



TRAMSTOP





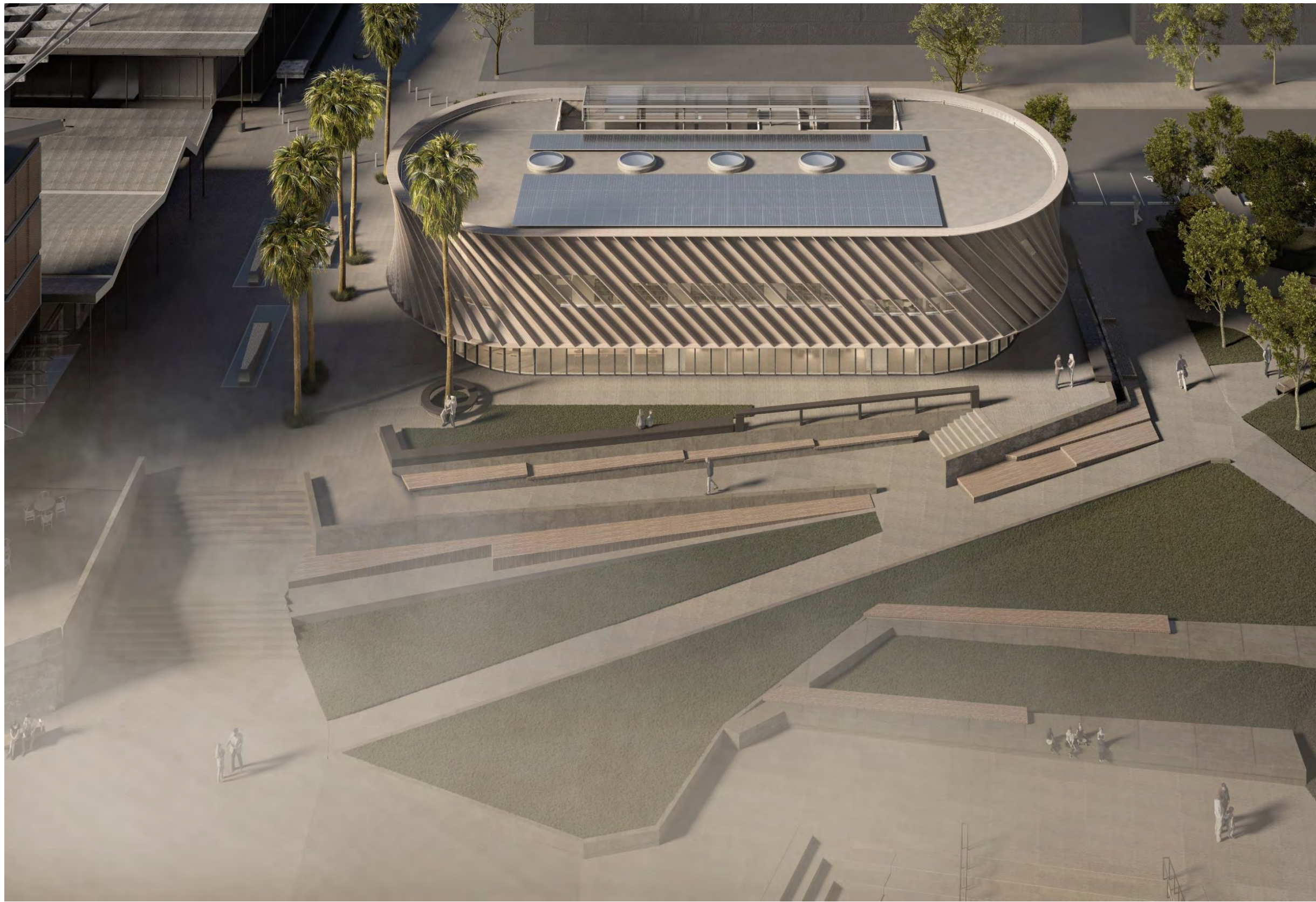














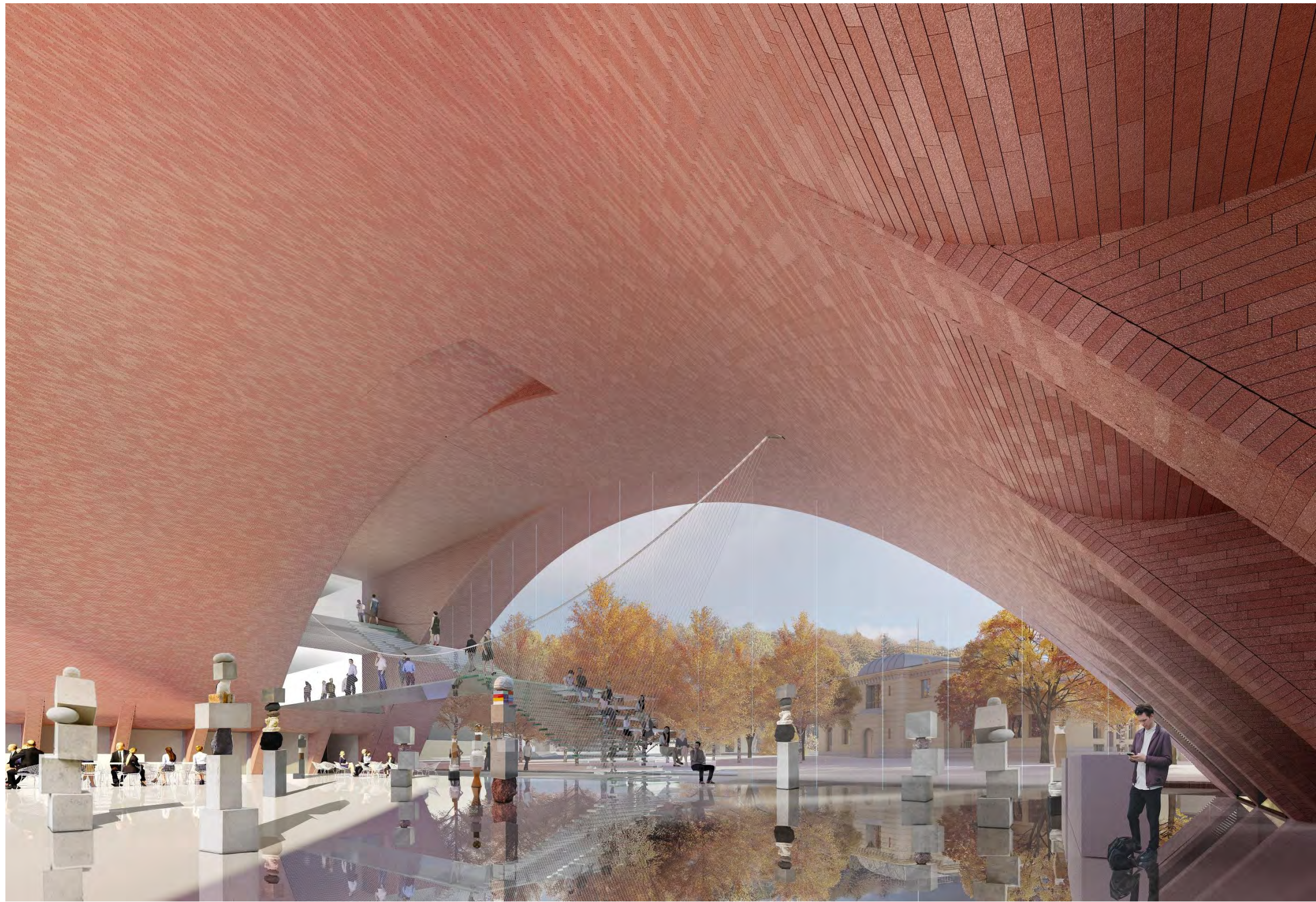


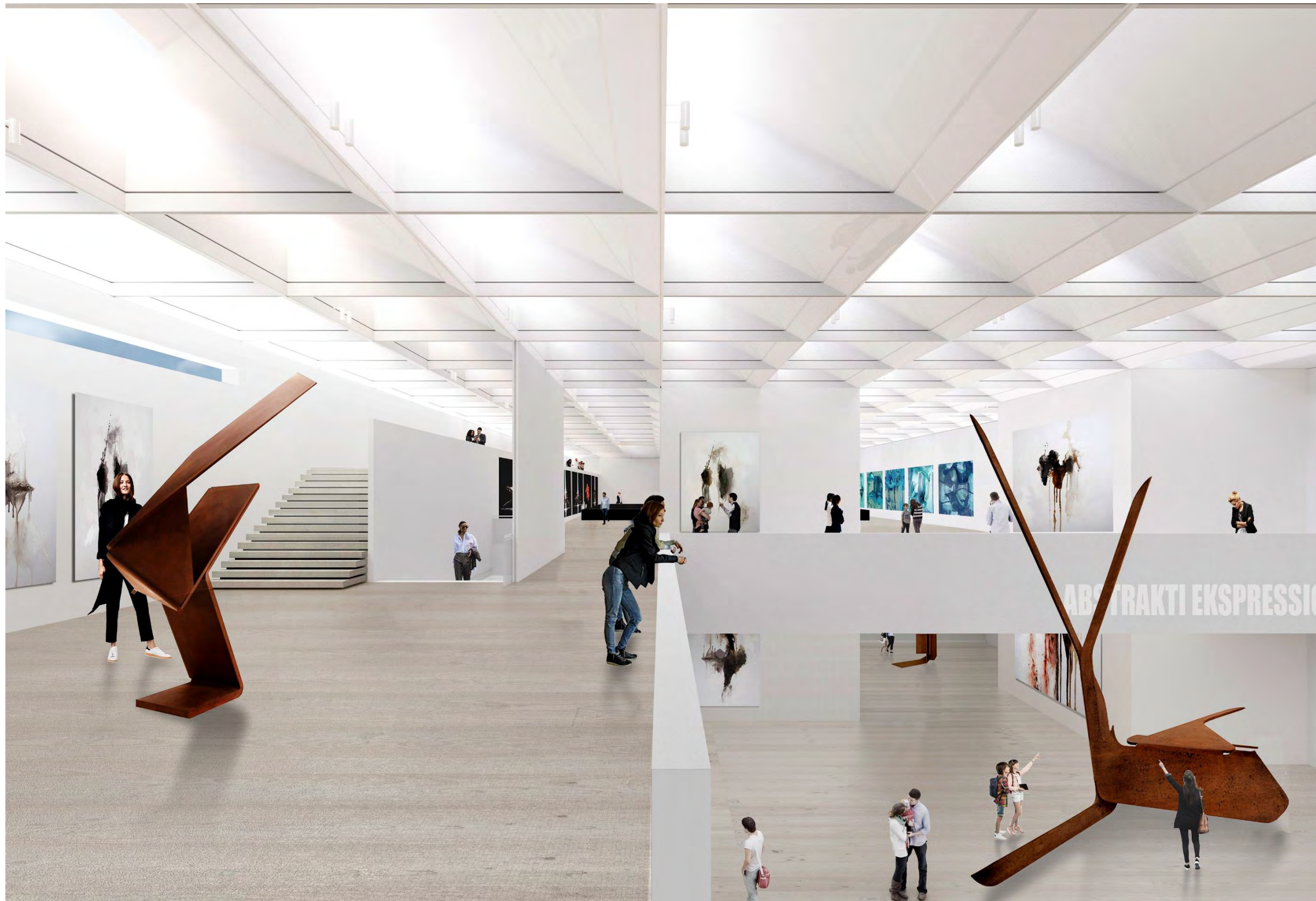


































































For a point mass the moment of inertia is just the mass times the radius from the axis squared

$$I = mr^2$$

For a collection of point masses (below) the moment of inertia is just the sum for the masses

$$I = kmr^2$$

For an object with an axis of symmetry, the moment of inertia is some fraction of that which it would have if all the mass were at the radius r

$$I = \sum m_i r_i^2 = m_1 r_1^2 + m_2 r_2^2 + \dots$$

Sum of the point mass moments of inertia

Continuous mass distributions require an infinite sum of all the point mass moments which make up the whole. This is accomplished by an integration over all the mass.

