



Waiheke
Marina

Information Pack

WAIHEKE MARINA
WAIHEKE ISLAND
NEW ZEALAND

PREPARED FOR THE
COMMERCIAL PROJECTS AWARDS
MARCH 2024

Location Plan

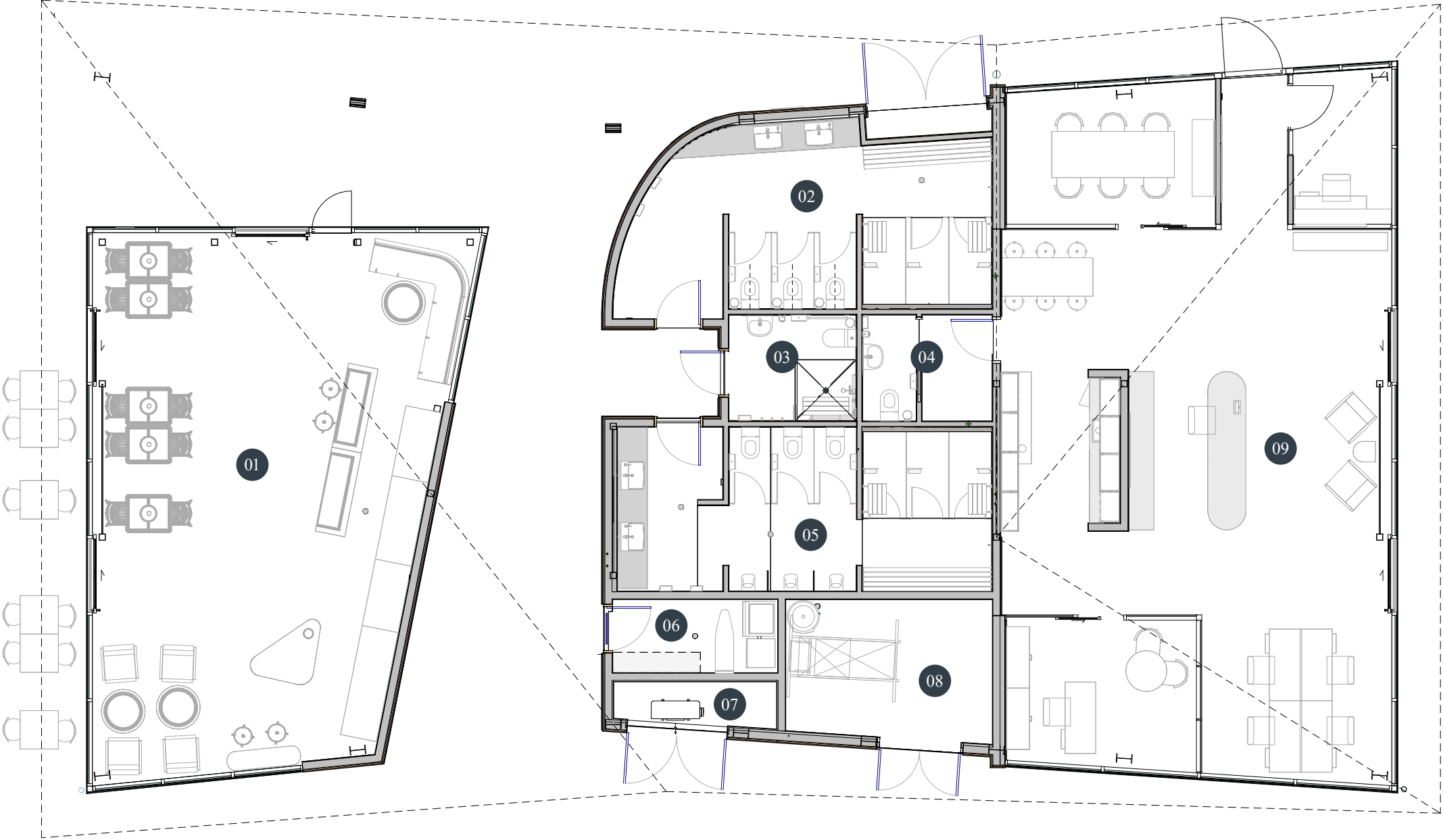
WAIHEKE MARINA

SCALE 1:2000 @ A3



Floor Plan

SCALE 1:100 @ A3



