

HOUSING VARIETY INTRODUCING THE NEW STANDARD



Standard
HDB standard

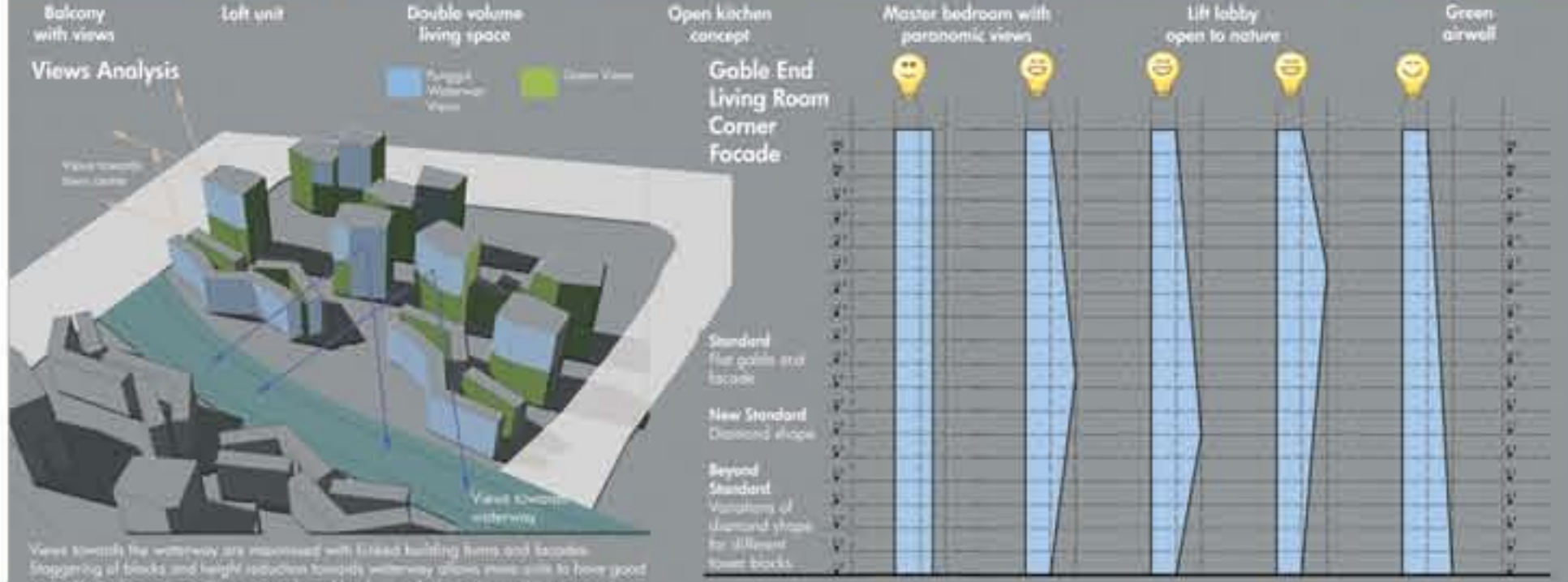
New Standard
New waterfront housing typology

Beyond Standard
New age design & lifestyle

At Punggol Archipelago, a new housing typology is created. The new standard features balconies, bedroom with panoramic views, double volume living space, transparent glass end to maximise views towards the Punggol Waterway.