$$I = \int r^2 dm$$

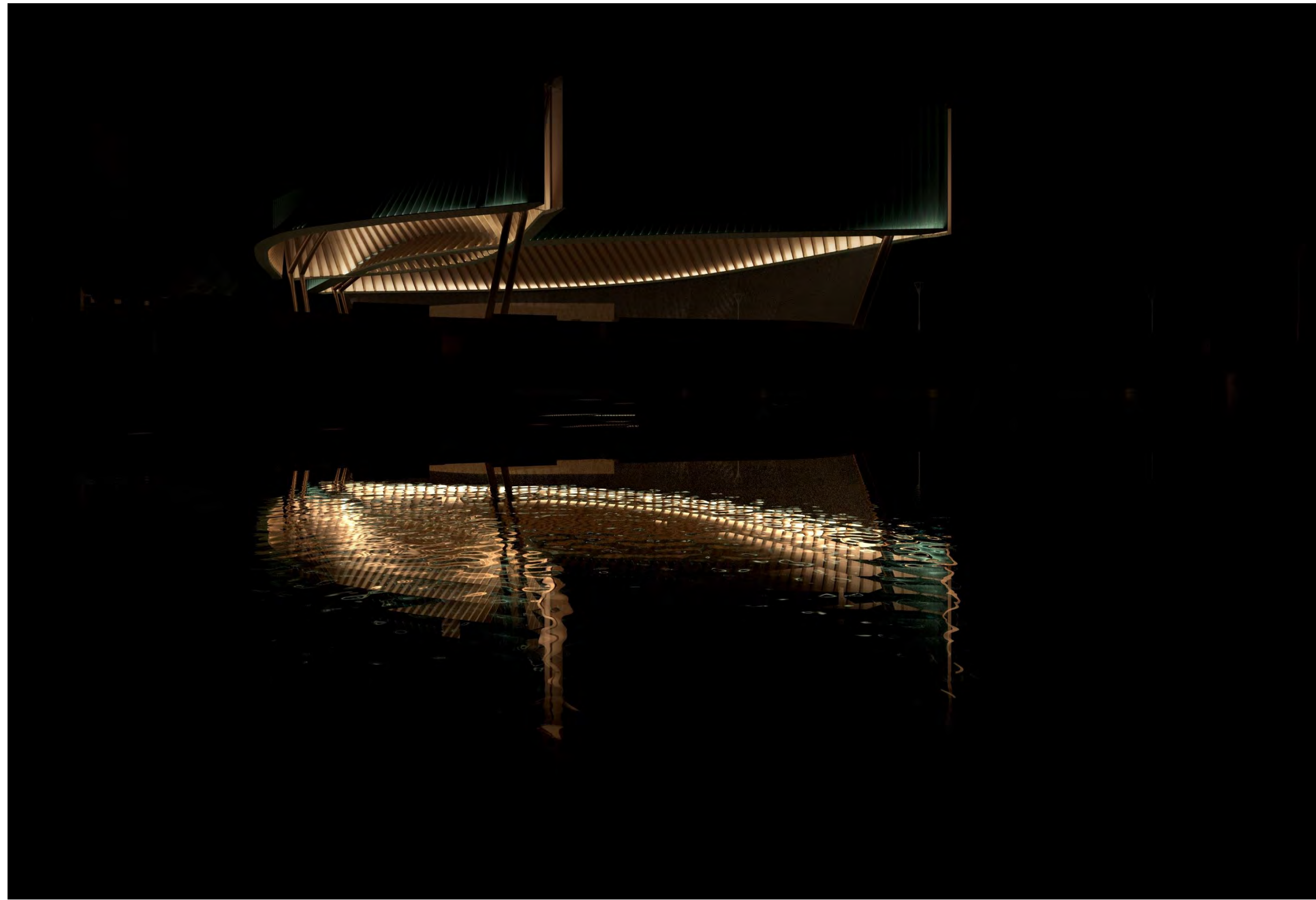


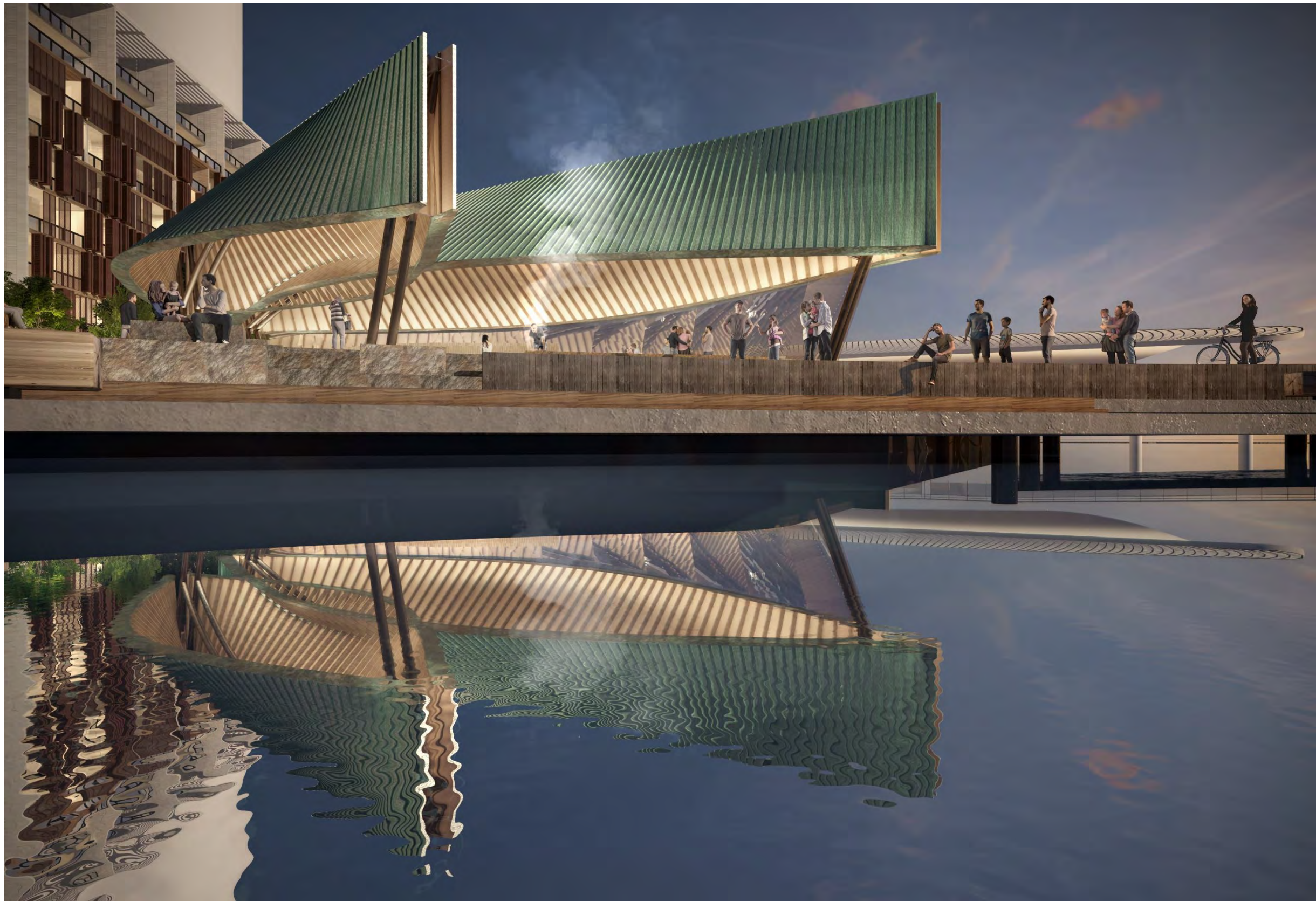














