NEAT

NEW EXPERIMENTAL ARCHITECTURAL TYPOLOGIES

NEAT Concept: 6.6m x 13.8m 'Passivhaus' timber boxes that can be stacked in multiple configurations, in this case Block A has 1 bedroom Affordables on the lower level with 2 storey 2 & 3 bedroom boxes above; Block B has 2 levels of 1Bedroom Affordables with roof garden over; Block C has 2 layers of 2 storey 2 & 3 bedroom boxes looking north over the communal open space. Landscaped balconies are staggered, Which together with the plant filled stair shafts, assist with passive cooling and ventilation. The basement garage is designed to allow deep root planting in the central area with individual stairs to each block.

Prefabricated off-site, all wall, floor and roof elements are (mostly and typically) flat elements, transported to site and then linked together when dropped-in or dropped on the Basement podium slab.

4-storey timber framed construction with 200mm studs to be used on the 2 lower storeys and 140mm studs on the 2 upper storeys.

Fermacell's fireproof super-gyprock ("firepanel") technology, applied in double-layers in between every horizontal and/or vertical box external element for fire separation.

BLOCK A
66 Wall panels
96 Roof and floor panels 64 days total prefabrication, 6 days erecting
BLOCK B
24 Wall panels
32 Roof and floor panels 32 days, 4 days erecting
BLOCK C
68 Wall panels
96 Roof and floor panels 64 days prefabrication, 8 days erecting
Interior fit-out 2 months in total.

Territory Plan compliant except 6m front setbacks reduced to 4m.

"Passivhaus" blocks cost summaries:
A: AUD 3.94 million + GST
B: AUD 1.58 million + GST
C: AUD 4.15 million + GST
Basement Garage and stairs AUD 2.935million + GST
(includes a 5% Contingency).

50% of the units (1-8, 17-24, 26-27) will meet the affordablility criteria (Based on the following Assumptions - total build price $12.7mil; Land Value $3.584 mil = Affordable Sales - 16 @ $291,000, 2 @ $374,000; 2 & 3 bed unit Sales - 18 @ $604,000 av.)

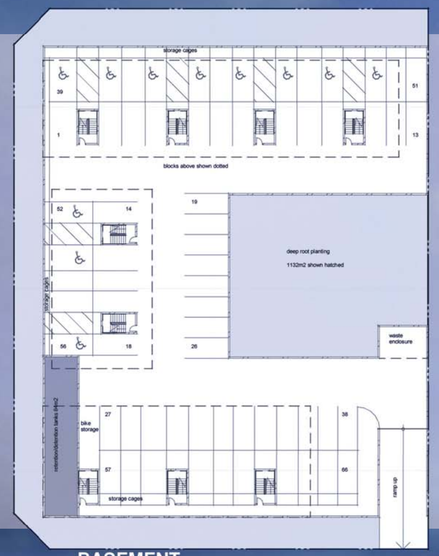
"Passivhaus" design and construction solutions/principles to ensure ultra-confortable, all PV electric, healthy dwellings that run on "next to nothing".

To ensure optimum performance the design incorporates:
- Perfect air-tightness – to eliminate heat gain as well as heat-loss from unwanted air infiltration;
- Seamless insulation – a layer, similar to an esky, installed around the entire building envelope to minimize heat transfer;
- External solar heat gain control – the use of active external shades to 'disconnect' the dwelling from the outdoor climate;
- Fresh-air supply via energy recovery ventilation - to ensure fresh air percolates throughout each dwelling; and
- Dew-point-shifting – to control external moisture via the installation of moisture-variable air-tightness membranes.

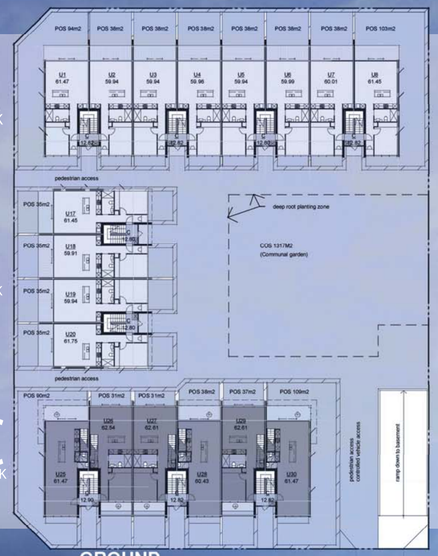
Energy Footprint of Passivhaus construction (excluding concrete basement):

* The "Embodied Energy" of all-timber constructions in general is typically 1.5-2 times lower than comparable all-masonry buildings and/or steel structure buildings with brick-veneer infill walls. This comparison is only indicative and varies with a broad range of project-specific parameters.
* Extensive comparisons of the "Primary Energy Investment" of Passivhaus building construction in particular have shown that they are on par with (or often slightly lower than) conventional buildings. However, the operational energy savings of Passivhaus buildings are significant.
* Extensive Life Cyle Assessment (LCA) data of Passivhaus buildings around the world prove that Passivhaus buildings have much lower cumulative primary energy consumption, clearly much lower operational costs, and overall a much lower environmental footprint than BCA- compliant 6-Star buildings.

