TAYLOR McCARNEY ARCHITECTS

Design Statement
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Design Statement

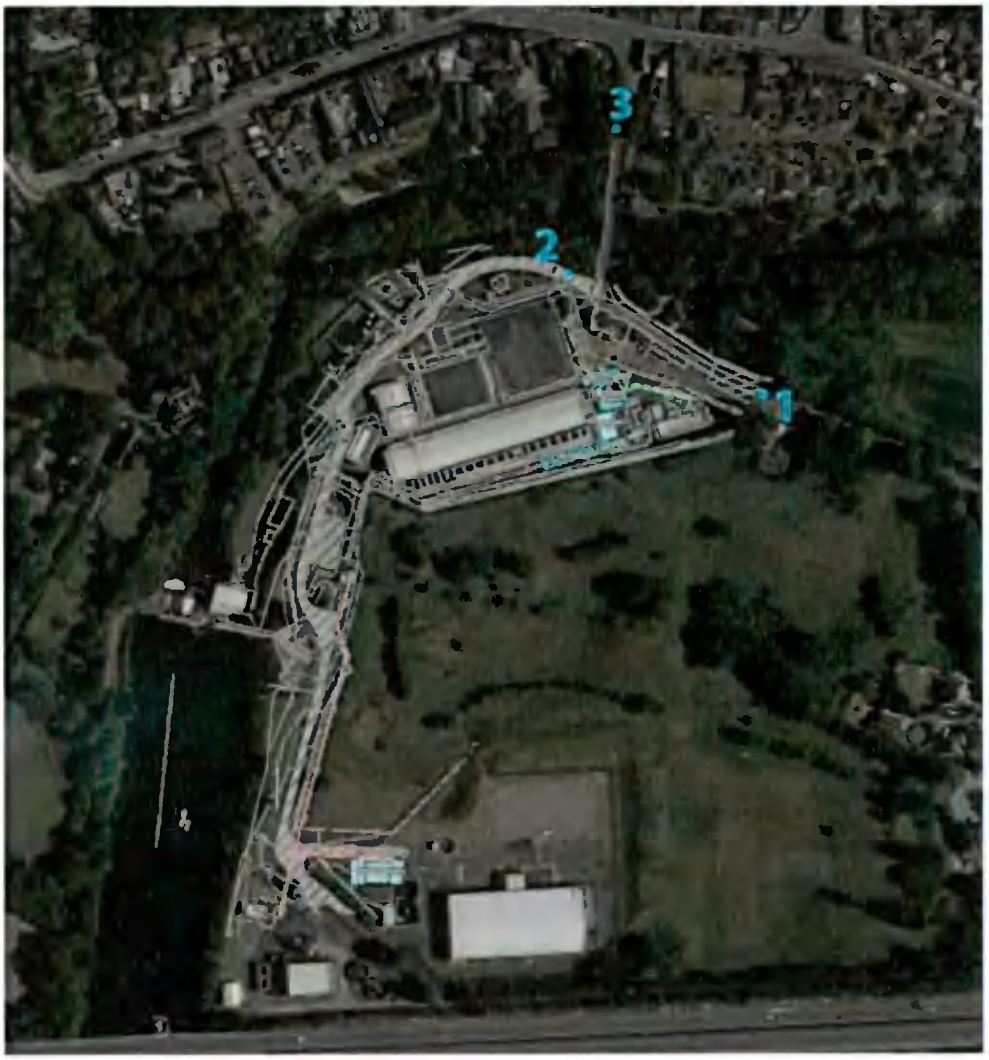
This report summarises the options proposed and the design approach to screening the two lime silos and their integration into the overall landscape. The design process recognises the range and scale of structures to be integrated into the site from smaller scale community focused infrastructure, The Salmon Leap Pub, to larger scale factory units of a long-established industrial site.

The intention of the report is to compare options, selecting the option with least effect or for which the most significant mitigation is possible. Potential modification was considered of the alignment, layout, design etc. of all options to achieve best environmental fit. The design of the silos is a bespoke solution and is necessary to meet the operational requirements and required timelines. Modification to the mass and scale of the structure has not been possible due to the operational requirements of the silos. Refer to the LVIA and Planning Report.

Architectural screening has been proposed as the key mitigation measure employed to ensure reduction in visibility of the lime silos from any nearby sensitive receptors – residential, amenity or cultural. Architectural screens are standard construction practice for avoiding and minimising landscape and visual effects. The selection of materials will minimise visual contrasts arising from colour, scale or configuration. The screening will minimise effect on local views of the site and the selection of suitable materials and finishes for the main screen will further minimise visibility. Other factors were also considered such as artificial lighting.

