

Ngāi Tahu Developments ACC Ōtepoti Project



Project Description

The design of the new Ngāi Tahu property building Ōtepoti was created within a collaborative co-design process undertaken by the Aukaha-Mana ahurea team-representing mana whenua and architects Warren and Mahoney.

Kāi tahu scholar Megan Potiki initiated the response with a rich cultural narrative and impeccable research on the site. Kāi tahu artist and Mana ahurea designer Kirsten Parkinson then led the design team response with a strong creative vision and deep understanding of Kāi tahu visual culture.

Months of co-design activated a design rich in ancient story, grounded with respect for the natural world and representative of a heritage building for the future of Ōtepoti-Dunedin.



Location

15 – 15C Dowling St, Dunedin Central, Dunedin 9016



Client

Ngāi Tahu Property and ACC – Laurie Corbett

Design Team

Architect: Warren and Mahoney

Structure: Engco

Mech/Elec/Hyd/Fire: Cosgroves



Poti Facade

The mana whenua design response to the ACC Build was to consider the historic footprint of the site, the whakapapa.

The building site was originally part of the Ōtākou foreshore named Ōtepoti. A place where Mauri (life force) was once in-tact where our people would arrive from paddling up the river of Ōtākou and haul their waka ashore before moving on to inland trails to gather food and so forth.

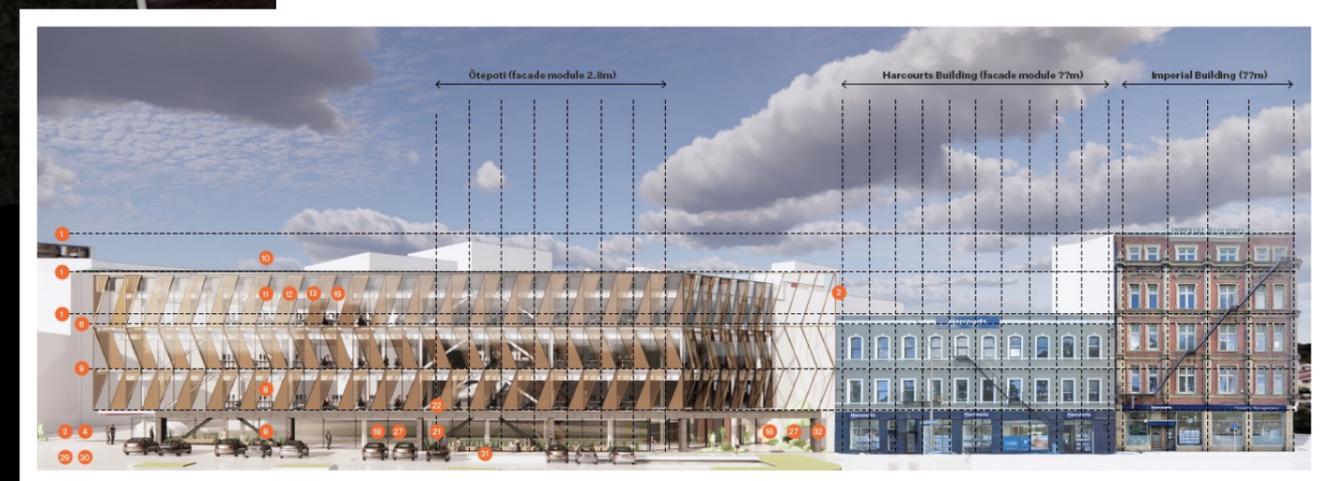
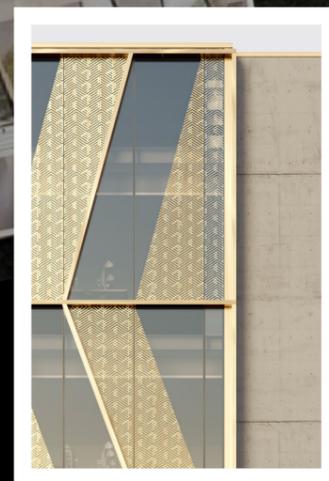
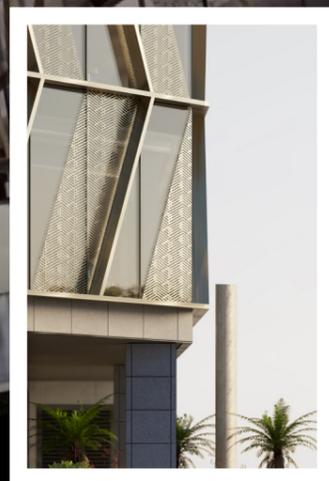
The placename Ōtepoti has been adopted as the te reo Māori name for the city of Dunedin. However, the meaning had been misunderstood by way of transliteration as “the place of boats”.

