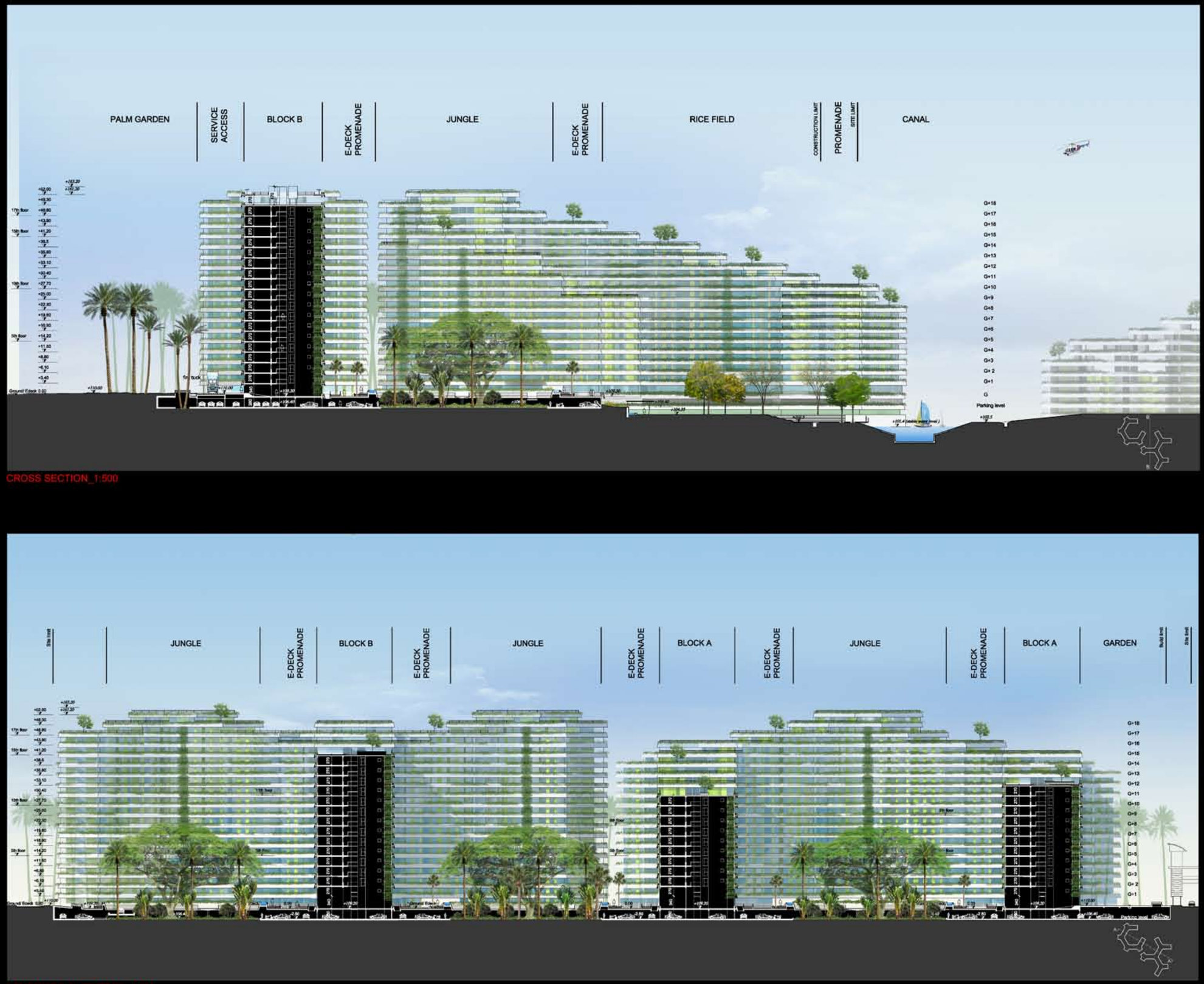
PUNGGOL WATERFRONT HOUSING DESIGN_TERRACES ON THE WATER

PGH334E



CROSS SECTION_1:500

LONGITUDINAL SECTION_1:500

GENERAL VIEW, FIRST STAGE

SUSTAINABLE FEATURES

Sustainability is a primary focus of the buildings' design with the goal of creating one of Singapore's greenest buildings. The underlying principle of the Environmentally Sustainable Design (ESD) features is passive design. The "back to basics" approach is favoured over technically complex solutions as it concurrently **minimises maintenance costs** and **maximise system life span**. The shape and orientation of the building, as well as the generous building openings and shading features, exploit the natural air movement and sun path to **optimise natural ventilation** and lighting while minimising heat absorption. In addition to careful building design, the generous use of landscape features throughout the project – at ground, roof and intermediate levels makes this residential development both figuratively and literally green. The landscape features (describedin more detail under the landscape section) contribute to **sustainability**, not only through their reduction of the urban heat island effect and absorption of the green house gas CO_2, but also in their storm water management and treatment, with the implementation of PUBs' ABC design principles.

The combination of the **minimalistic design** and the150 kWp photovoltaic (PV) installation means that approximately half of the projected public area daytime power demand will be offset by renewable solar energy. This lines up with the goal of creating one of **Singapore's greenest buildings**, as the project approaches zero energy use. It is not just the environmental impact of the buildings and surrounds that has been considered but also that of the social community that will reside there. The site location provides convenient **access to the LRT/MRT** system and the planned future town centre in the area will allows residents to minimize their use of cars and buses. In addition, **bicycle parks** will be provided throughout the parking level to further encourage the use of sustainable **transportation alternatives**.

ROOF EQUIPMENT

Roof levels of HDB blocks are commonly dominated with tall water storage tanks and lift machine rooms. To **maximize public space**, the roof spaces below Level 13 of the buildings will be clear of water tanks. Instead tanks on the highest roof tiers will feed the apartment under the lower roof tiers.

DENSITY AND LANDSCAPE

CONCEPTUAL MODEL