Viewpoints

Photomontages were prepared from three viewpoints, highlighted below, facing towards the proposed structures.



Consideration of Alternatives

The purpose of alternatives analysis is principally to examine the different possibilities and to avoid, minimise, or mitigate potential significant environmental effects of the proposed structures. This provided an indication of the main reasons for the choosing the options below for further consideration. Reasonable alternatives, which are relevant to the project and its specific characteristics, were considered in depth.

Examples of reasonable alternatives considered were painting the structures, cladding to the exterior of the existing buildings and the structures considered as a standalone landmark. All were discounted, the structures were still quite visible, and the treatments did not provide a sufficient mitigation measure.

"Green Screens" similar to the image below were considered but were discounted as it is inappropriate within a facility producing food-grade drinking water. There is a high risk of attraction of birds, insects and potentially other vermin on to the site which could result in contamination of some or all of the processes at the Water Treatment Plant.

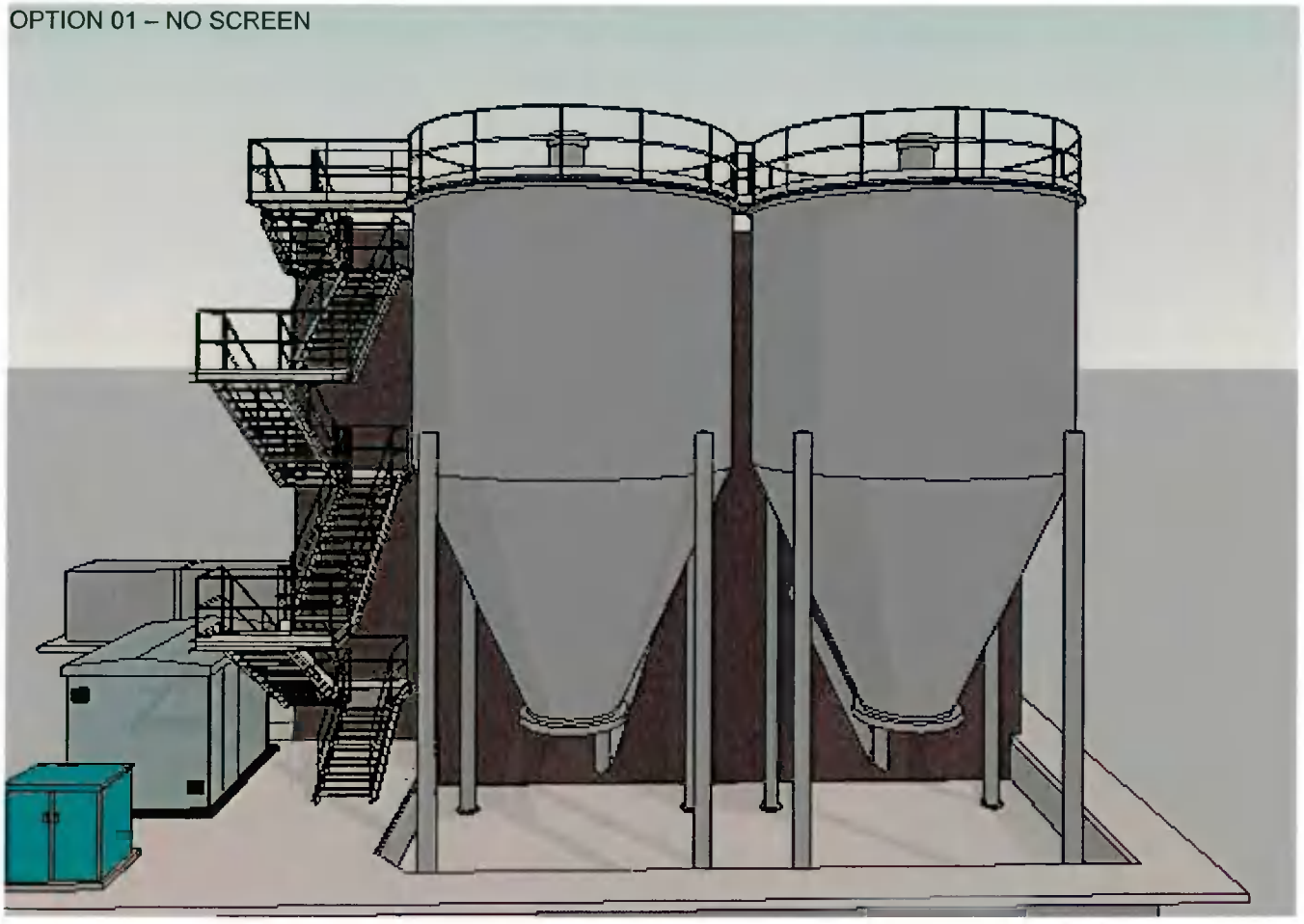
Site restrictions ruled out the use of planting for screening.