Ōtepoti is actually an ancient name given to the site for the distinctive corner shape of the harbour at the original site. It reflected the shape of the Poti-a flax basket used for food gathering and transport.

“Our mana whenua design response for this building is grounded in the renewal of the story of the placename-Ōtepoti.” Megan Potiki

The overall appearance of the upper facade is of the poti, which is achieved with a steel fin structure and a weave inspired glass frit which encases the building.

There is a link to the concept of the building being a noa (safe and risk-free) environment which will house several tapu kaupapa (serious and sacred subjects) such as dealing with accidents. Colour, texture and finish of exterior facade carry the memory of the dried harakeke poti.



Images courtesy of Ngāi Tahu Property and Warren & Mahoney.

// The building will be a market-leading and highly energy efficient working environment. This development will incorporate sustainability in line with Ngāi Tahu iwi values. //

Ngāi Tahu Property, General Manager, Blair Forgie.

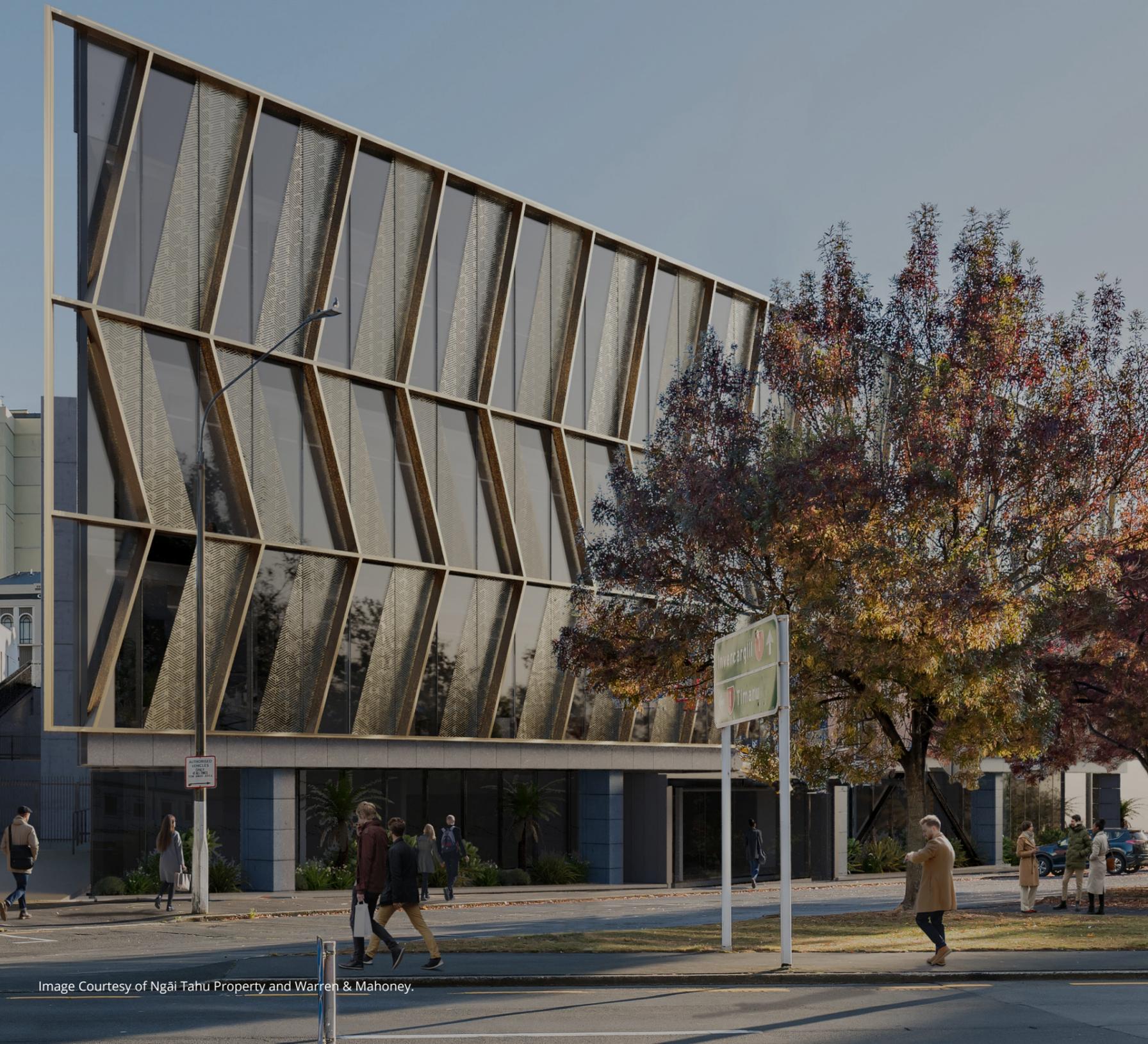


Image Courtesy of Ngāi Tahu Property and Warren & Mahoney.

Ground Floor

Upholding the façade, the ground level incorporates stepped back glass frontage, sunken ground levels, planting, columns and hard landscaping elements. Here the concept is to restore mauri: An awareness of our natural world will be felt at this level. This level elevates