

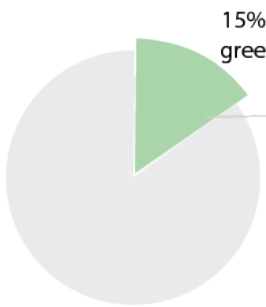
Inspiration: The Millennium Dome was once conceived as a closed egg, a container of hope and potential at the dawn of the year 2000. In the redesign, this shell has now hatched open, its ETFE skin unfolding upwards to express growth, openness, and renewal. Standing at the Prime Meridian, the world's zero point of time, the Dome gains new meaning as a marker of global rhythm. Inside, an eco-garden integrates greenery and biodiversity, transforming the Dome into a living environment. What was once a vessel of hidden promise is reborn as a welcoming beacon for 2050, embodying a future where culture, technology, and nature coexist.

Site: Surrounded by dense housing, the O2 today serves mainly as an event venue, disconnected from everyday community life. In London's cold, damp climate, the redesign proposes an indoor eco-garden — transforming the Dome into a year-round green refuge where residents as well as visitors can gather.

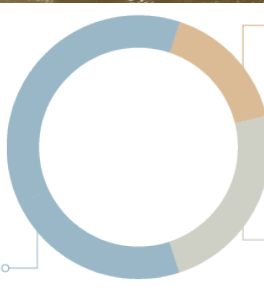
ELYSIUM

REDESIGNING THE MILLIENIUM DOME
FUTURE OF DESIGN COMPETITION

SITE ANALYSIS



Greenwich benefits from a generous amount of green space, and we aim to echo this landscape character in our design.