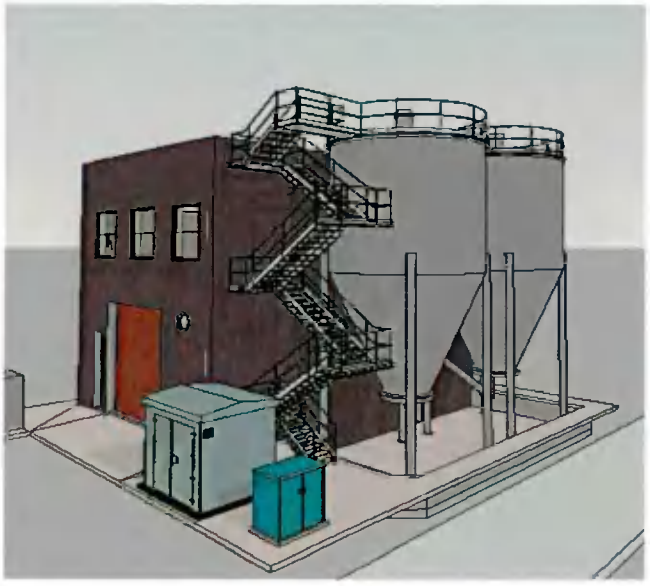
Option 01 – No Screening

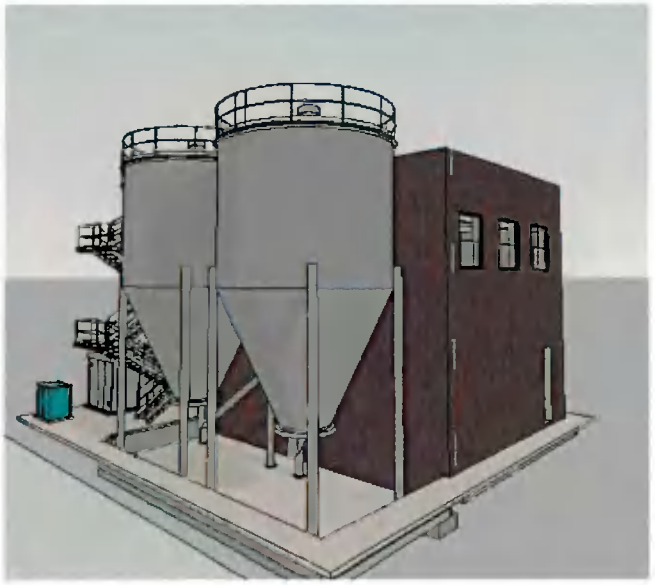
Option 01 demonstrates the effect of providing no mitigating measures and should be used in comparison to the mitigating measures proposed in Option 02 & 03. The lime silos are clearly visible and will be easily identifiable from the three identified viewpoints.

See generated 3D images below.