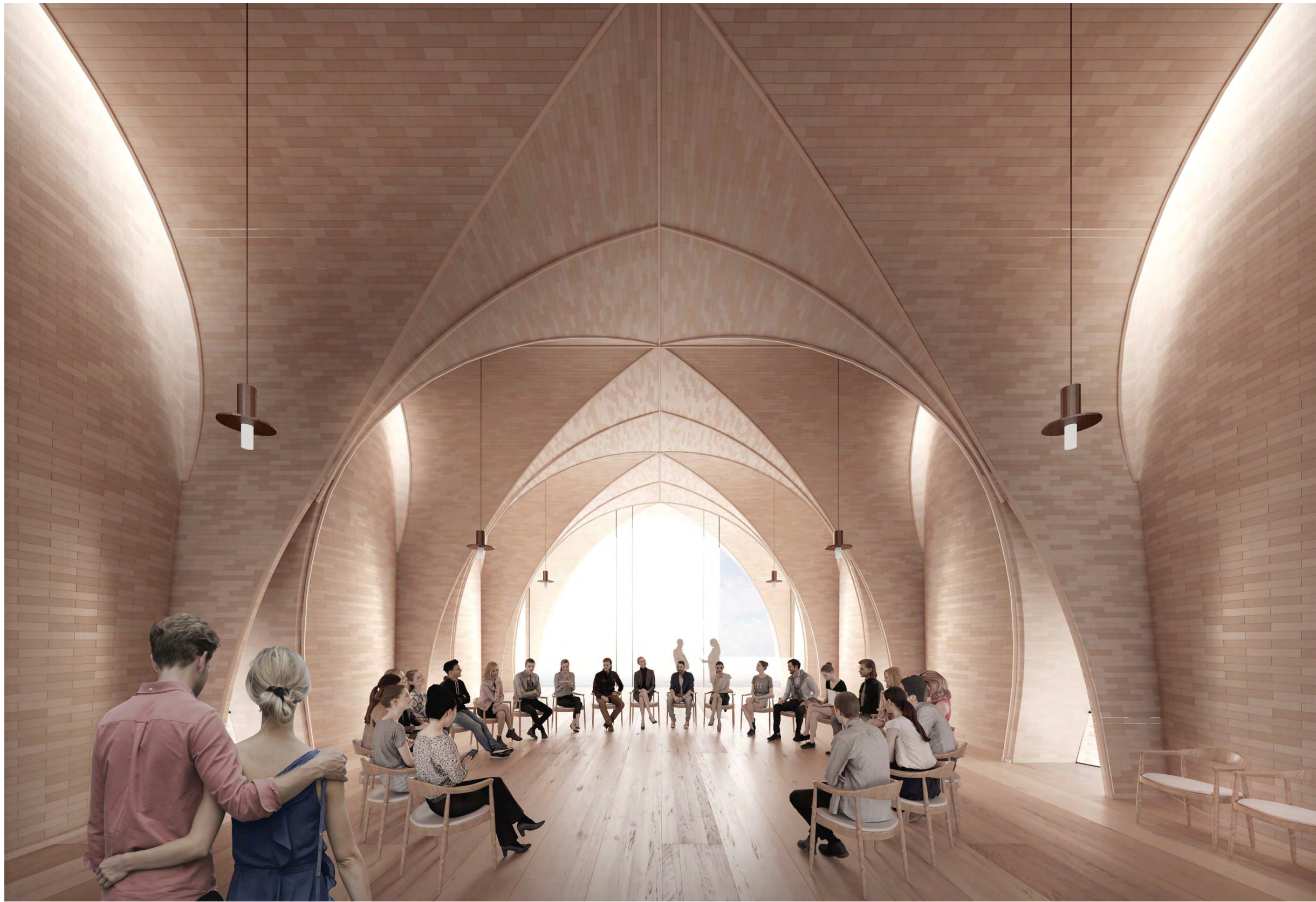








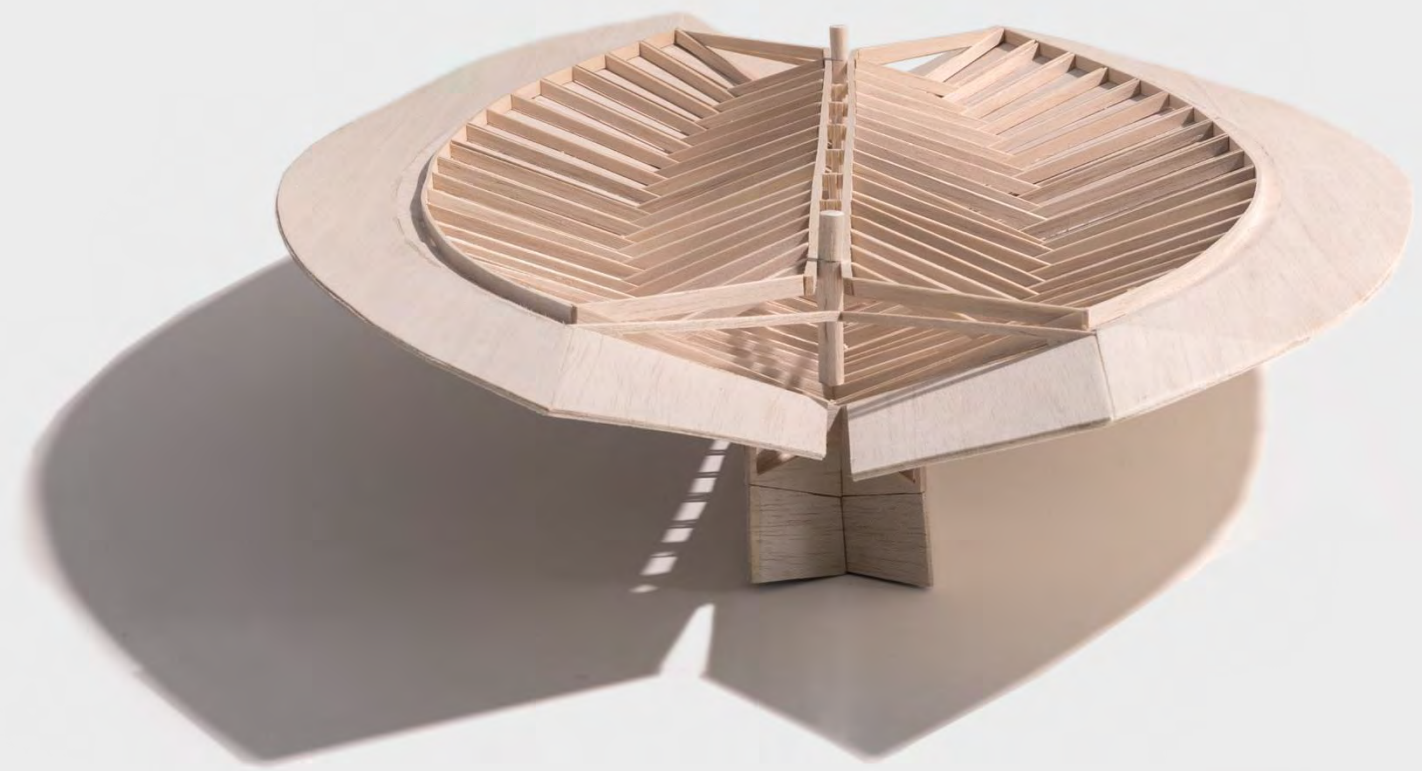


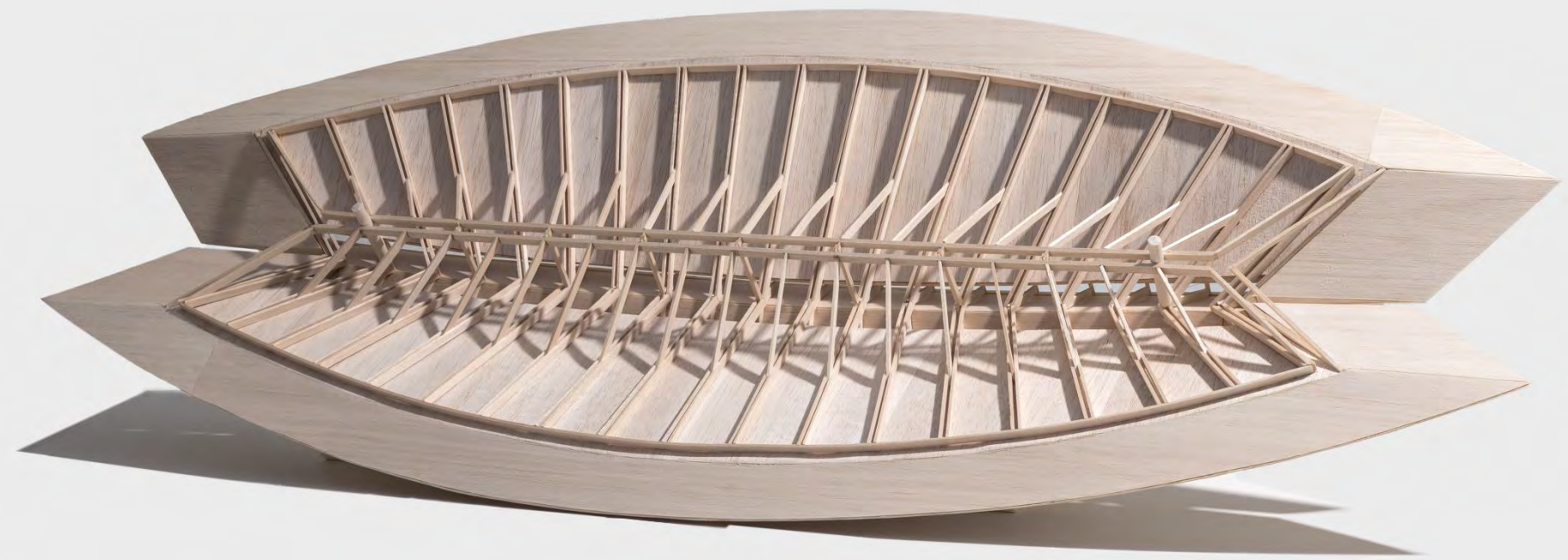