and supports the ephemeral poti. Utilising markers of the natural environment-local materials like stone and timber. Planting will include raranga and Rongoa species of cultural significance. Some of the original and enduring inhabitants of the harbour will be invoked through artwork and design planned, as we remember the mauri of the lost Ōtākou foreshore.

Staircase design

The focus here is on tupuānuku, tāne and manu. The staircase reaches through the building as a connector for all using the space. It carries a generative, fertile energy into the heart of the build.

Interiors

Shared cultural values of Ngāi Tahu and ACC define the interior of the building. Ample filtered natural daylight, a central daylit atrium with a mass timber stair, and exposed natural materials enhance the mauri, the natural life force of the site, and the oraka, health and wellbeing of the building occupants.

Timber has been used where possible in the interior to reduce the embodied carbon of the building. Mass timber stairs, timber wall framing, skirtings, and handrails all help to reduce the overall embodied carbon of the building by 20% when compared to the BRANZ benchmark for commercial buildings. Materials with high recycled content and good sustainable credentials have also been prioritised throughout.

Sculptures

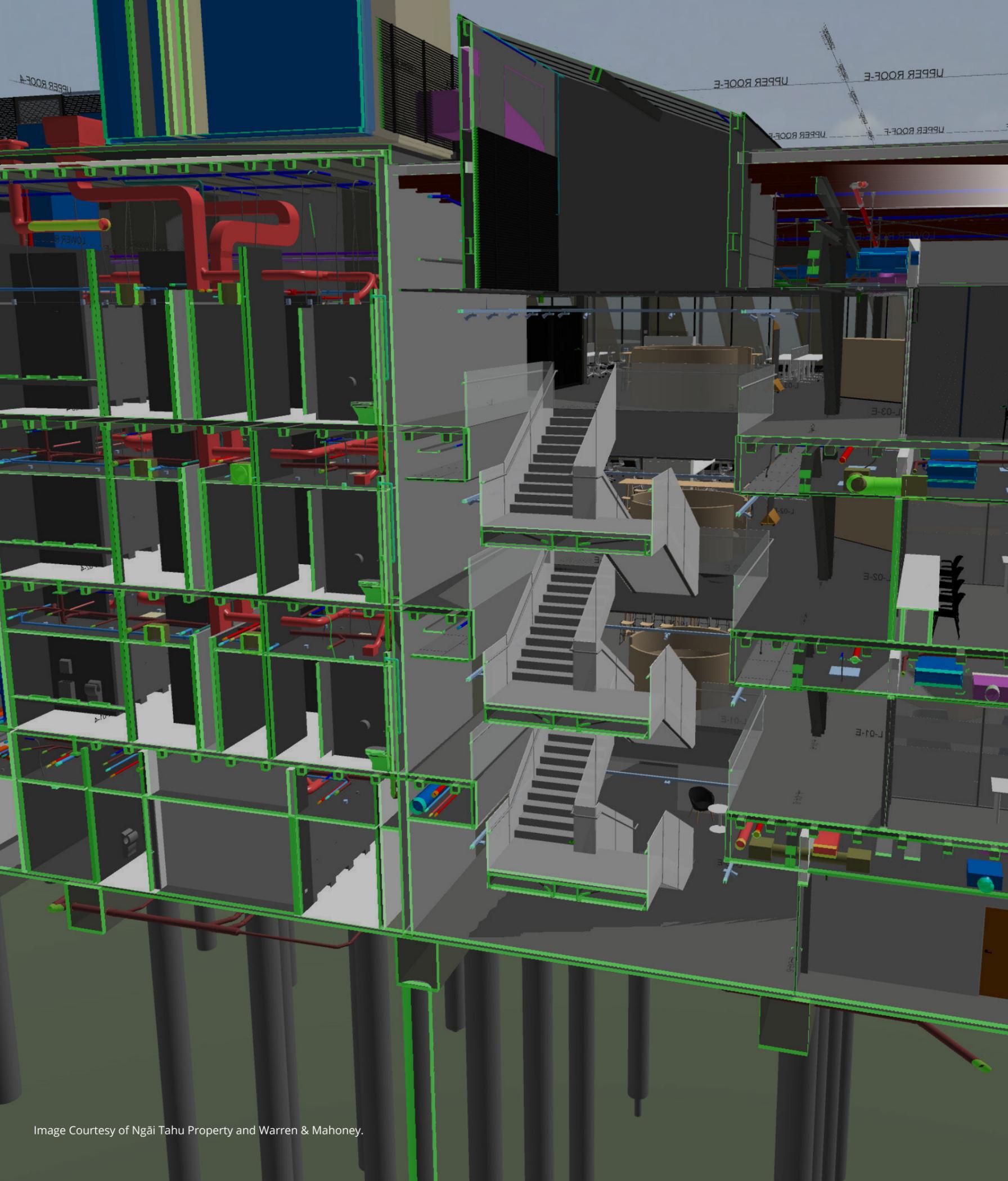
Further reference to weaving, ropes and handles are invoked in sculptural works planned for each entrance way.