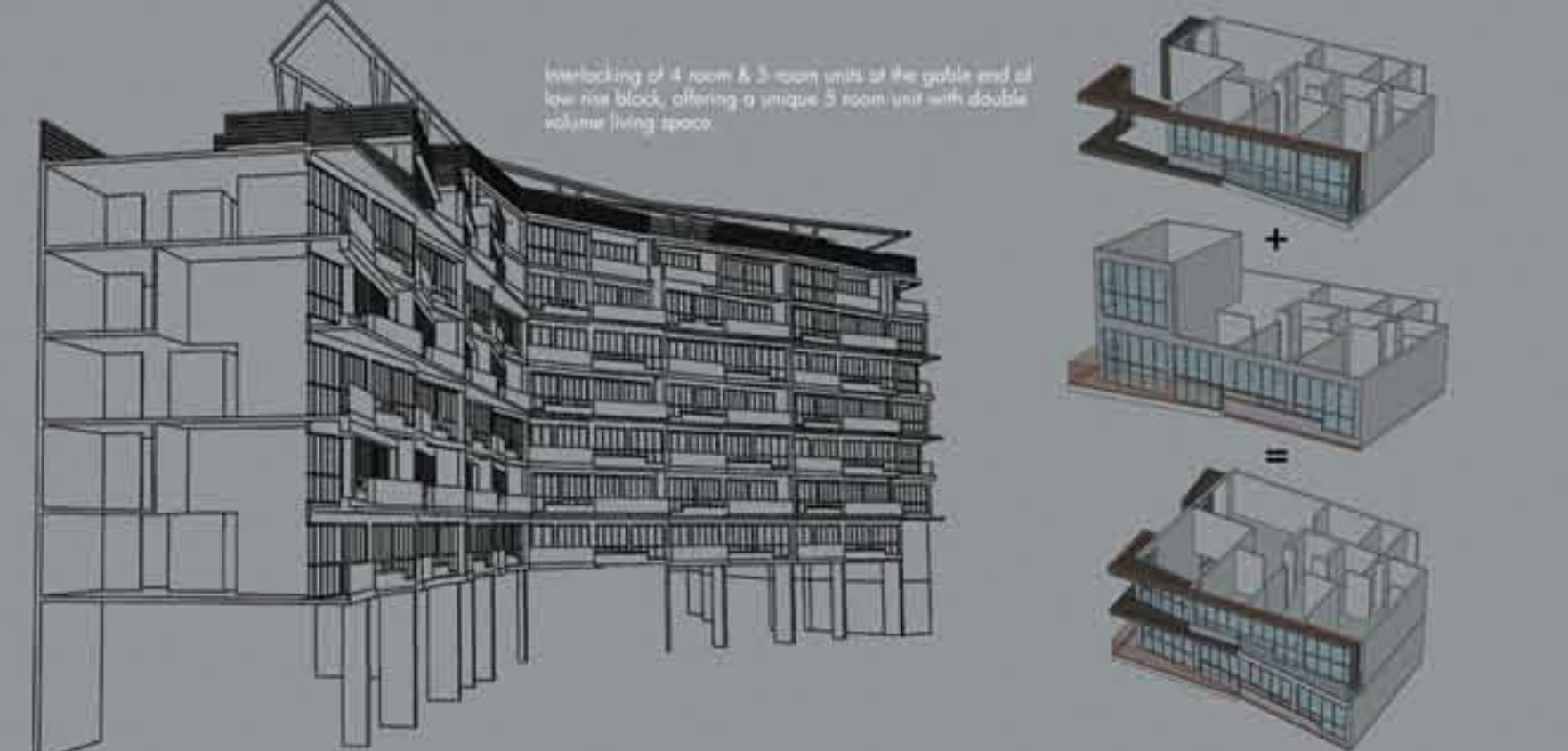
Fresh community spaces brings nature closer through our sky terraces, water features, bright green internal courtyards and green lift lobbies.

Creating the 3 standards offers greater design options and cost flexibility for HDB.



Residential unit types provide flexibility for the same family age - in place through large column free space.

This allows units to be reconfigured to accommodate the varying needs from the newlyweds to the 3 generation family.



SUSTAINABILITY & BUILDABILITY

GREENMARK

Section	Green Mark Measure	Key Features	Score
Section 1-1 to 1-7	Energy Efficiency	1. Low REITV 2. Max Natural Ventilation 3. Long Term Lighting Strategy 4. Energy Efficient Fitting 5. Transparency of Resources to renewable energy	60
Section 1-8 (bonus points)	Sustainable Energy (bonus points)	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	20
Section 2-1	Water Efficiency	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	8
Section 2-2	Sustainable Construction	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	8
Section 2-3	Landscaping	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	3
Section 2-4	Environmental management	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	8
Section 3	Green Feature and Innovation	1. Efficient use of water energy 2. Efficient water metering 3. Reducing water waste and usage 4. Lower carbon foot print of construction (recycle materials)	6
Total Score			102.2

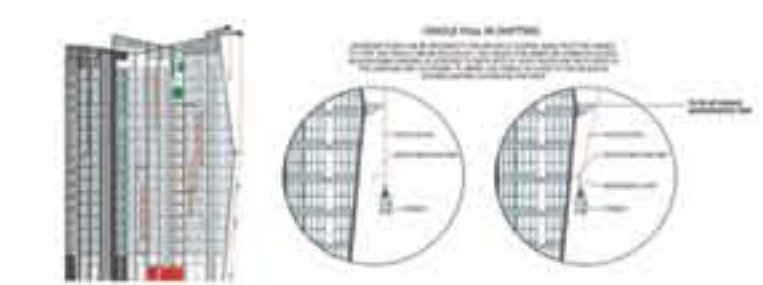
BUILDABILITY

- Simple & regular structural and unit layout with no transfer structure
- Modularisation & standardisation promote use of precast components
- Achieve structural buildable score of min. 82
- Achieve CUI of max. 0.44 m³/m²
- Design for 10 days construction cycle time
- Achieve 72% above for precast level
- Modular precast component design & achieve 100 times of repetition per precast facade mould
- Incorporate flexibility for staggered construction
- Strategic positioning of column & beam to allow future reconfiguration



