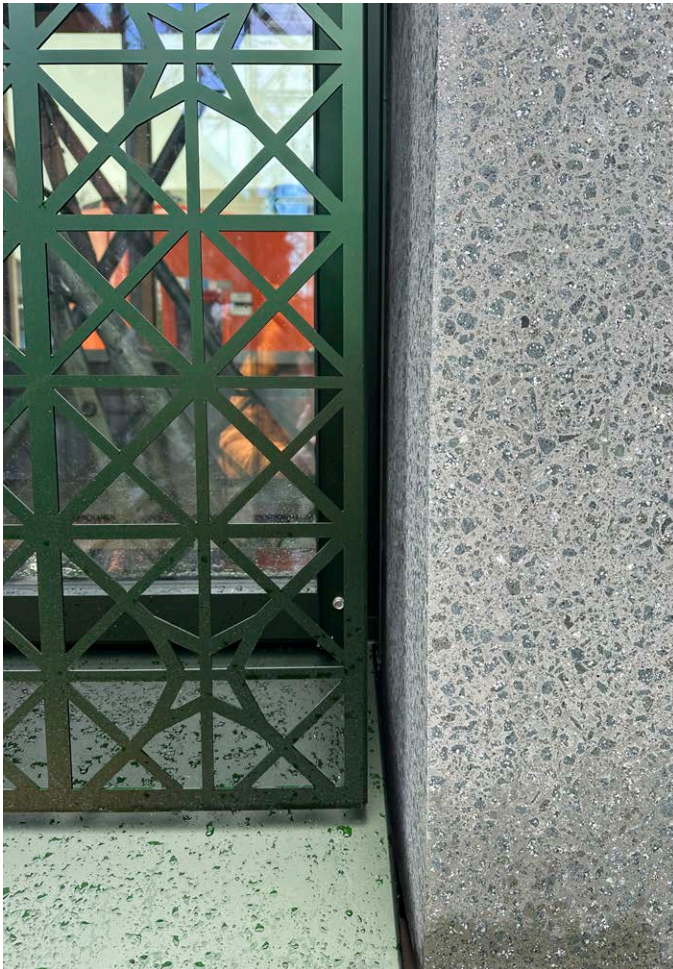
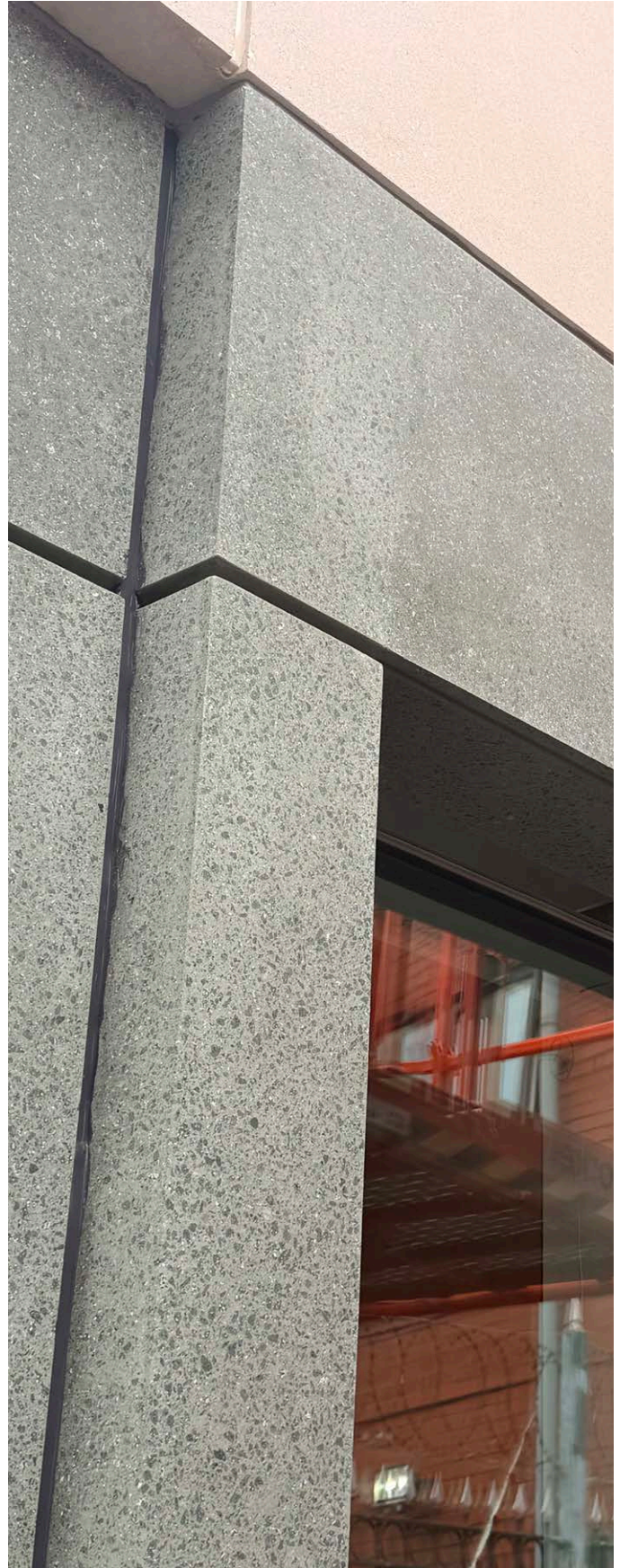
A
Polished precast
piers and
spandrel - green