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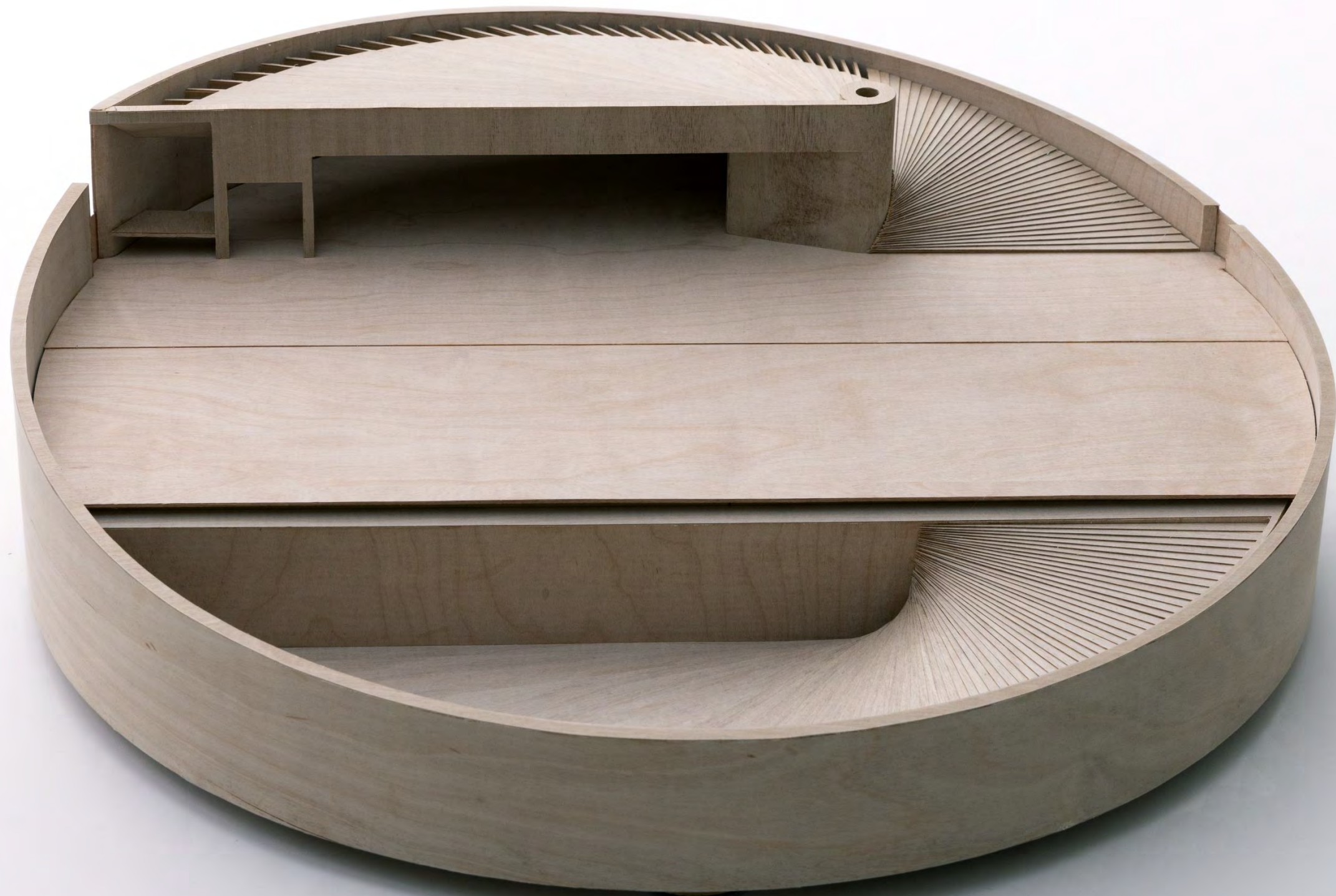