OPTION 01 – NO SCREEN







Viewpoint 01 – Option 01

Viewpoint 02 – Option 01

Viewpoint 03 – Option 01

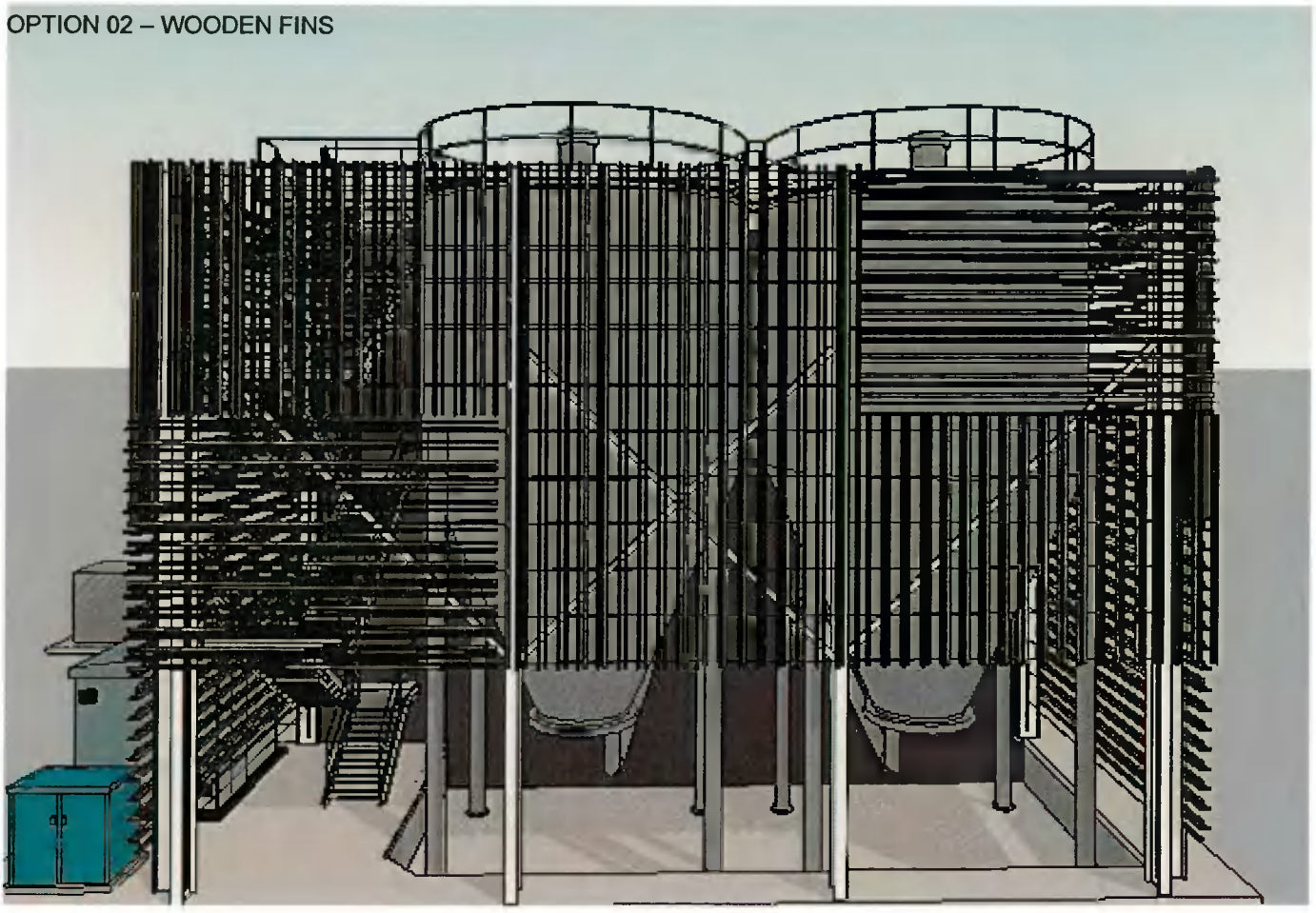
Option 02 – Wooden Fin Screening

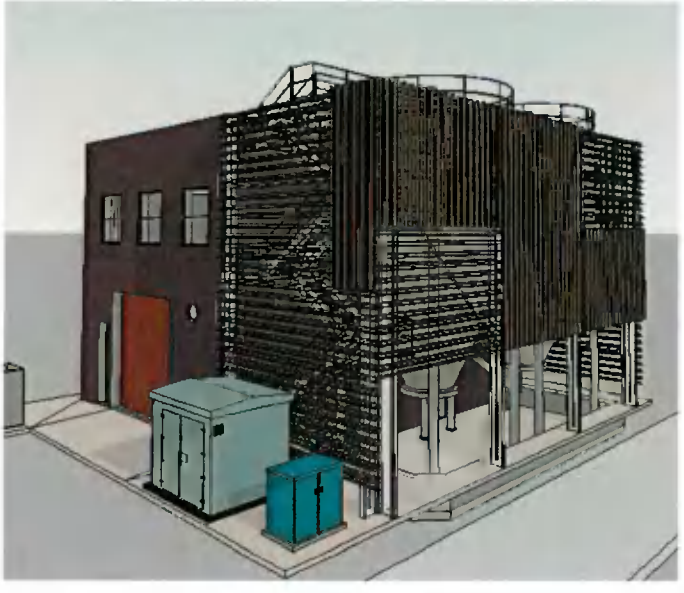
Option 02 demonstrates the effect of providing fins constructed from aluminium or treated wood to the perimeter of the lime silos. A random geometric pattern has been used to further disguise the structure. The fins and associated structures will be constructed with low-sheen and non-reflective surface materials to reduce potential for glare. The objective of these treatments is to reduce the appearance of the lime silos by blending better with the surroundings. Powder coated aluminium with a matt grey roughened finish is proposed for the support structure. Accoya wood will be used for the construction of the screen blades. Accoya offers the most robust, stable and durable option for manufacturing the louvre blade profiles. Only fully certified timber, in FSC, PEFC, SFI or CSA, depending on country of origin will be used to ensure a sustainable option. Accoya sustainable wood offers an alternative to slow growing and often unsustainable hardwoods, as well as many other carbon intensive and depleting materials such as plastics and concrete. When using wood, the main drawbacks are the inconsistency of its appearance over time and the need for constant maintenance and eventual replacement.