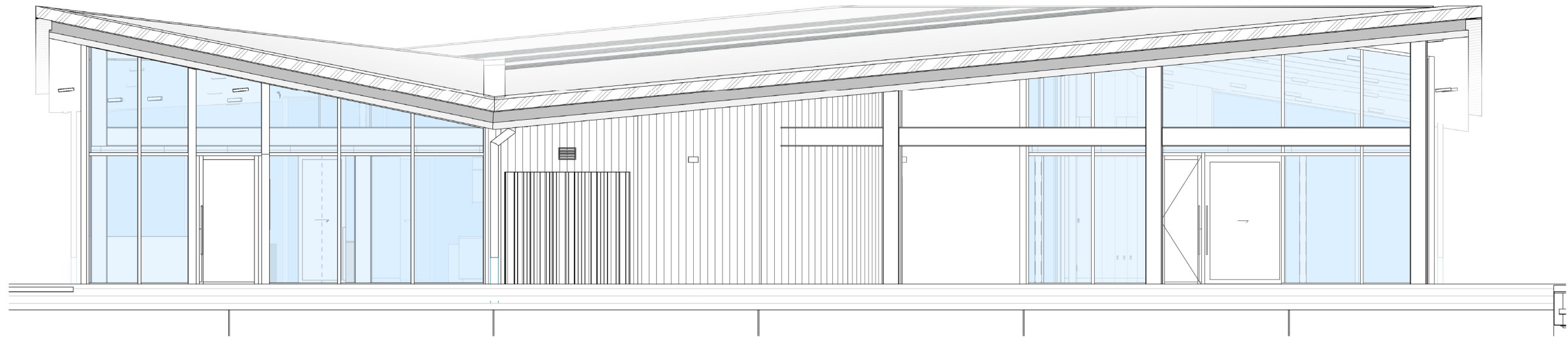
- | | | | | | |
|----|------------------|----|---------------|----|--------|
| 01 | COMMUNITY/CAFE | 05 | MALE WC | 09 | OFFICE |
| 02 | FEMALE WC | 06 | GUEST LAUNDRY | | |
| 03 | ACC WC | 07 | PLANT | | |
| 04 | STAFF WC/STORAGE | 08 | WORKSHOP | | |