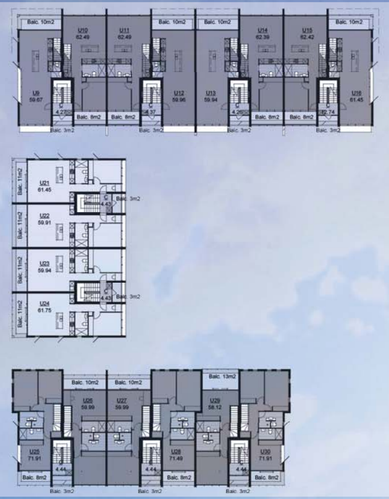
v) Comfort, Health (both from thermal comfort and air-quality) and Resale Value are additional strong points of Passivhaus buildings over BCA-compliant 6-Star buildings.
vi) NEAT = "Net Energy Autonomous Technology" Passivhaus buildings: The combination of "Passivhaus construction and building-applied solar PV" results in the NEAT project proposal to deliver net-energy-autonomous or even energy-positive operation in the sunny Canberra climate - forever.
vii) Designed & Built for Life: Following Central European leadership, the NEAT Passivhaus buildings are designed for 200 years and built for 100 years, with inherent minimal maintenance "built-in". This makes these buildings the most sustainable buildings possible.



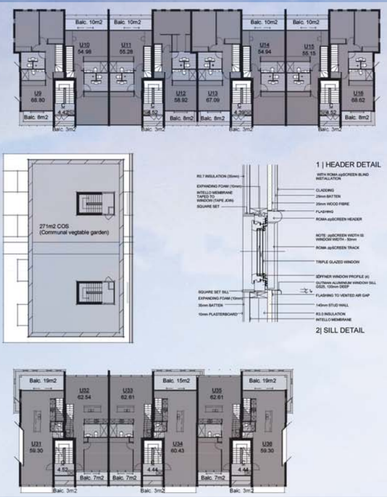
BASEMENT
CAR PARK PLAN



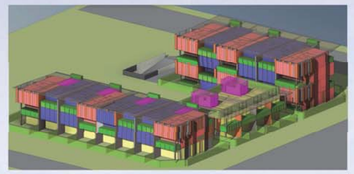
GROUND
FLOOR PLAN



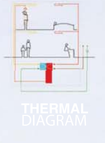
SECOND
FLOOR PLAN



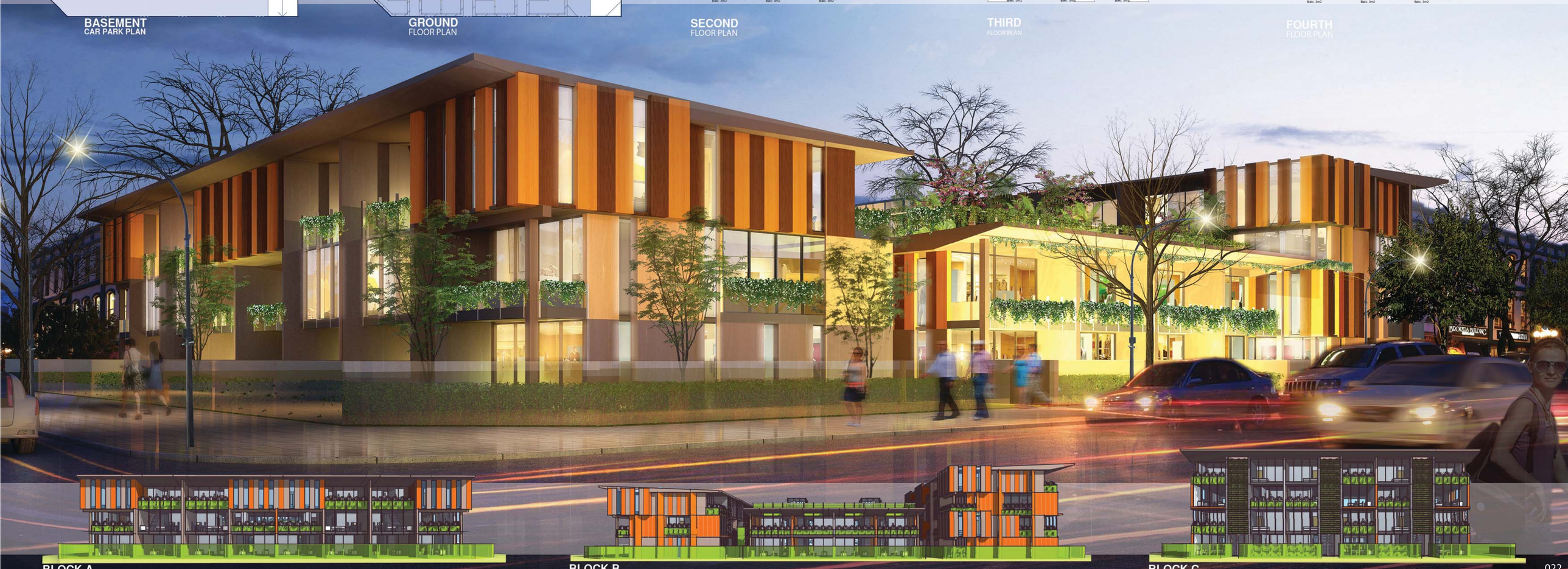
THIRD
FLOOR PLAN



FOURTH
FLOOR PLAN



THERMAL DIAGRAM



BLOCK A
NORTH VIEW

BLOCK B
WEST VIEW

BLOCK C
SOUTH VIEW