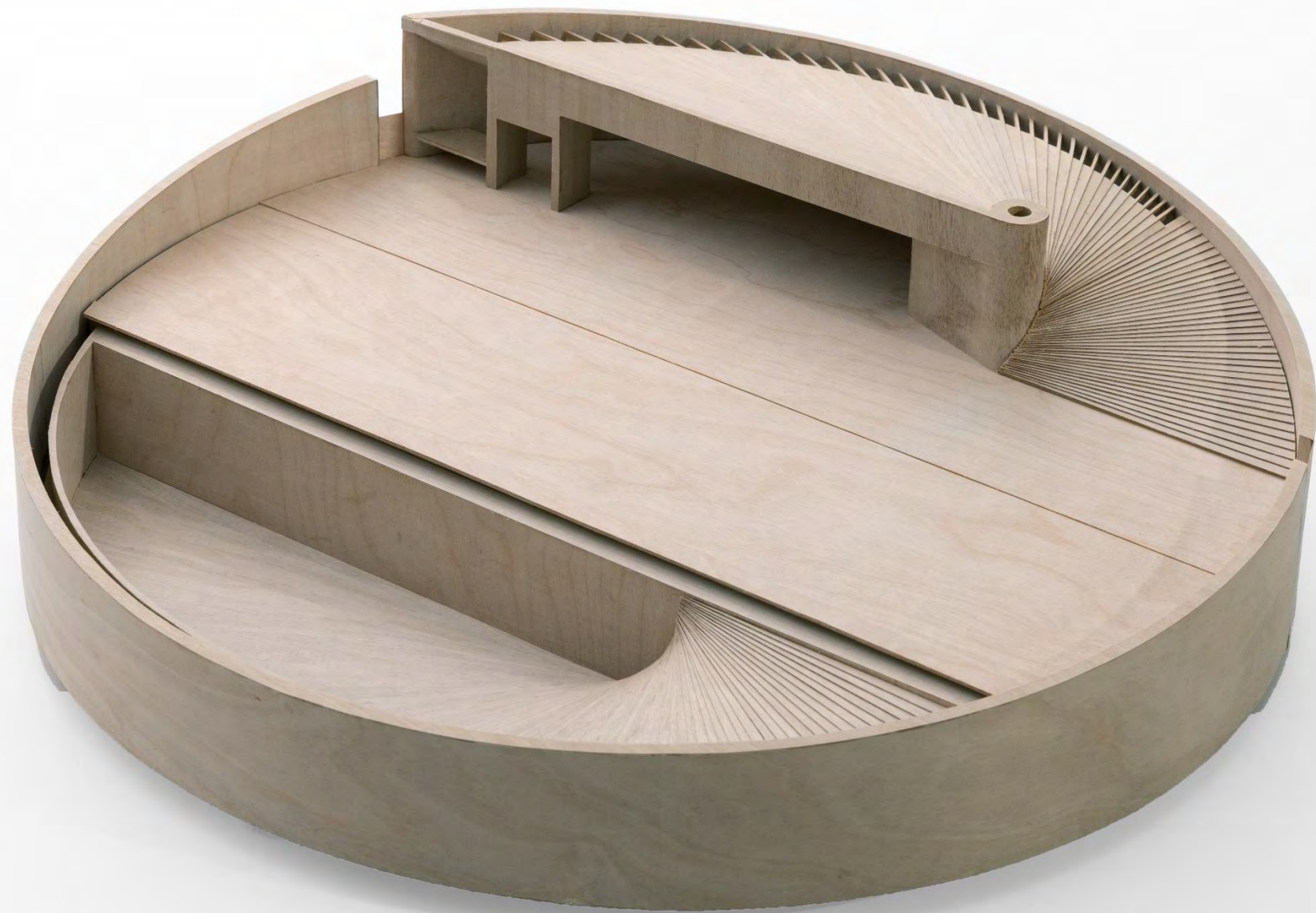


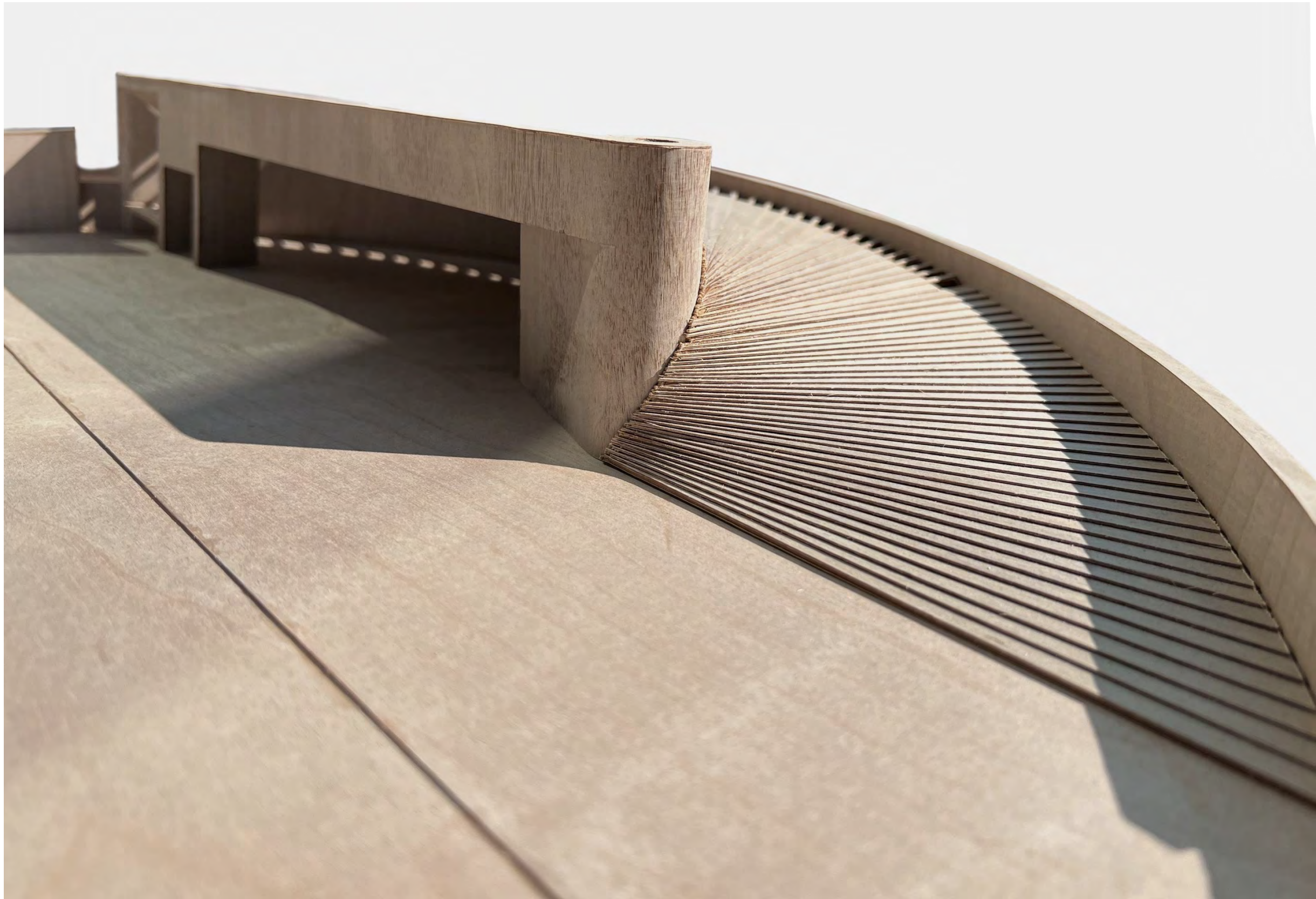




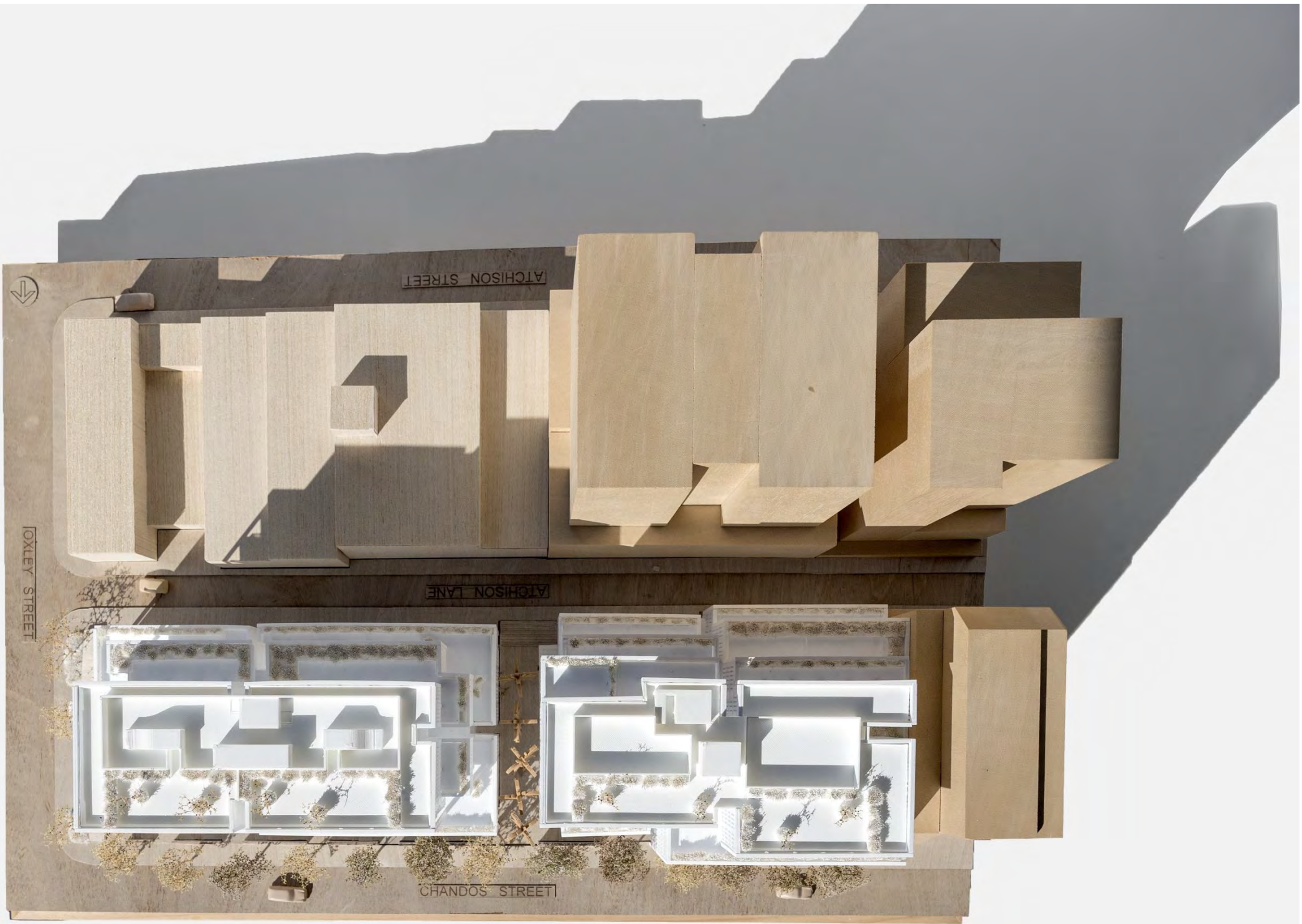