B
Anodised
curtain walling &
cill - green

C
Anodised
patterned panel
- green

Phase 02

First Floor Panel (Amenity)



Techrete Precedent

Lanark aggregate



All images - Thrive Health Centre, Salford

Techrete Precedent

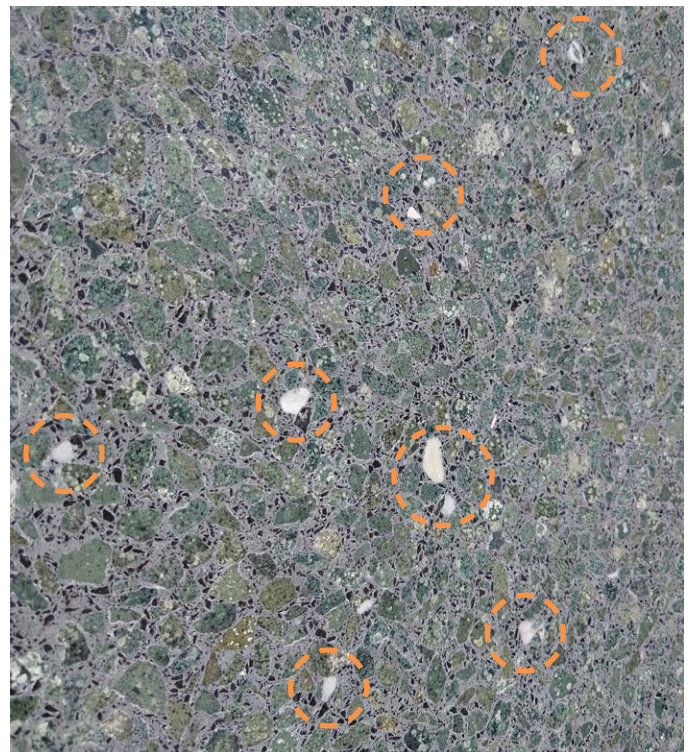
Lanark Sands & Low Carbon



All images - Stoke Goods Yard

Techrete Precedent

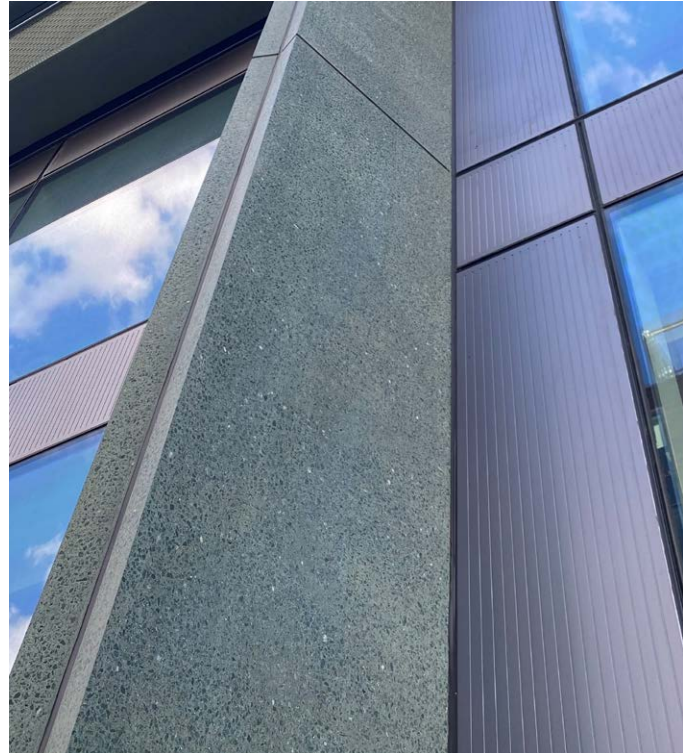
Polished green precast



All images - 4 Angel Square

Techrete Precedent

Polished green precast



All images - 9a First Street

MCC Planning Comments - Windows

Received 21st May 2026;

- The window frames, cills and decorative panels to the upper floor windows should be ppc instead of anodised;
-