These sculptural works, by mana whenua artist Ephraim Russell, tie the narrative theme together. In māori culture the final and finishing touches of any weaving project are of utmost importance. The ties that bind are considered crucial and important tasks should not be undertaken till the lashings and fixings have been fully approved.

It is fitting then that the final touches to this unprecedented building at the heart of Ōtepoti are inspired by the whakapapa of weaving. Ephraim presents us with works that communicate traditional mātauraka in a style that fits with the contemporary nature of the building.

The main large sculpture will stand at 5 meters with the smaller pieces ranging from 3m to 1.8m at the other entry points. By embedding these works, made from natural materials, in the whenua, holding whakapapa and casting future aspirations, the project finds an integrated place of completion.

Haumi e, hui e, tiaiki e! Lash it, tie it, it is done!



Project BIM Engagement

While the models were not a contractual deliverable from the design team, they were used extensively through the design process for communication, collaboration and coordination. Sheets were produced from the models and Warren and Mahoney were engaged as BIM Managers.

A common data environment, Autodesk BIM360 was used, along with Revizto. Models were shared between consultants on a weekly basis with geometry updated to Revizto at the same frequency.

Four model audits in total were carried out.

These audited:

- **BIM Uses;**
- **Common Data Environment Use;**
- **General Modelling;**
- **Model Health;**
- **Model Parameters;**
- **Project Coordinates;**
- **Model Naming;**
- **Model Warnings;**
- **Model Worksets; and**
- **Model Phases.**

Along with manual walkthroughs of the federated model to identify and assign common areas and themes of coordination to be addressed by the team.

Throughout the project Revizto and the model became a powerful communication and collaboration tool, helping drive conversations of project development, coordination and Health and Safety.

It was used in most meetings allowing the design team, project manager and client to quickly understand issues and respond appropriately.