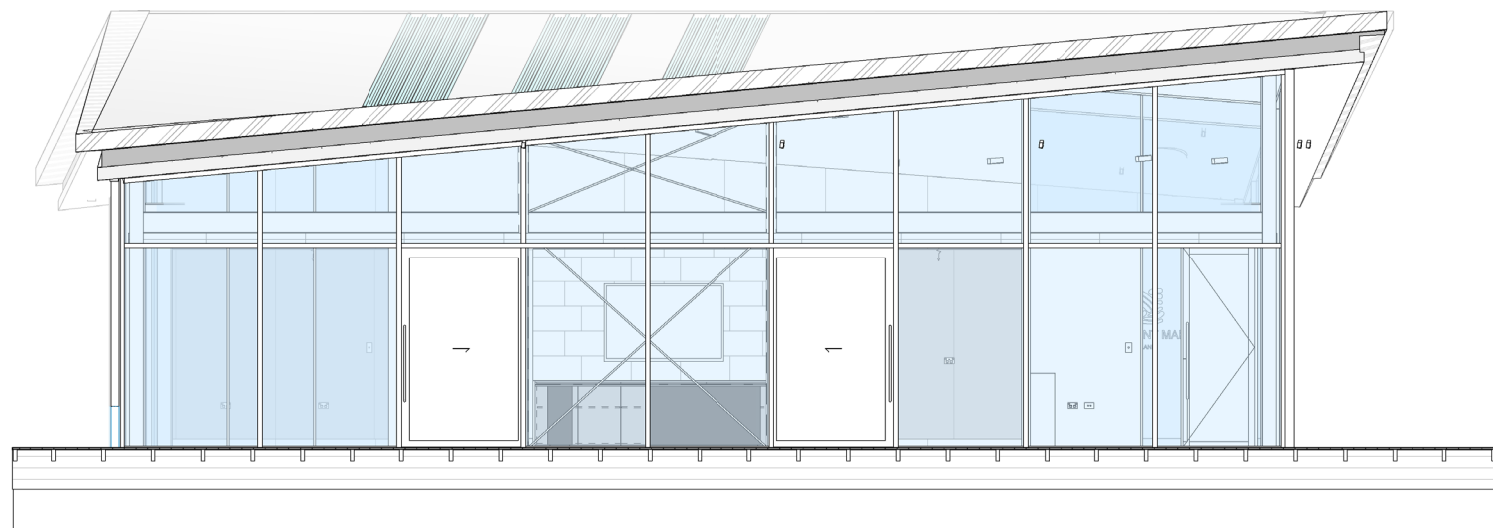
Elevations

WAIHEKE MARINA

SCALE 1:100 @ A3



NORTHERN ELEVATION



EASTERN ELEVATION



THE PROJECT

The building comprises a marina office, public and berth-holder restrooms with showers, a laundry facility, workshop, storage space, and a compact café/multi-use space opening up onto a public play-deck that steps down to the water's edge. The decking around the pavilion and the breezeway that link the main entry access to the rear of the site allows for futureproofing for a small ferry service to operate from and various hosting opportunities for 'boatie' events. It spans 269m² enclosed area with an additional 400m² of open deck space. Constructed on six concrete floating pontoons at the Whangarei harbourside wharf, then transported to Waiheke Island by tow barge.

KEY FEATURES

In collaboration with the client and preferred contractor the decision to construct the building remotely and relocate to site was deemed necessary to ensure safety of the contractors' and the 'construction site' due to protestors presence at the marina during the enabling/ infrastructural build. We discussed this early on with both local Councils to ensure a modular pathway for compliance could be agreed.

Design and constructing the building on floating pontoons posed challenges including material weight and structural distribution, health and safety/ logistics management, and adapting building techniques to changing tidal conditions. Trades adjusted to fluctuating building levels due to uneven load distribution.

Futureproofing for involvement of local artists and sculptors and local Iwi to re-engage and tell navigational stories. This can be seen in the hardwood inlays of the post and beam rigid portal (Waharoa) that ties the two volumes of the building together and signals the entrance to the breezeway that links visitors to the facilities on offer, including a potential future small ferry link.

SUSTAINABILITY

The floating mobile building can be easily relocation and redeployed without causing harm to nearby infrastructure or the environment. It was towed to site and coupled to the main infrastructural piles during a two-day journey and calm weather window. The building footprint is just over half its immediate site platform and has the capacity to have additional decks and public amenities 'clip-ons' added as the marina develops. The plywood linings and timber claddings used are sourced sustainably from New Zealand forests and certified by FSC and Declare. The Accoya Cladding with 50-year warranty is certified by major sustainability programs and it is renewable. Additionally, the project closely monitors water usage for showers, capturing and treating wastewater on-site before responsibly discharging it to an authorized off-site facility. The floating nature of the building enables it to be flexible with tidal cycles and has the ability to be reprogrammed in the future without demolishing of the main structural foundation and frame.



MAIN CHALLENGES

The project entailed integrating premium exterior and interior finishes, including timber and non-homogenous panelling systems akin to boat building to ensure ongoing movement during transportation and lifespan could be accommodated and not result in continual maintenance that would be expected from traditional plasterboard linings. The detailing of these systems required meticulous installation due to tight tolerances. Durability in an aquatic exposed environment was paramount, we worked closely with a façade specialist to develop a weathertightness strategy that treated the ‘envelop’ above and below deck to ensure that aggressive sea-salt laden air wouldn’t enter critical structural connections. Various maintenance hatches were designed into the floor throughout the building to allow for regular inspection and access to these areas.