Key

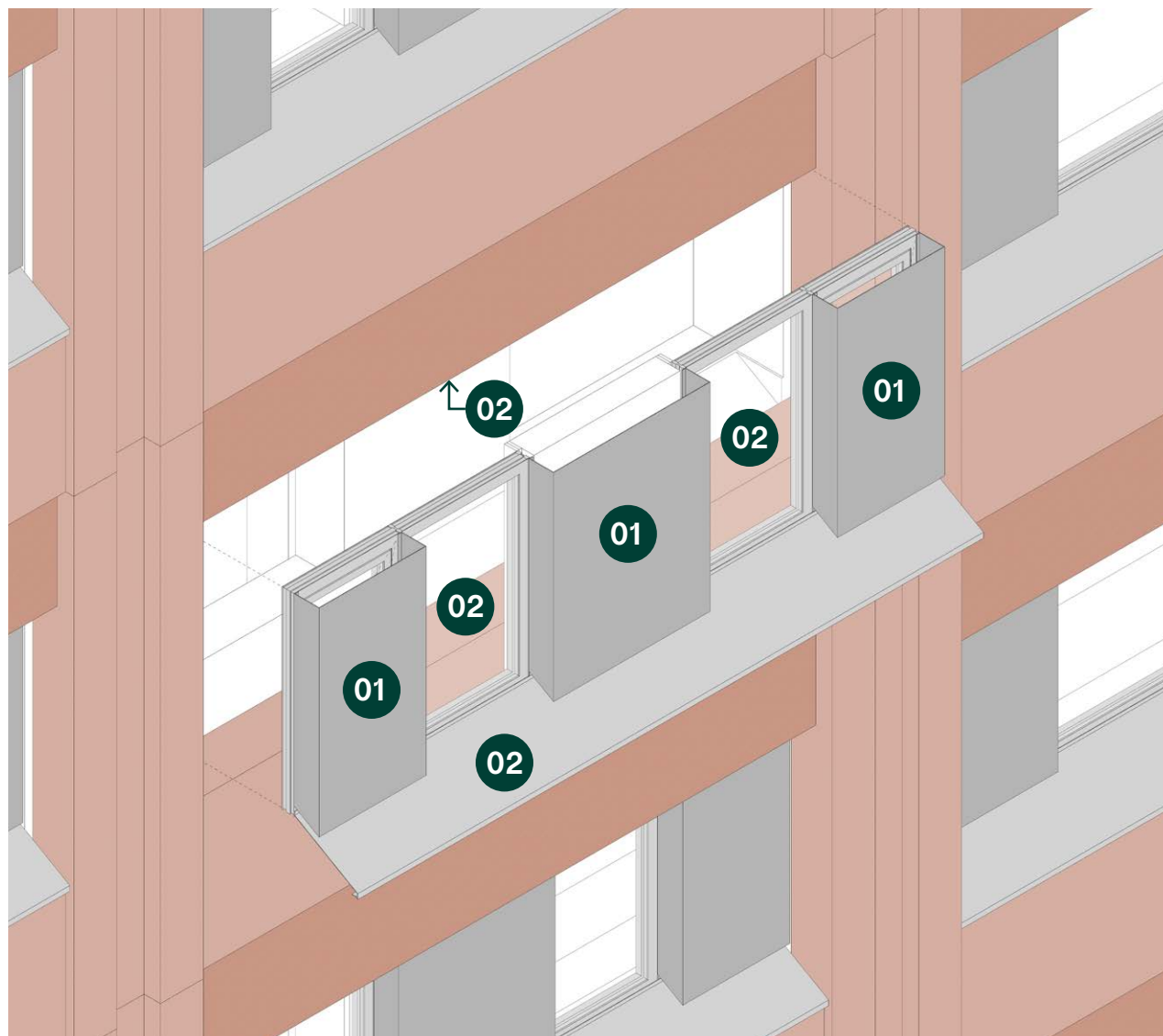
01 - Anodised

(Perforate panel and embossed panel)

- Keeps panels as family for production
- Mitigates potential weathering concerns from MCC
- Omits additional material of background panel

02 - Anodic PPC

(Window frames, cill & ventilation head)