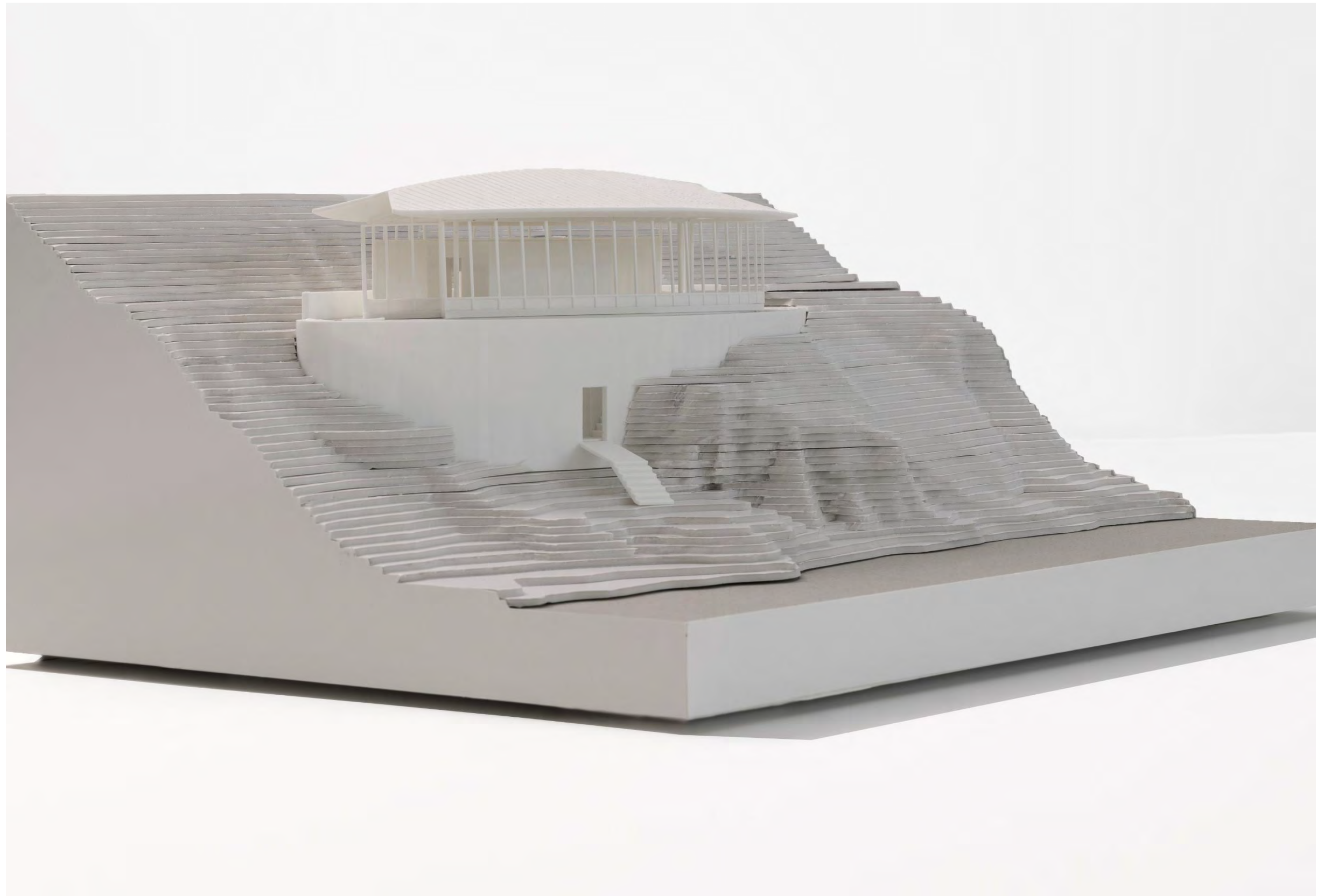




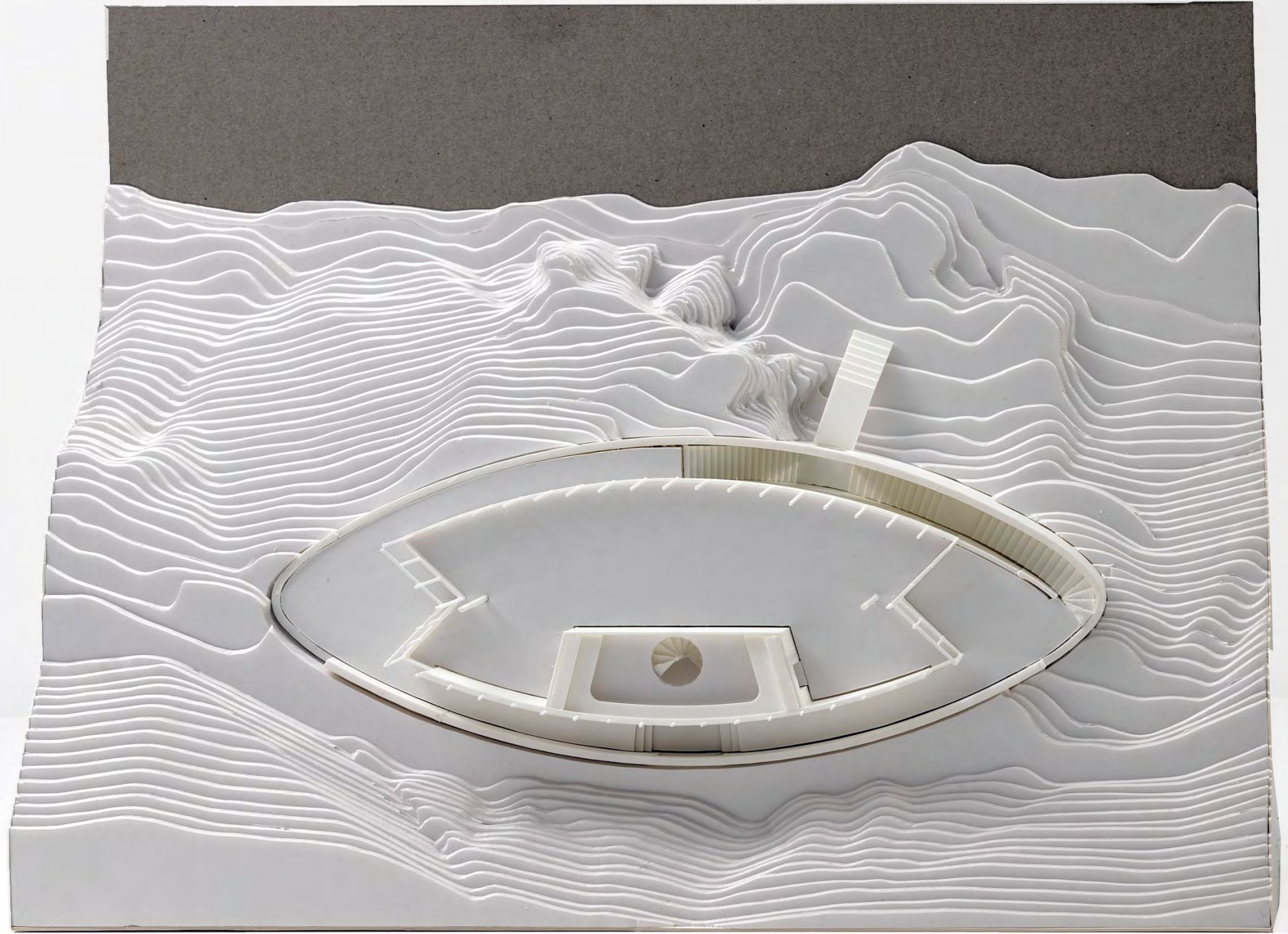