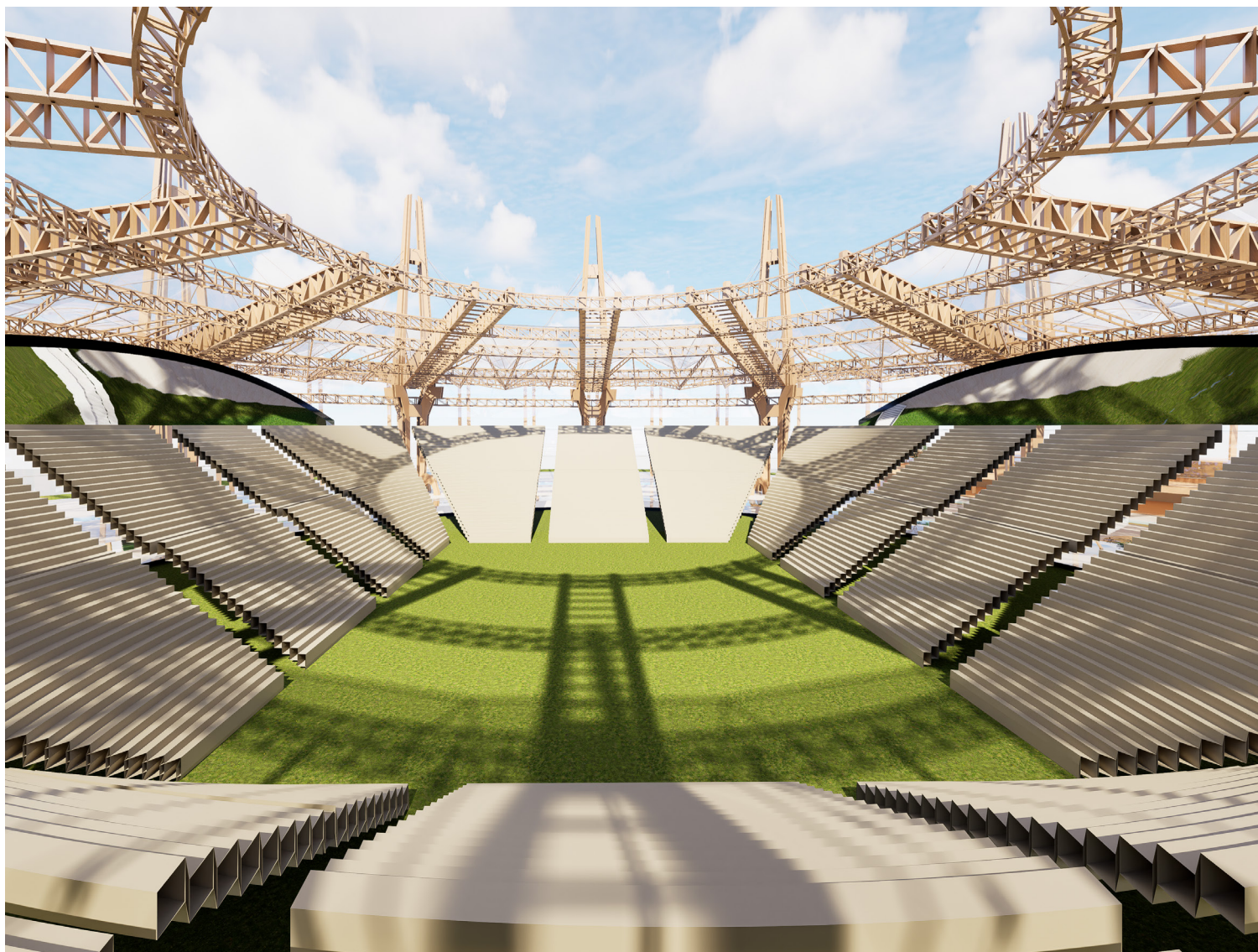


There is a large proportion of young people living in Greenwich, particularly in the North Greenwich area, where over half the population is aged 20–39. In response, our redesign of the O2 aims to create a vibrant, inclusive space that reflects the energy and lifestyle of this demographic.

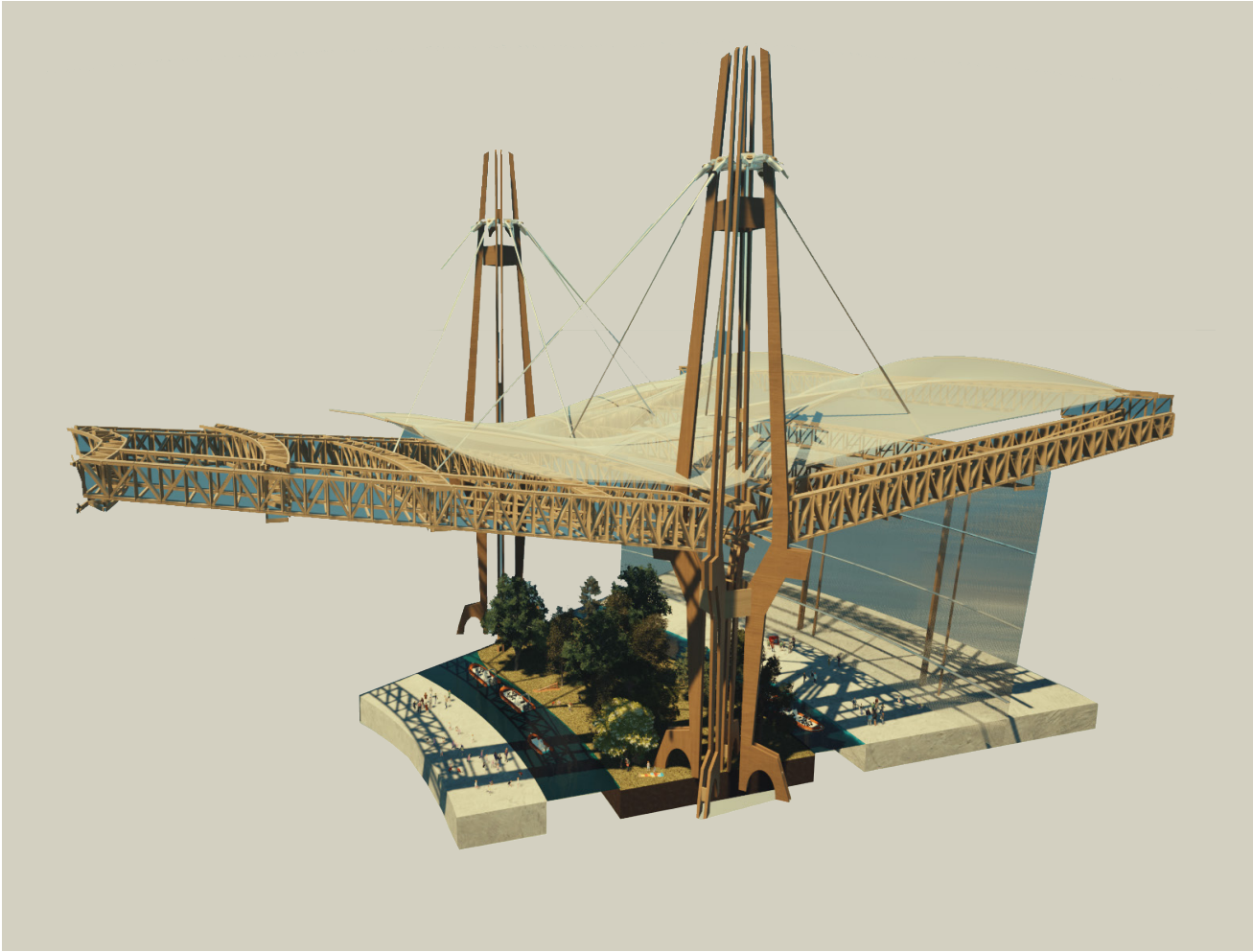
TIMBER RAFTING
Timber rafting brought essential materials for shipbuilding and construction, supporting the city's expansion during the Industrial Revolution.