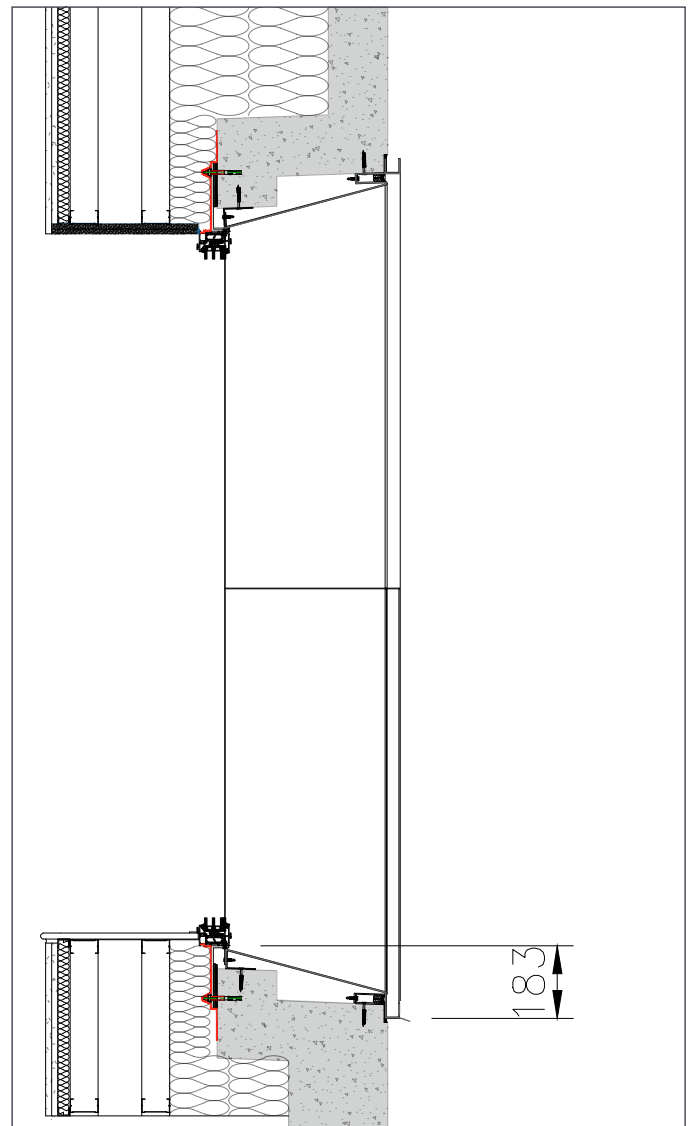
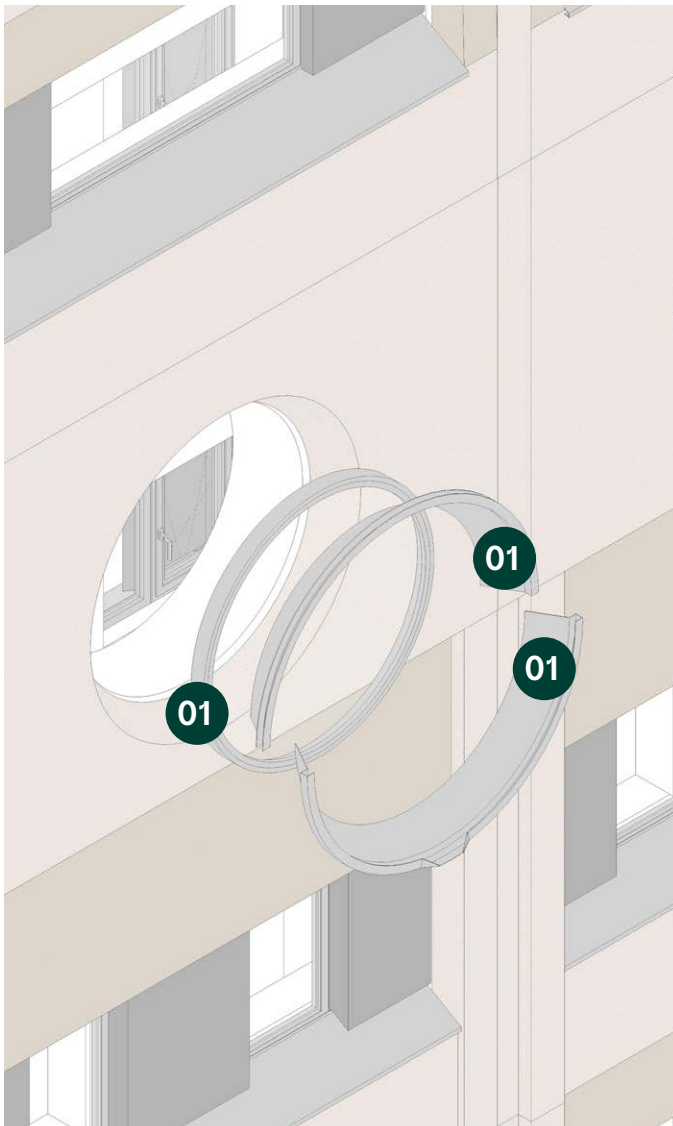
MCC Planning Comments - Circular Window

Received 21st May 2026;

- We will need to see the drip detail to the circular windows to prevent staining of the concrete

Key

01 - Anodised
(Frame & Cills)



Acorn Section



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