B A T T L E M c C A R T H Y©

Consulting Engineers & Landscape Architects

PROJECT:
Elephant & Castle Eco-Towers

CLIENT:
London Borough of Southwalk

ARCHITECTS:
Ken Yeang/HTA Architects Ltd

BM SERVICES:
Sustainable masterplanning & analysis

VALUE:
Classified

DESIGN BRIEF

To design three eco-towers at the centre of a major rejuvenation project for Elephant and Castle in south London.

The towers will provide a range of innovative high-rise residences for private purchase, affordable housng and social housing.

DESIGN INITIATIVES/ACTIONS UNDERTAKEN

The Elephant & Castle development encompasses a vision to transform around 200 acres into a scheme which will provide a rejuvenated social, economic, cultural and transport hub for south London.

Ken Yeang's 'City in the Sky' concept has influenced every aspect of the tower design from the use of green spaces to the inclusion of a number of different building uses into one structure.

The tower design reflects the general geographic environment and translates its inherent systems, zoning and social infrastructure into the vertical building form. In the wider Elephant and Castle context this translates as a sustainable approach to mixed-use development with an emphasis on integration and community rejuvenation.

Incorporation of commercial and retial spaces into largely residential tower provides;

- local employment opportunities with mixed use through all levels
- mixture of residents within the same vertical 'community'
- close proximity to basic amenities located in the ground level retail and commercial spaces
- a healthy landscaped environment, with shared public open spaces (parks in the sky), semi-private spaces (entrance courts) and private open spaces (balconies).

Within the residensial zones of the towers different residence are grouped according to type yet linked using shared open spaces. Thus studios, 2 bedroom flats and large apartments are grouped according to type rather than ownership to integrate social groups.

Every residensial unit will have an private open space while groups of units might share a sky-court or communal pod. Larger open spaces will then also serve the entire tower community.

The new parks in the wider development will integrate with the green spaces of the towers to provide continuous landscaped links throughout the area.

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The towers are configured as 2 blocks with a weather-protected landscaped core.

By incorporating housing, retail, leisure, communal facilities and commerce within a single structure the need to travel will be reduced. The vicinity of local transport links will maximise access to and use of public transport and minimise reliance on cars in the traffic clogged streets of Elephant and Castle.

Environmental sustainability is attained through a holistic approach to consider the towers in their entirety.

In ecological terms the design considers;

- the designed system's relations to external environment and ecosystems
- the designed system's internal relations, activities and operations. These must act together as an integrated building-wide mechanism to maintain comfort conditions.
- the input and output of energy and materials. Whilst energy use must be kept low in the towers, energy studies will also inform how energy may be effective transferred in and out of the building for an integrated site-wide energy reduction.

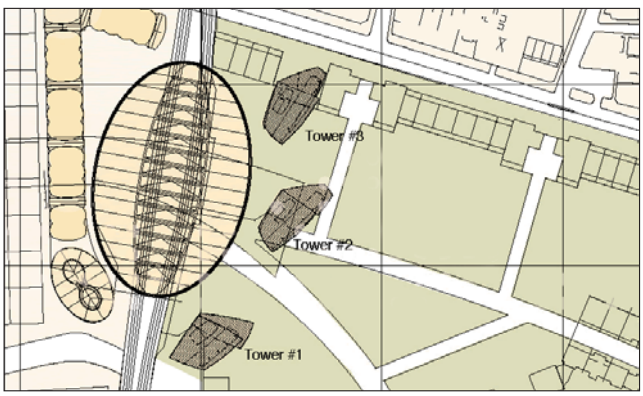
The existing urban site will be rehabilitated by encouraging the proliferation of flora and fauna in a number of different ecosystems. Continous planting between large landscaped areas and vertical planting will increase biodiversity and organis mass across the site.

Internally systems will be adopted to act to passively condition the environment and maintain comfortable internal spaces. Passive systems will also need need to act in mixed-mode with mechanical systems for year-round internal control and comfort.

The towers are orientated towards the south to capture the winter sun whilst also maximising views of the city to the north. Internal spaces and walkways capture the sun in a series of lightwells to brighten service areas in the apartments. The tower winds encourage a cool summer breeze to penetrate the internal spaces whilst also shielding the tower from the cold winter wind.

Vegetation and landscaping within the private gardens and sky parks in the buildings will act as a wind buffer while providing a healthy environment for residents. Vertical planting wil also provide solar shading and will reduce internal temperatures while vegetation will help to moisten the air and maintain temperature constants throughout the seasons.

The towers are incorporated within a larger landscaping strategy to provide continuous green corridors throught the development



The towers adjacent to the cover railway line and landscape housing estate.