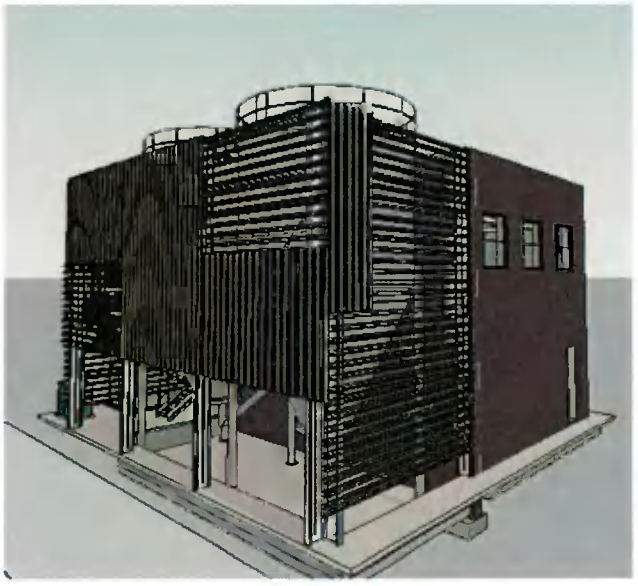
The lime silos are only partially visible and blend in with adjoining buildings when viewed from the three identified viewpoints.

See generated 3D concept images below.

OPTION 02 – WOODEN FINS







Viewpoint 01 – Option 02

Viewpoint 02 – Option 02

Viewpoint 03 – Option 02

Option 03 – Architectural Perforated Screening

Option 03 demonstrates the effect of providing a perforated metal screen to the perimeter of the lime silos. A perforated metal screen has been used rather than a solid structure. The perforations will soften the appearance of the lime silos rather than create another solid structure on the site. The screen and associated structures will be constructed with low-sheen and non-reflective surface materials to reduce potential for glare. The objective of these treatments is to reduce the appearance of the lime silos by blending better with the surroundings. Colour and aesthetics will be appropriate for the location. Material finishes will be matt and roughened. The design and size of the perforations can be agreed with the Planning Authority through sampling. The finishes to the screens will also be proposed in the same manner.

Benchmark: Graepel, or similar approved, 2 to 4mm aluminium perforated architectural cladding. Hole size, shape and percentage of open area to be agreed with the Planning Authority through sampling.
Beneficial Features of the Perforated Architectural Screening