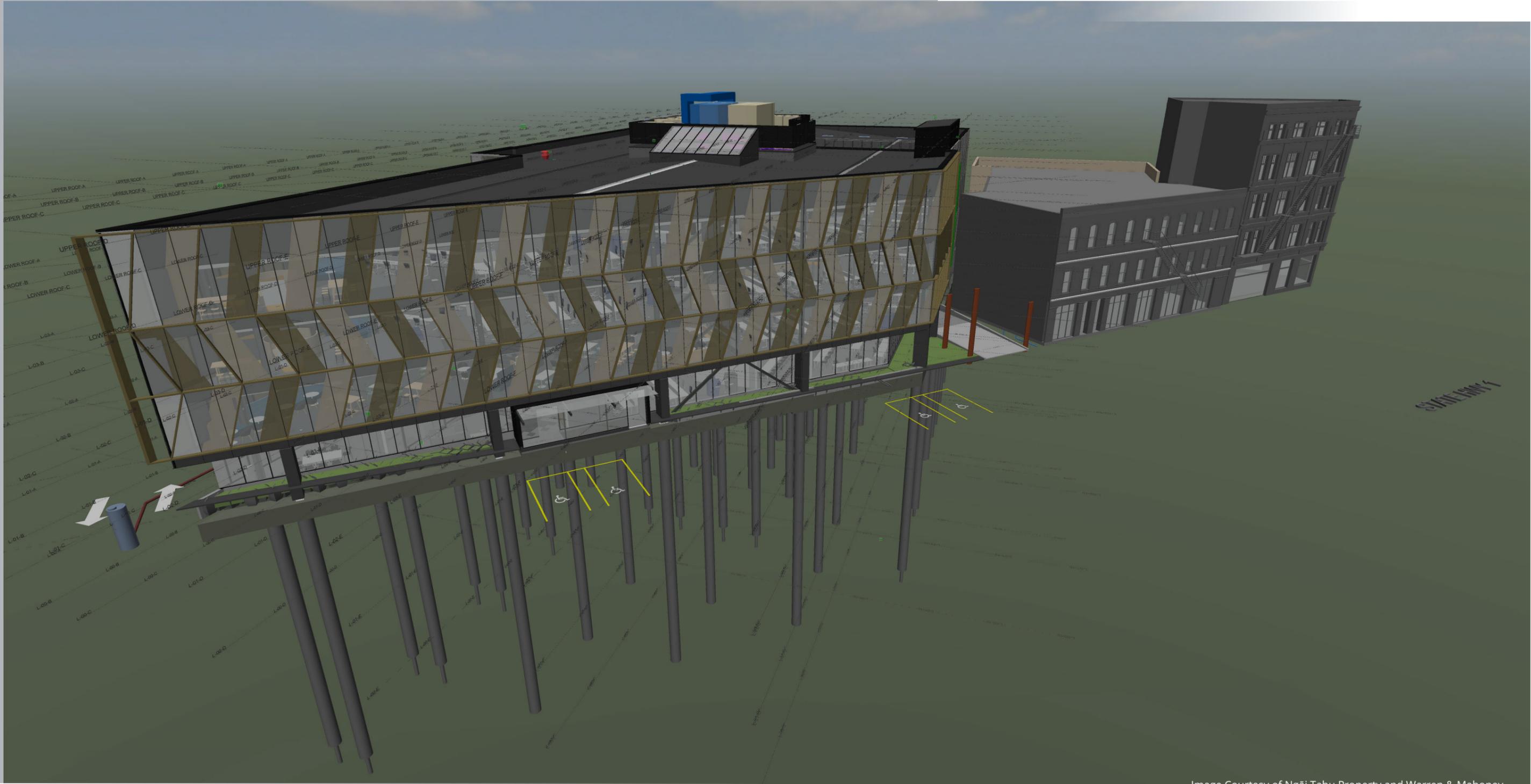


Image Courtesy of Ngāi Tahu Property and Warren & Mahoney.

Revit model view showing facade from State Highway 1 - A model as a single source of truth allows consideration of facade, internal and external services as well as subterranean structure and services in a single conversation.