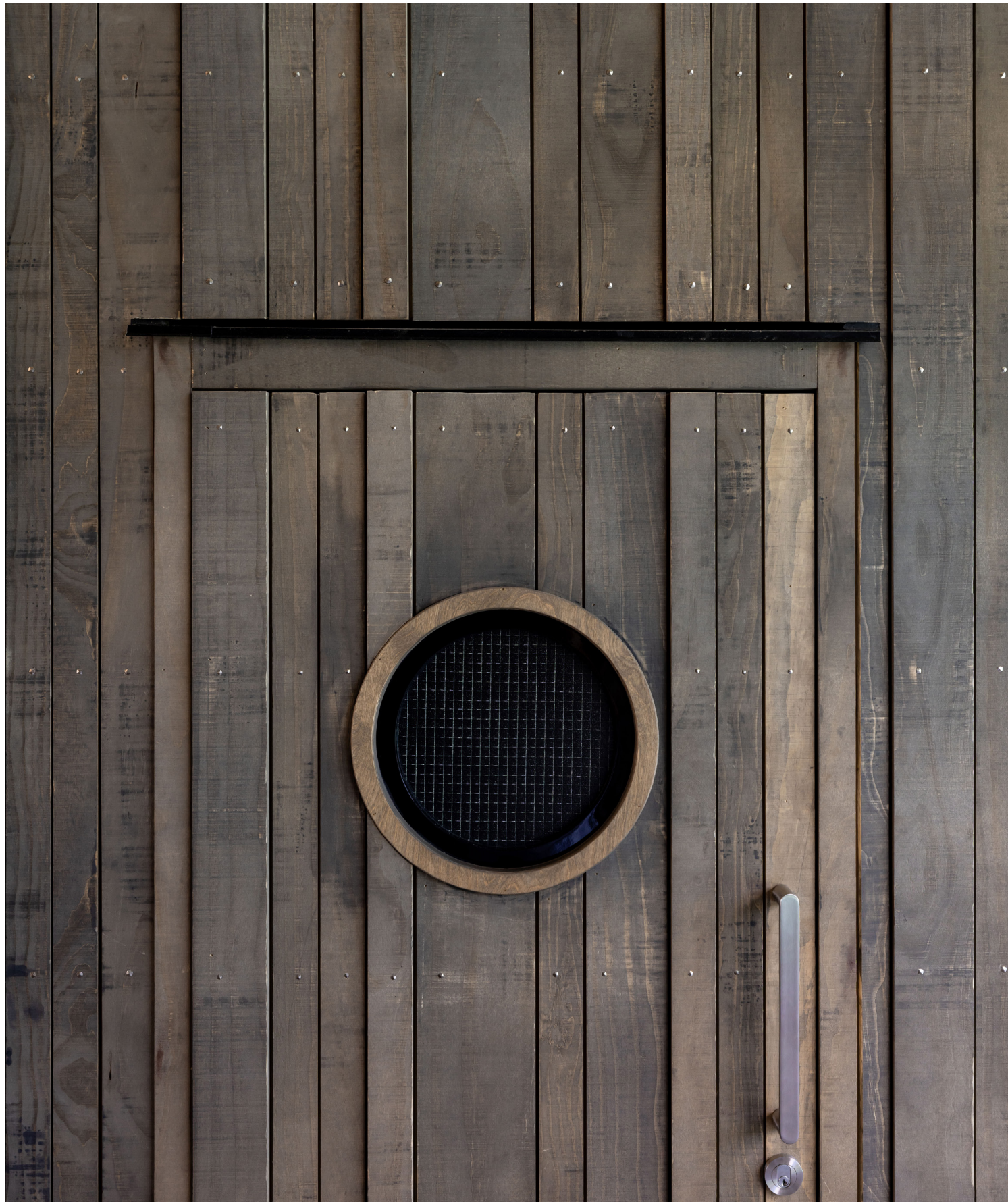
Building on a floating platform presented installation challenges, the contractor had to assess the platform’s balance daily and implement measures to ensure stability and even weight distribution. Ballast was used and redeployed regularly to ensure that the team could safely erect and use scaffold and quickly access the platform from dockside. Design with more rigid panel products allow for easier delivery and installation onsite once the rigid superstructural frame was erect that span the coupled pontoons holding them together and distributing the point loads more evenly.

