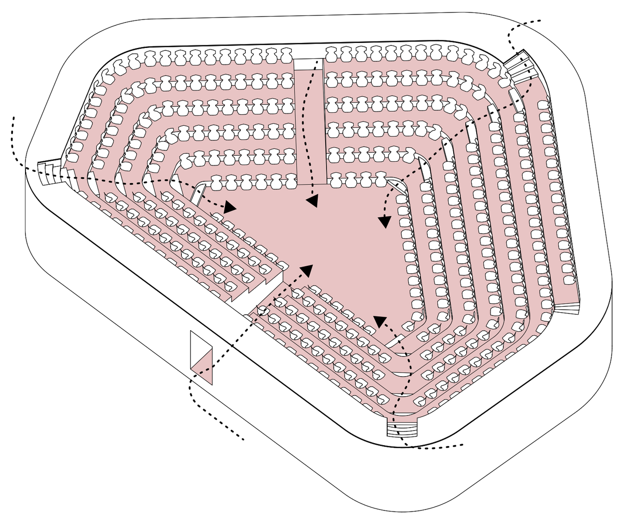
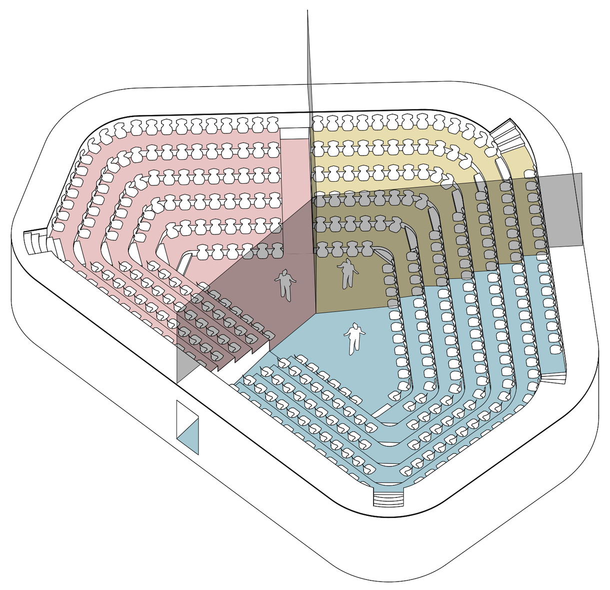
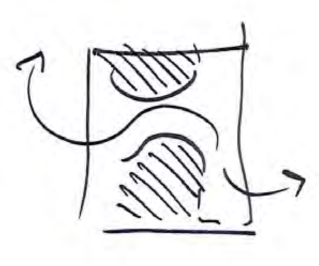
AXONMETRIX DRAWING



AGORA - ACESSEBILLTY

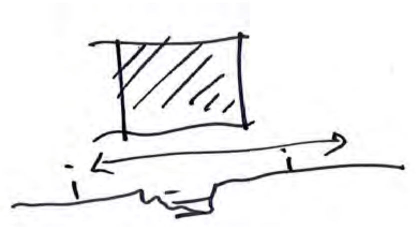


AGORA - POSSIBLE DIVISION WITH WALLS



NATURAL FLOWS THROUGH OUT THE BUILDING

THE PLACMENT OF THE THREE "CUL DE SAC" BRINGS DAYLIGHT INTO THE MIDDLE OF THE BUILDING



PLACEMENT OF AGORA ENSURING PERMEABILITY ON THE GROUND FLOOR

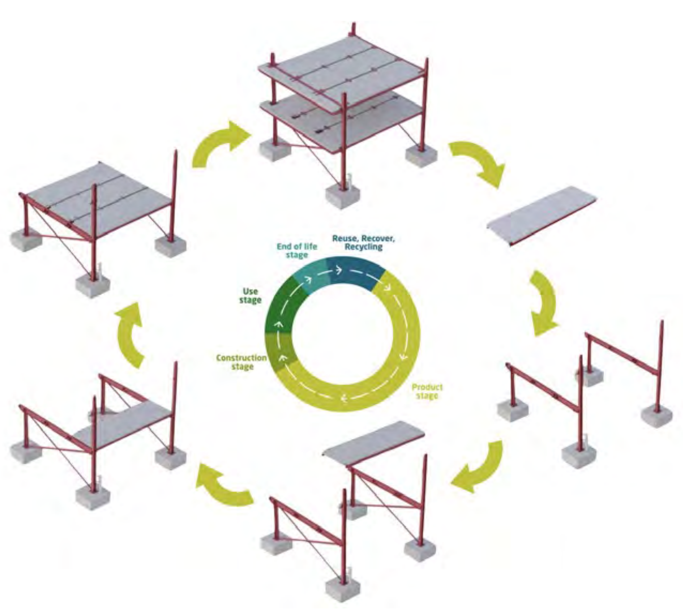
SUSTAINABILITY

The design of the new 35 Lincoln's Inn Fields is founded on the highest aspirations in terms of environmental, social, and economic sustainability. The project has a strong ambition to minimise embodied and operational carbon footprints, both by optimising the form and glazing of the building and by reducing the amount of materials necessary for its construction and maintenance. The design has focused on recycling and reusing as much as possible from the existing building and using robust, long-lasting materials with a proven track record of more than 100 years.