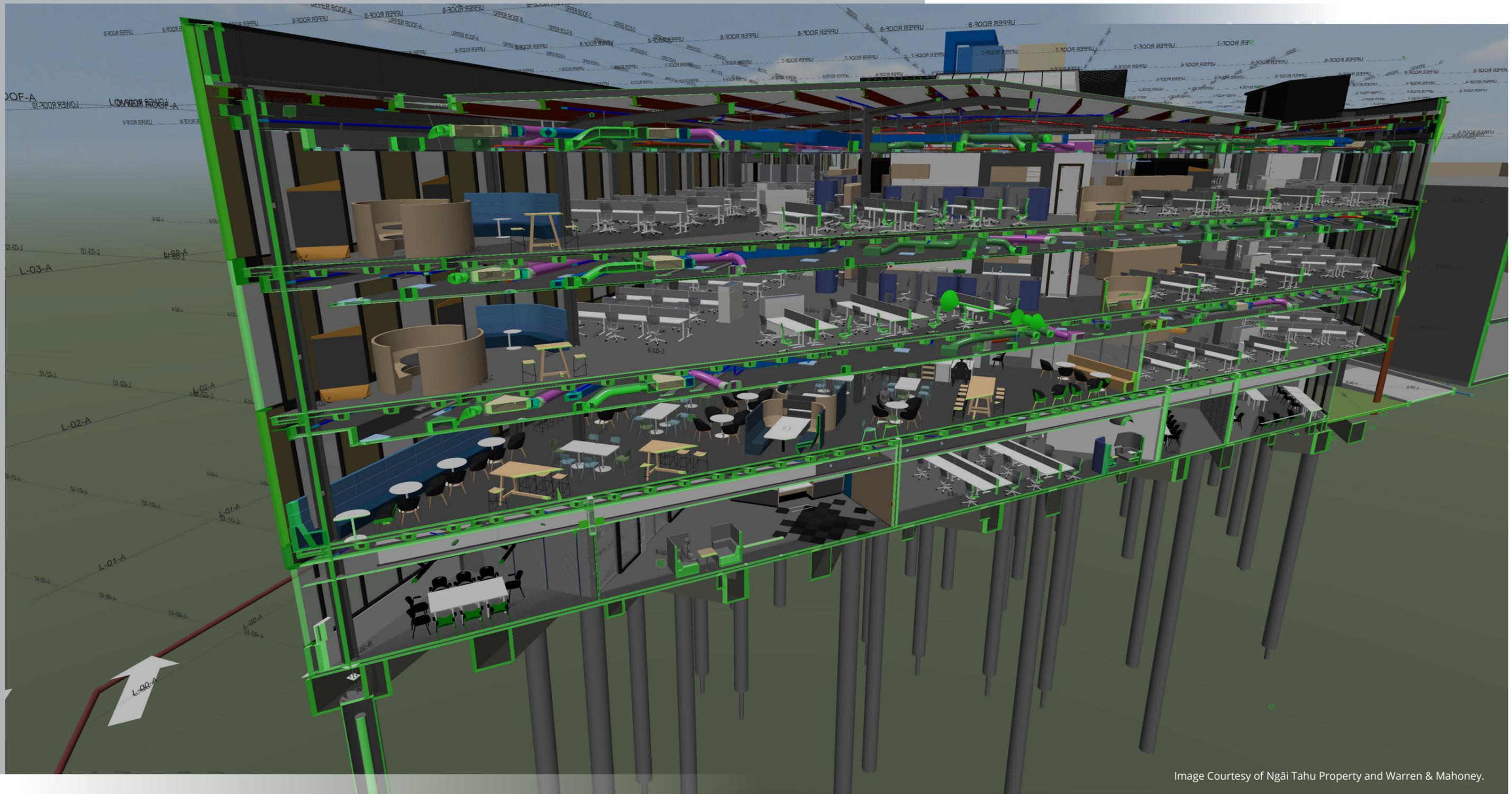


Image Courtesy of Ngāi Tahu Property and Warren & Mahoney.

Revit model view showing section through open plan workspace and in ceiling services allowing visualisation and understanding of coordinated and completed design.