VICTORIAN PUMPING STATION
As pollution worsened, the Crossness Pumping Station (1865), part of Bazalgette's sewer system, was built to clean the river and improve public health.

THAMES BARRIER
Thames Barrier (1982) was constructed to defend London from tidal flooding, marking the river's continued role in protecting and sustaining the city.



AXONOMETRIC SECTION

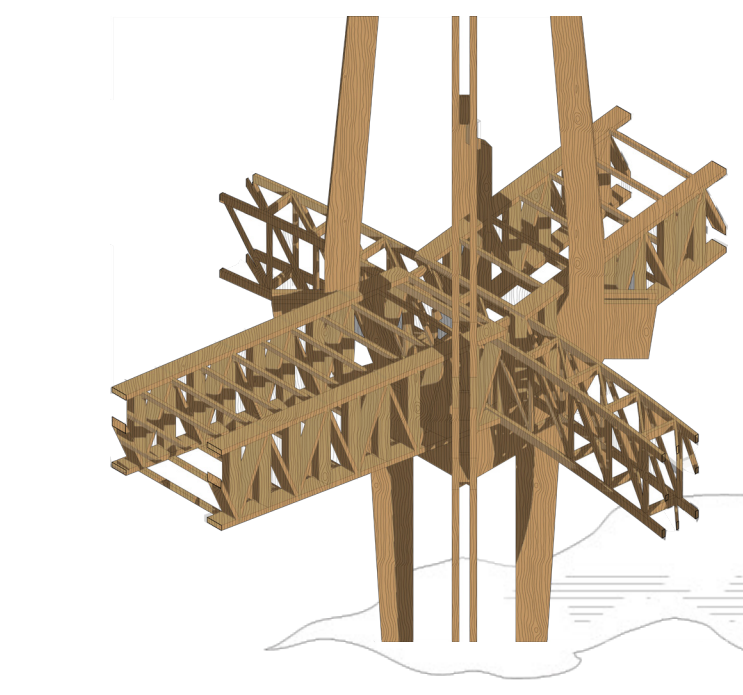


Timber is used instead of steel as it is a renewable material with a lower carbon footprint and is well-suited to prefabrication, allowing for efficient on-site assembly. Beyond its structural and environmental benefits, exposed timber surfaces contribute to a warm, natural aesthetic that enhances occupant comfort and creates a more welcoming, human centred environment.

The original O2 was designed as a temporary structure and relied entirely on cable support, with tall masts anchored by deep foundations. In our design, intended for permanent use, we introduced trusses to reduce both the height of the masts and the required foundation depth. This not only improves structural efficiency but also simplifies long-term maintenance.