Flooding events in Northland led to logistical and material supply issues, additionally, the complex roof geometry and architectural intricacies presented installation challenges, further compounded by construction on a moving platform. The team had to assess the platform’s balance daily and implement measures to ensure stability.

Transporting the building to Waiheke and installing it in the marina with limited clearance posed a unique logistical challenge, necessitating careful weather anticipation and coordination of towing over 75 nautical miles. During transport to Waiheke, the Structural Engineer oversaw buoyancy levels and task scheduling.

HEALTH AND SAFETY

Our health and safety approach for this project prioritised safety measures over water, including installing full scaffolding and edge protection on the pontoon, requiring tradespeople to prove swimming ability, placing rescue rings around the site, mandating life jackets in exposed areas, establishing a rescue procedure, and implementing secure gate access at the end of the wharf. Consultants and client representatives underwent full induction and were accompanied during their site visits.



CONTRACTOR AND COLLABORATION TOOLS

Trigg collaborated with the client, architect, and structural engineer during the developed design stage onwards to resolve various aspects of constructability and logistical constraints.

The project's location on the water made it unique in commercial construction, necessitating meticulous planning and adherence to timelines to meet the marina's opening deadline.

Oracle Aconex and associated 'Field' software were the main collaborative tools used for live communication and document management. Trigg utilised Aconex for various project management activities, including health and safety audits, quality assurance processes, and addressing site observation and monitoring issues. Aconex's collaborative framework ensured all stakeholders were informed and involved in project communications, maintaining a single, reliable source of information for validating contract procedures.

PROCUREMENT MODEL

The project was tendered with a fixed price lump sum basis.

Trigg was chosen by the client through a relationship-based procurement model due to their proven track record and competence.

Trigg collaborated with the client's architect and structural engineer to address design aspects and engaged in pre-application discussions with the council to support the confirmation of a modular pathway for project compliance before tender document finalization.



INNOVATION

The project originated from an innovative concept driven by the client's vision to create a floating building within the new marina, to not only provide a central hub with office space, berth-holder and public amenities, but also spaces for community engagement, with a view to activate Kennedy Point as a destination on the island for water leisure activities. As the marina infrastructure construction commenced, it became clear that, for safety and security reasons, the building had to be constructed off-site, and therefore would be transported to the 'site' once complete.

Designing a durability strategy for the building posed unique challenges, various methods exploring the weathertight envelop extent and design of the subfloor space were explored to determine the most appropriate method to prevent water infiltration into the building and its critical structural steel members/ connections.

Pre-application engagement with the local council involved discussing a modular compliance pathway to determine the most suitable approach for demonstrating compliance. The complexity arose from assembling the modular components offsite, transporting them, and connecting them at the final location across two council jurisdictions, Northland and Auckland.

Constructing the building remotely and dockside necessitated innovative ballasting methods, as conventional tools like laser levels were impractical. The structural engineer continuously monitored the building's balance and weight distribution to maintain even buoyancy atop the foundations.

Construction was a daily juggle of 'levelling' the platform with the super-structure being out of plumb and alignment when the pontoons were unevenly weighted. Daily adjustments to the building platform were necessary to ensure tradespeople could work accurately with precise measurements and angles relative to the building.



ignitearchitects.com

COPYRIGHT © 2022 IGNITE ARCHITECTS. ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED WITHOUT THE PRIOR PERMISSION OF IGNITE. EVERY EFFORT IS MADE TO ENSURE ACCURACY OF THE INFORMATION CONTAINED HEREIN AND IGNITE RESERVES THE RIGHT TO CHANGE INFORMATION PROVIDED IN THIS DOCUMENT AT ANY TIME WITHOUT NOTICE. THIS DOCUMENT IS FOR GENERAL INFORMATION PURPOSES ONLY AND IGNITE ASSUMES NO RESPONSIBILITY FOR ERRORS OR OMISSIONS. 2XXXXX