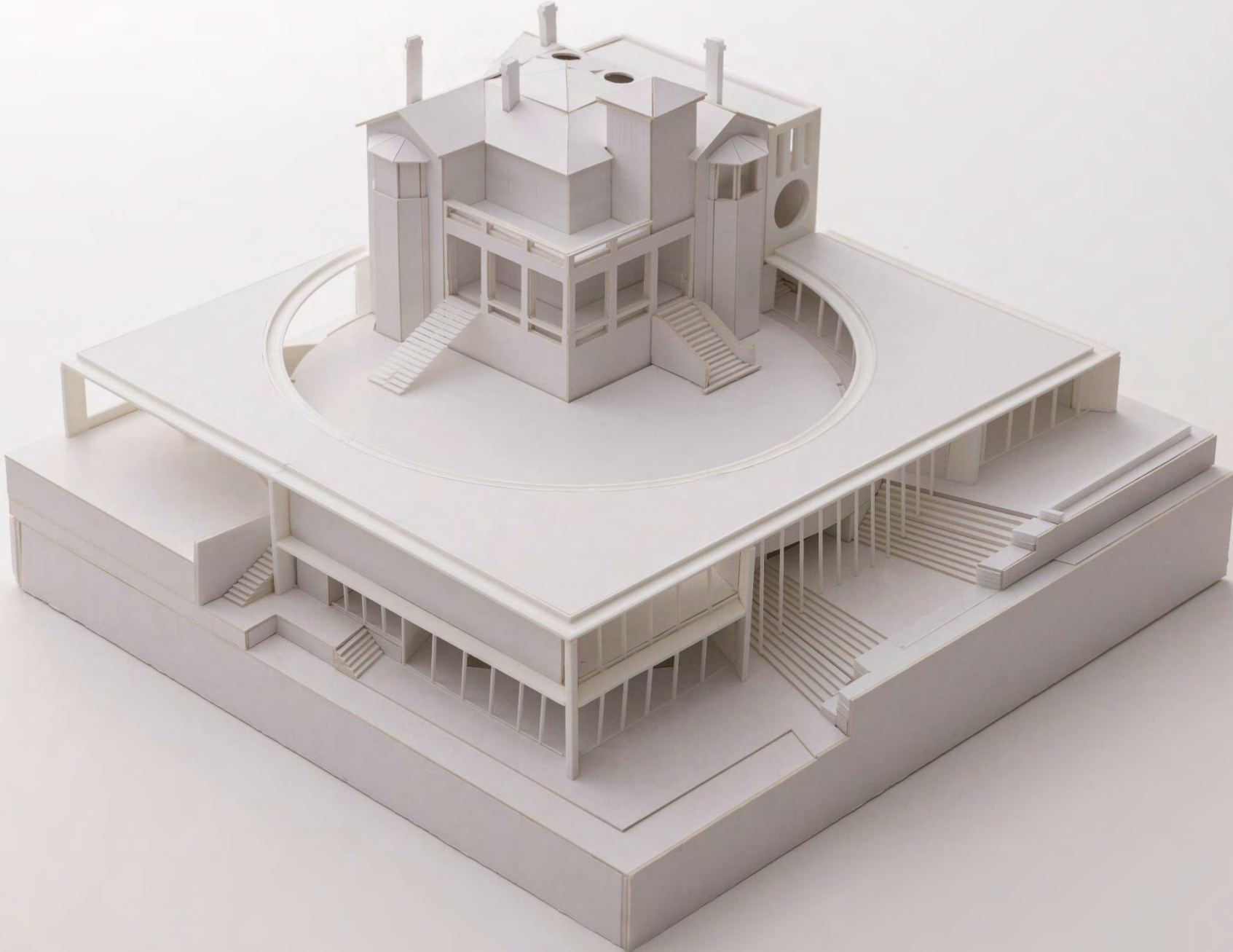


























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