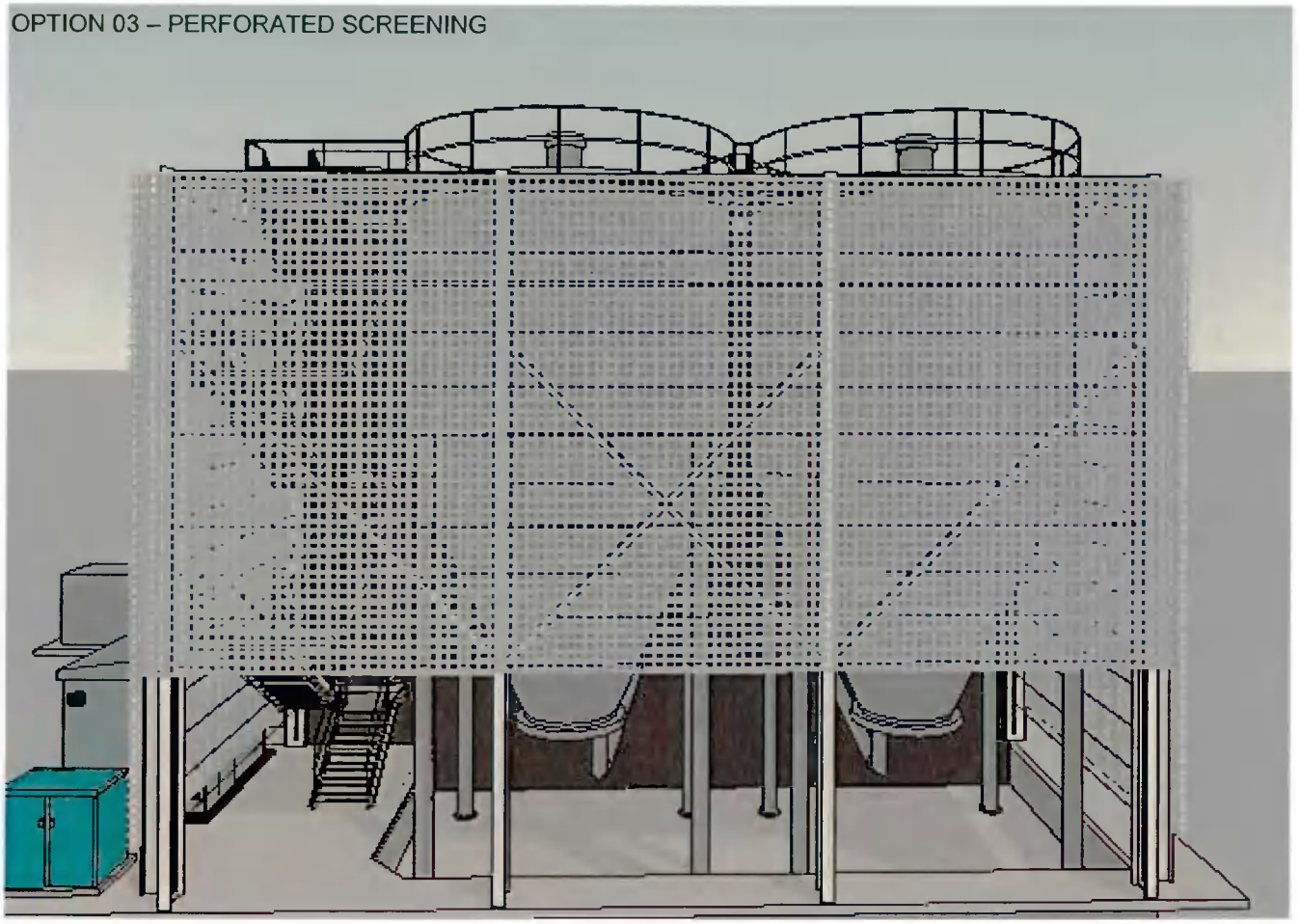
- Unique aesthetic appearance
- Can be manufactured in various patterns and in various perforated shapes e.g. square and round to ensure maximum effect
- Cost effective
- Low Maintenance

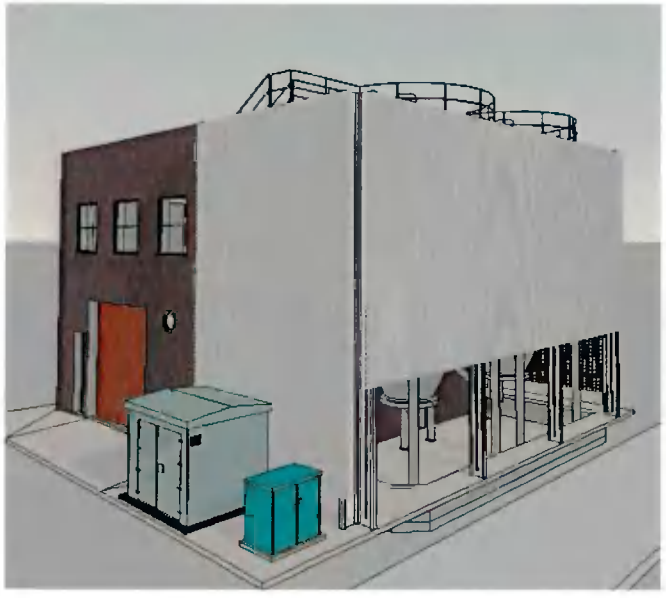
Galvanised steel support structure, which after weathering, will result in a matt grey roughened finish is proposed.