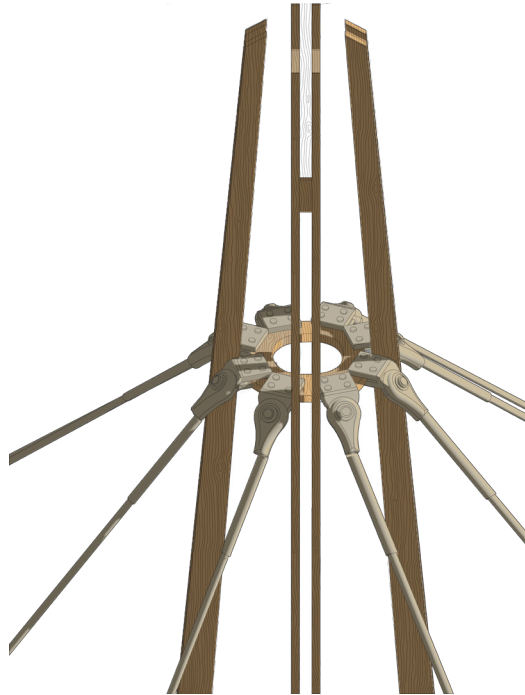


PERSPECTIVE SECTION



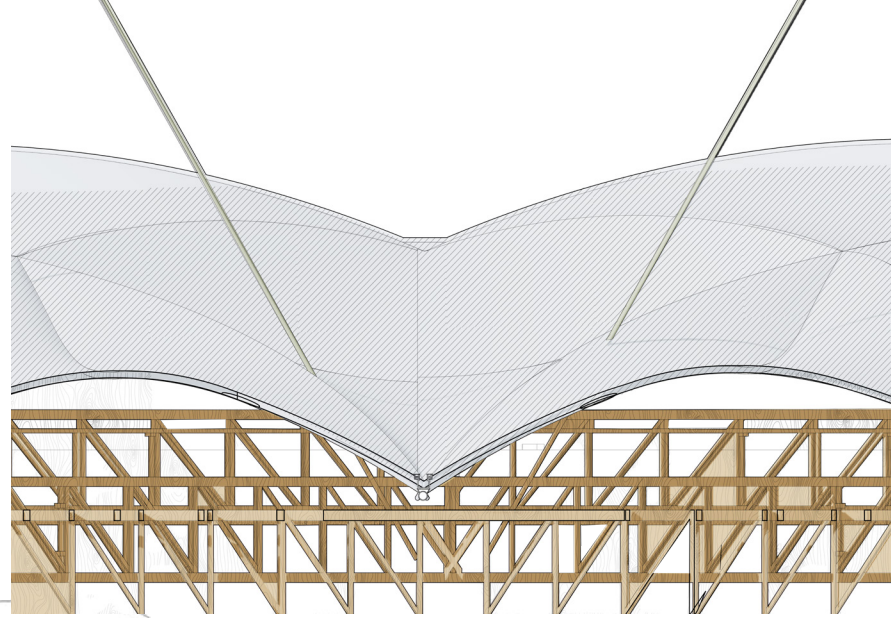
TIMBER TRUSSES

The new design of the O2 incorporates primary and secondary timber trusses, which are supported by a timber-tower mast. This is implemented in addition to the modular cable-stayed structure, enhancing the building's resilience and modularity.



CABLE - MAST CONNECTION

The structure remains lightweight by relying primarily on a cable system, echoing the original O2 design. This approach reduces the need for heavy elements, enhancing material efficiency while preserving the visual and structural language of the original.



ETFE CONNECTION DETAILS

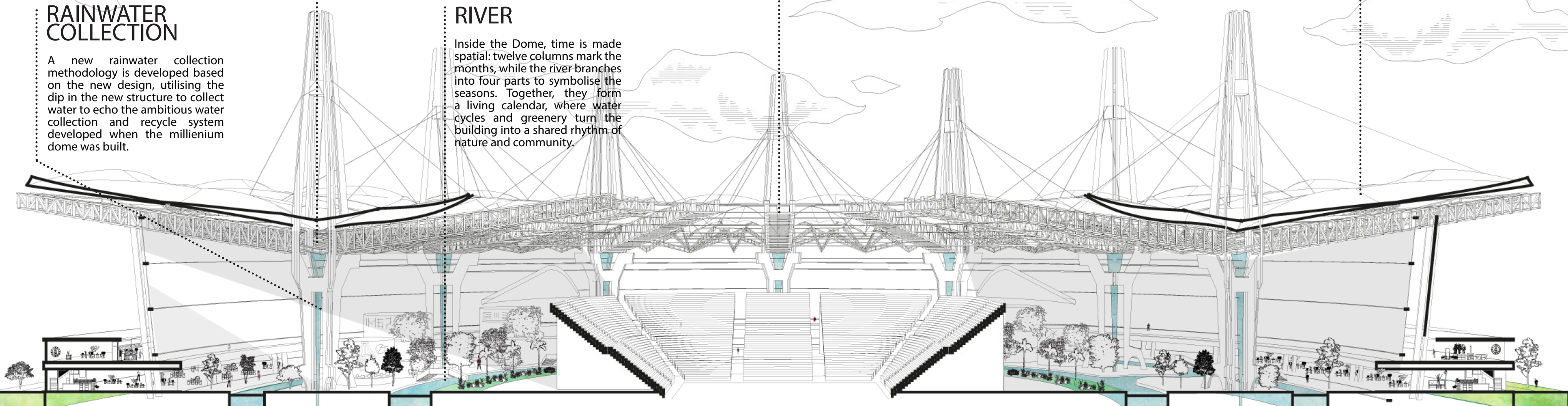
ETFE (ethylene tetrafluoroethylene) is used, while PTFE is stiffer and more opaque, ETFE offers improved insulation and daylighting performance. The ETFE membrane is typically tensioned and attached to the timber trusses or a secondary frame using clamping systems. A double-layer ETFE system with printed patterns can be used to enhance performance—allowing natural ventilation while reducing solar gain, thereby helping to prevent overheating during summer.

RAINWATER COLLECTION

A new rainwater collection methodology is developed based on the new design, utilising the dip in the new structure to collect water to echo the ambitious water collection and recycle system developed when the millennium dome was built.

RIVER

Inside the Dome, time is made spatial: twelve columns mark the months, while the river branches into four parts to symbolise the seasons. Together, they form a living calendar, where water cycles and greenery turn the building into a shared rhythm of nature and community.



GREEN SPACE | SHOPPING AREA | RIVER | GREEN SPACE | RIVER | GREEN SPACE | AREANA | GREEN SPACE | RIVER | GREEN SPACE | RIVER | SHOPPING AREA | GREEN SPACE