ARCHITECT'S SAFE DESIGN REPORT

1.00 CLIENT ADVISED RISKS / HAZARDS AND SAFETY REQUIREMENTS

| RISK NO | AUTHOR | RISK IDENTIFICATION OR ISSUE | ACTUAL RISK | LOCATION | LIKELIHOOD | CONSEQUENCE | RISK SCORE | RISK MITIGATION STRATEGY | ACTION/RESIDUAL RISK | RESPONSIBILITY | STATUS |
|--|--------|--|---|-----------------------------------|------------|-------------|------------|---|---|----------------|---------|
| <p>NOTE 1. ONLY HAZARDS WHICH ARE NOT COVERED BY THE BUILDING CODE, STANDARDS COMPLIANCE AND ARE SPECIFIC TO THE DESIGN ARE LISTED 2. RISK SCORE MEASURING LIKELIHOOD X CONSEQUENCE = L: Low, M: Moderate, H: High, E: Extreme (Refer To Hazard Evaluation Process Step 2) 3. RESPONSIBILITY = RESPONSIBILITY FOR IMPLEMENTATION OF THE MITIGATION STRATEGY, OR MANAGING THE RESIDUAL RISK</p> | | | | | | | | | | | |
| The following items have been advised by the client as a part of the project briefing and design process | | | | | | | | | | | |
| 1.01 | JJ | Contaminated Land | Risk of exposure to contaminants | In ground, across the site. | H | E | | Initial testing works, removal by specialist contractors experienced in such work. Extent of excavation to be minimised by design were practical. | Testing oning - site remediation plan ready soon. | NTP | ongoing |
| 1.02 | JJ | Adjoining Properties | Potentially weak existing structures, risk of damage by or during the works | Surrounding the site | M | H | | Engineer to conduct desktop assessment of existing structures. Building to maintain adequate separation minimise risk of effects. | Piling contractors to provide onging vibration monitoring during construction. Detailed plan to be developed once contractor appointed. NTP + Engco to arrange inspection and assessment of Harcourts Building. | | ongoing |
| 1.03 | JJ | Existing Structures (retaining walls) | Risk of falling or failure during construction. | Various locations within the site | M | H | | Majority of existing retaining walls are being redesigned and re-built. Building set back from existing retaining wall to Harcourts due to lack of knowledge on wall. | | | ongoing |
| 1.04 | JJ | City Centre Location | Pedestrian and vehicle interactions with the site and works. | Surrounding the site | M | H | | Adequate site fencing, review site management plan. Monitor appointed contractor. | | | ongoing |
| 1.05 | JJ | Existing ROW (access to be maintained) | Pedestrian and vehicle interactions with the site and works. | Robson Alley | H | M | | Adequate site fencing, review site management plan. Monitor appointed contractor. | | | ongoing |

Safety by Design Process

Safety in Design (SiD) reviews were carried out in Preliminary, Developed and Detailed Design. These were undertaken by each consultant individually, then brought together in a workshop into a single project safety in design report.

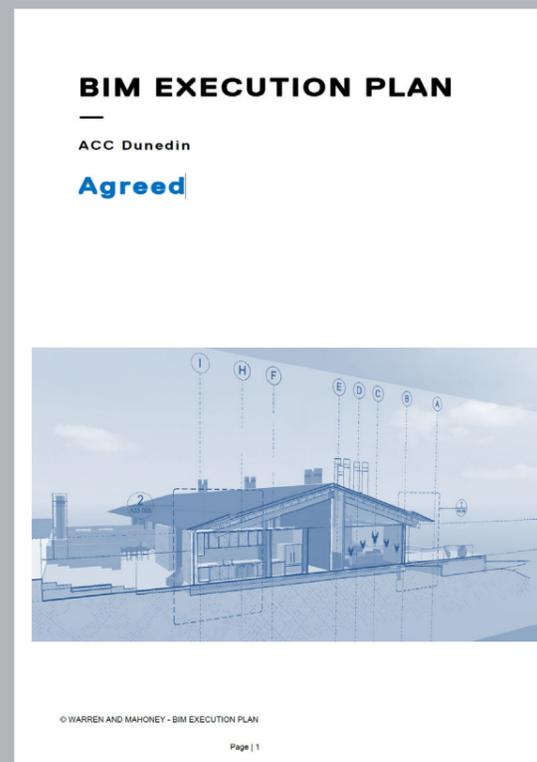
The SiD report considers:

- Client advised risks;
- Site and Existing risks;
- Risks in Operation;
- Cleaning and Maintenance; and
- Risks in Construction & Demolition.

It is an ongoing practice that endeavours to capture the safe design issues that can be identified or anticipated at each relevant stage of the project. It is never a final listing of safety issues, but an ongoing process which supports project safety as a whole-of -project expectation.

The SiD report communicates along side the client, the design teams understanding of SiD for the project and application of mitigations strategies through the various stages and communicates these to the contractor.

It is intended that the contractor will develop this report further, adding new risks and elimination or mitigation strategies as they arise, delivering a further developed report to the client and their operations team to continue this process through the building lifecycle.





Integrating Health and Safety with the power of visualisation

For more information on
the BIMSafe NZ Project,
please contact Paul Duggan.

Paul Duggan, General Manager, Canterbury Safety Charter
027 274 6474 | paulduggan@safetycharter.org.nz