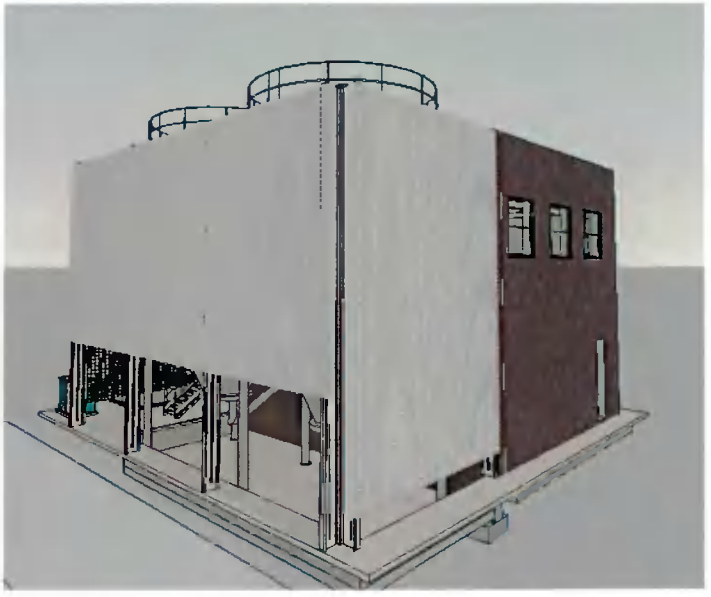
When Option 03 is compared with Option 02, (refer to photomontages), the perforated screening of Option 03 is a far superior mitigation measure. The lime silos are much less visible and blend in with adjoining buildings when viewed from the three identified viewpoints. This is considered to be the optimum visual effect mitigating measure and the preferred solution. In Option 02 the structures are still quite visible.

