



PROJECT SUMMARY:



PROJECT OVERVIEW

The Atlas Building is a recent venture by developers Rocket Properties who create bold and contemporary properties in London. Providing 38 storeys of residential property and 9 storeys of office space, The Atlas Building is the tallest residential building in London's Tech City standing at 152m high.

Mace are the main contractor on the project which consists of 302 one, two and three bedroom apartments, a private cinema room, a pool and a gym which will be completed in mid-2019. Vital Energi were provided the complete design and build of the heating and cooling solution in a £6.7m contract.

CLIENT

Mace

PROJECT

The Atlas Building

TIMESCALE:

May 2017 - Nov 2018

CONTRACT VALUE:

£6.7 million

VITAL SOLUTION

Our communal heating and cooling scheme will serve the whole tower including both residential and commercial units, and consists of a 158kW gas-fired CHP engine, a 2.8MW modular gas boiler, 12 condensing gas boilers and 1MW of water cooled chillers. We were also responsible for supplying and installing heat interface units (HIUs) into all apartments, as well as installing the riser and lateral pipework on each floor.

Separate plant rooms to ensure efficient solution due to unconventional building height

The site presented strict spatial measures providing limited space for the plant rooms, and therefore we designed a solution that would see the energy centre integrated into the building's existing floor space by placing it in the basement.

THE BENEFITS:

- > Innovative hinged flue system to overcome site challenges
- > Close coordination with client and external contractors to complete project efficiently and successfully
- > Tailoring design to fit energy scheme into strict spatial requirements
- > Lifting heavy equipment onto roof of 40 storey building

The solution consists of an energy centre and a separate chilled water plant room to provide suitable water pressure to all properties.



“ Mace have worked closely with Vital Energi on numerous residential projects. Vital Energi have their own in house design team which was extremely important for the award of this project. The construction delivery team through pre-construction have been enthusiastic and dependable, I am looking forward to delivering this project with Vital Energi. ”

MARK BURNS, CABINET MEP SENIOR PROJECT MANAGER, MACE

Due to the building's height, it was necessary to design a solution to ensure that the consistency of energy supply would be suitable for each dwelling. This presented challenges as the pressure of the hot and cold water would decrease the further up the tower and further away from the energy centre that it travels. We designed a second plant room to be installed on the 19th floor containing additional plate heat exchangers to hydraulically separate the heating and chilled water systems. This would provide a break in the heating and chilled water services to provide supply to the floors above and therefore deliver suitable pressure to all apartments.

Innovative hinged flue system to overcome unique project challenges

With little room on site for flexibility, we had to devise a solution for the flue system to fit on top of the building alongside the cooling towers. There was limited space on the roof which posed challenges within itself, but

with the tower standing to such a tall height, we needed a solution that would provide maintenance flexibility and ease. A hinged flue system was decided upon due to the ability to flip back and allow the Building Maintenance Unit to swing and rotate 360 degrees without obstruction, resulting in an uninterrupted heat and hot water supply to the building during periods of maintenance. The specially designed flue also has mesh covering on each section when flipped back which prevents debris from entering the system and locking out the energy centre's equipment.

Lifting heavy equipment 40 storeys onto the roof of the 152m tall building

The two cooling towers needed to be installed onto the roof of the tower which required careful coordination and thorough planning to execute due to the height of the building. We gave great consideration to an intense lift plan and attended various meetings to gain acceptance for the plans. We utilised a specialist

plant manoeuvring company to assist in the lift and completed it over a weekend to minimise any disruption to other site workers.

Close working relationships with all parties involved to overcome logistical challenges resulting in successful project installation

The project resides in an area of emerging developments with lots of construction projects underway, so close communication was essential to coordinate our deliveries and construction schedules.

To deliver the energy scheme efficiently, we attended a series of coordination workshops which aligned us to schedule our work alongside external contractors also working on the building. There were strict timescales to abide by in order for Mace to handover the commercial floors for building fit out which was earlier than that of residential, therefore we collaborated with other contractors to complete our aspects of the project in unison.