The existing building is a repository of 2400 sqm brick, 520 sqm limestone, and 470 sqm window. Following the principles of "reduce, reuse and recycle" the basement and footings will be preserved and function as the foundation for the new, flexible structure above. Bricks and limestone from the existing building will be reused in the new façade and the stone cladding will be incorporated into the new internal floors. Because the number of existing stones is insufficient, we are adding new stones in between the old, creating a beautiful pattern of light and dark nuances similar to the pattern seen in historic buildings like Westminster Abbey, telling a story of layers added over many hundred years.

Existing windows are repurposed as partition walls between meeting- and common rooms.

Reclaimed materials include timber floors on the upper levels and post-consumer recycled compressed paper ceilings. The building form and external elevations are in an ongoing process of optimisation and evaluation where access to fresh air, views and generous levels of daylight are being carefully balanced with the necessity to keep on reducing the carbon emissions in construction and operation.
The site draws renewable energy from below with a geothermal heating and cooling system and from above with both photovoltaic and solar thermal arrays. All perimeter spaces and much of the interior are naturally ventilated at high and low level to manage hotter temperatures in summertime, and a well sealed envelope with MVHR in winter ensure only a minimal need for active heating and cooling across the year. As well as designing with Net Zero carbon emissions in mind, the project takes a leading approach to water conservation, using green and blue roofs and a very deliberate choice of planting to reduce pressure on the sewers, rainwater and grey-water recycling systems and low or zero water use appliances.



STRUCTURAL SYSTEM

All building components and systems are expected to support sustainability, as have procurement, construction methods and specifications. All significant fixtures are of durable construction and capable of repair, dismantling and reuse where relevant.

The existing building was originally constructred in two phases between 1952 and 1954, with the peculiarity of a raised ground floor level approx 1.5m above street level. The main existing structural system is utilising a steel frame encased in concrete, often a technique used for protecting the steelwork against fire. It is proposed to demolish the existing structure in favour for a solution which will provide on one side the opportunity to create an architectural proposal in line with the brief requirements, and also to implement a structural system that will allow to future proof the building and allow for potential adaptability and re-configuration during its design life.

SUBSTRUCTURE

The proposal makes use of the existing excavated basement volume and works within its boundaries. It is envisaged to reuse the existing retaining walls on three sides of the perimeter, and to construct a new retaining wall parallel with Lincoln inn field road in order to extend the basement area and utilise the additional space to locate plants and heavy equipment. The existing foundations are retained, however they were designed for the particular pattern and magnitude of load from the original building close centered column grid. Accurate analysis and site investigations will be a key driver of the re-use strategy to minimise the impact of embodied carbon in the substructure. Strenghtening of the

existing foundation will be required to comply with the new grid layout, utilising an additional r.c. slab and potential localised reinforcement.

Opportunities to implement Earth friendly concrete will be explored to minimise the impact on embodied carbon in the concrete structure.

SUPERSTRUCTURE

A low-carbon reusable cassette on a steel frame was chosen as the preferred solution for the main structural system, due to its flexibility, but also due to the opportunity of streamlining the construction and provide benefits in programme and logistics.

To respond to the brief and to reflect the architectural interpretation of the program, the solution incorporates long span grids to allow for the creation of flexible spaces. The building components will be mainly prefabricated off-site, cut an scheduled to minimise transportation and maximise speed of erection.

The connections between the structural elements are mostly 'dry' to improve the opportunities of adaptability, as well as allowing the structure to be demountable. Offsite manufacturing of the structural elements in this design has been maximised to improve logistics both in the factory, during transportation, and at the installation phase on-site. In the areas above the agora where long span structures will be required to transfer the vertical columns above, a full storey transfer structure will be implemented, working compositely with a timber truss at ceiling level to minimise the impact of the transfers.

Lateral stability of the building will be provided by using the vertical R.C. lift and stair cores.

The structural material palette will look into minimising the impact of embodied carbon by using Cem-free, a low carbon alternative to traditional cement for the precast floors components, and standard rolled sections with high percentages of recycled steel for the structural steelwork.
The implementation of this DFMA approach will drive the reduction of the weight of the structural frame and the structural steel content, optimise and reduce deliveries to site and reducing labour resources for the structural frame erection with a consequent benefit on limiting disruption during construction.