See generated 3D concept images below

OPTION 03 – PERFORATED SCREENING





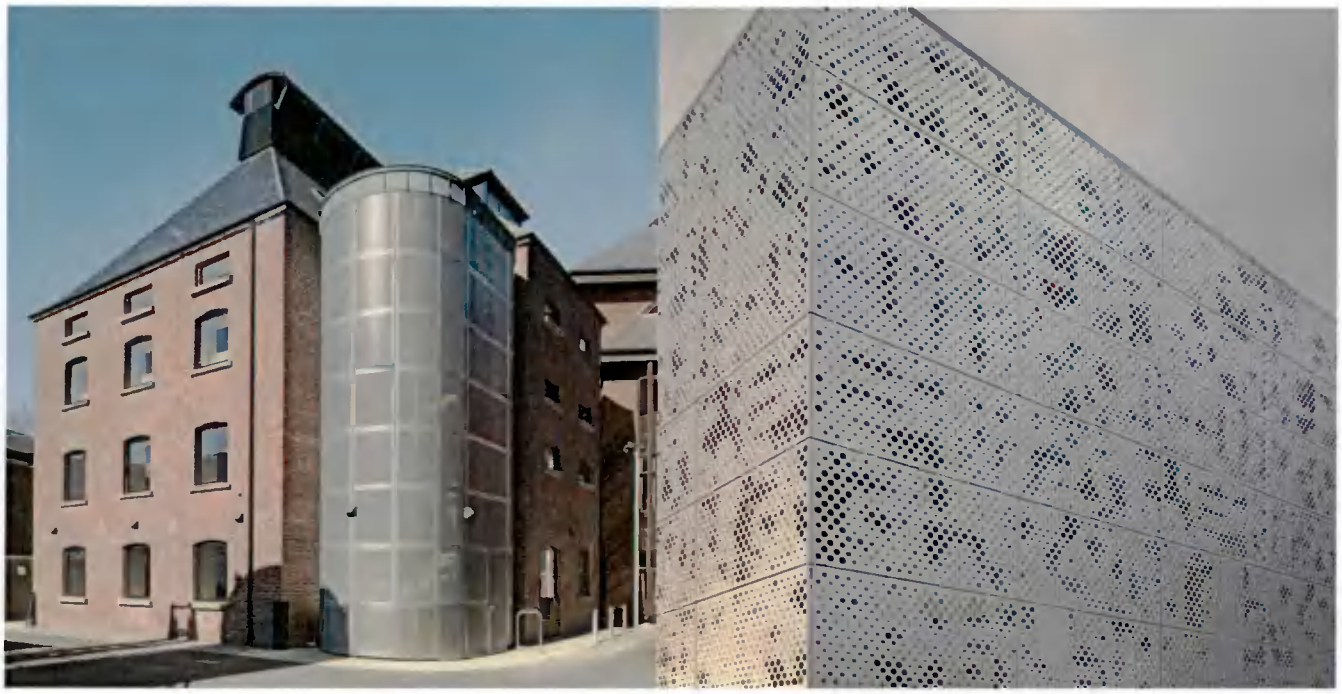


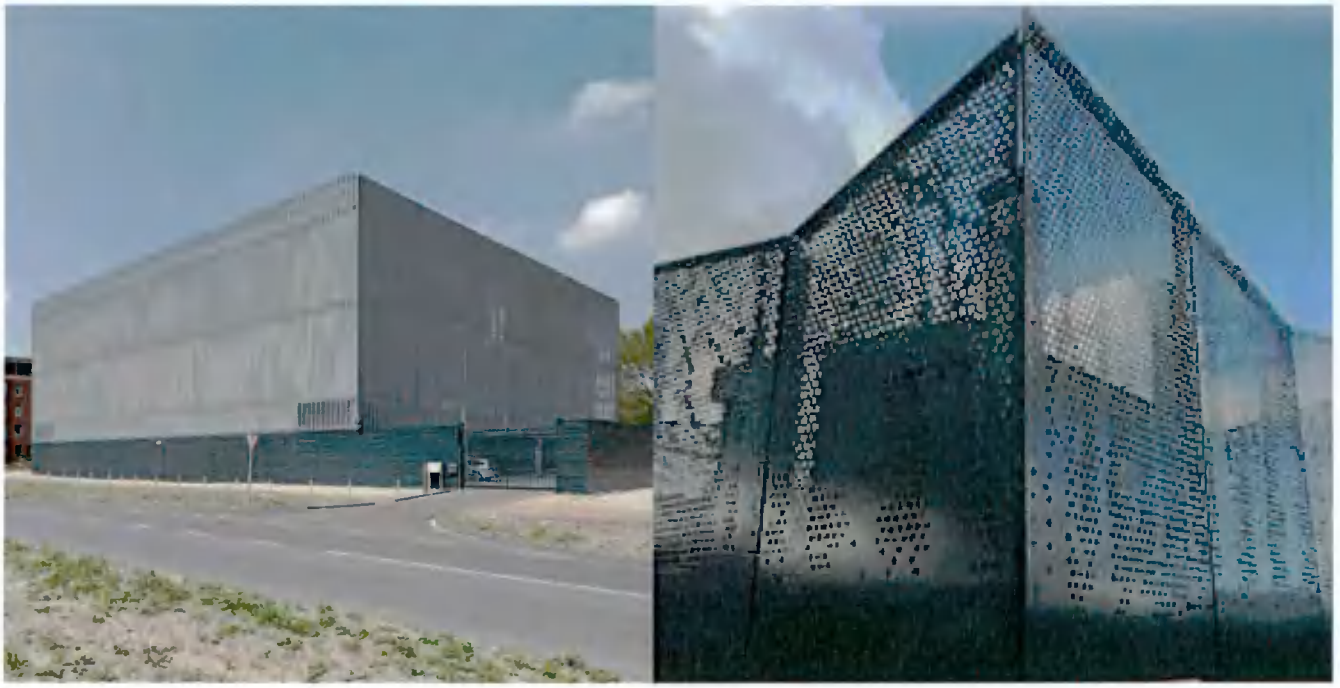
Viewpoint 01 – Option 03

Viewpoint 02 – Option 03

Viewpoint 03 – Option 03

Examples of Perforated Architectural Screens





Lighting

The intention is not to light the structure and artificial outdoor lighting will be limited to safety and security requirements. Lighting will provide minimum affect to the surrounding environment utilising downcast, cut-off type fixtures that are shielded and the light will only be directed towards objects requiring illumination. Lights will be installed at the lowest allowable height and cast low-angle illumination while minimising incidental light spill onto adjacent properties, open spaces, or backscatter into the night-time sky. The lowest allowable wattage will be used for all lit areas and the minimum number of lights required to light an area will be used. Light fixtures will have non-glare finishes that will not cause reflective daytime glare. All lighting will be designed to maximise energy efficiency, safety and security, and to be aesthetically pleasing.

Safety Railings

The safety railings to the top of the structures are essential. The railings are so slight they will not be noticeable when viewed from the public road. There is no need to extend the screen to the height of the railings.

Conclusion

It is considered that the effects on the wider landscape character are likely to be neutral and that the effects on the local landscape character are likely to be minor. As can be seen from the image below, as The Salmon Leap Pub is approached, the silos disappear and do not have a negative effect on the character of the area.

We recommend that the project proceed on the basis of Option 03 above.