MAINTENANCE

- Facade designed to have minimal recess & protrusion
- Cast in window frame into facade improve water tightness & reduce maintenance
- Provision of supports, anchorage points and accessible RC platform of roof top for gondolas for periodic building maintenance



ENERGY EFFICIENCY

sunpipes, light sensors & bms

- ADVANTAGES**
- Reduce energy costs
 - Less maintenance
 - Flexible settings
 - Reduce carbon footprint
 - Strategic zoning of light & motion sensor to reduce capital cost

Energy Saving: 103,205 kWh/yr
Carbon Saving: 51,602 kg
Electrical saving @ 20 cents/kWh = \$24,126/yr
Payback: 10.2 yrs

- Carport Lighting Strategy**
- 65% savings in lighting
 - 530mm light pipe
 - Motion Sensors
 - 250mm light pipes

- Residential Block Lighting Strategy**
- 25% saving on lighting
 - Adjustable anytime
 - Consider:
 - Set to 20% brightness for security and peace of mind
 - Brightness to 85% when motion is detected
 - Staircases set to constant
 - 7pm to 2am - 85%
 - 1am to 5.30am - 65%
 - 5.30am to 7am - 85%

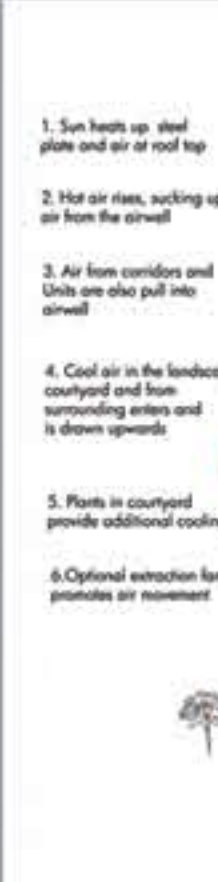
IEQ

wind flow



INNOVATION

origami passive heat plate



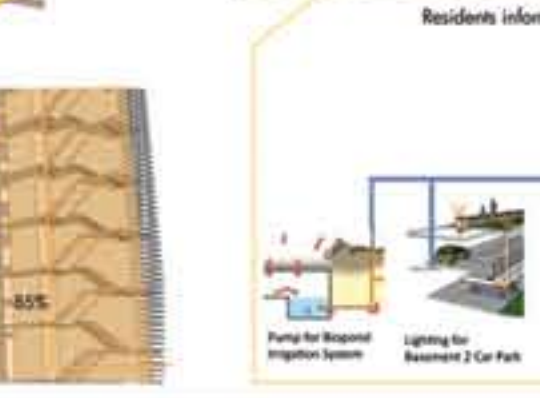
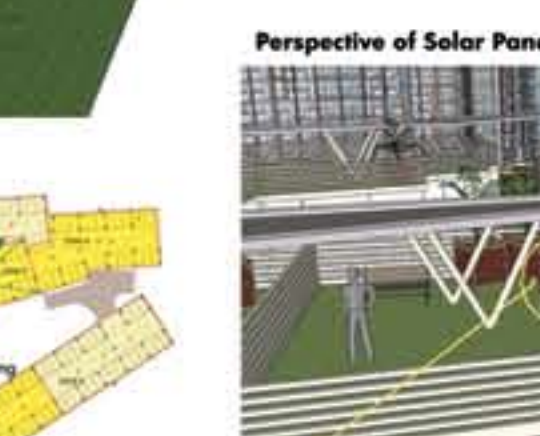
RENEWABLE ENERGY

solar energy

- ADVANTAGES**
- Energy Output: 150 kWp
 - Energy Savings: 165,000 kWh/yr
 - Carbon Savings: 82,500 kg
 - Electrical Savings @20 cents/kWh = \$33,000/yr

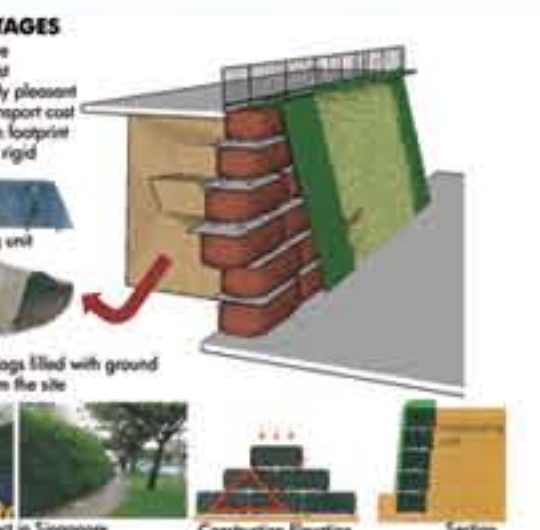
- Grid connected with no batteries minimise losses & maintenance

Site Shadow Analysis
December Solstice, 08:00 - 18:00
June Solstice, 08:00 - 18:00
March Solstice, 08:00 - 18:00



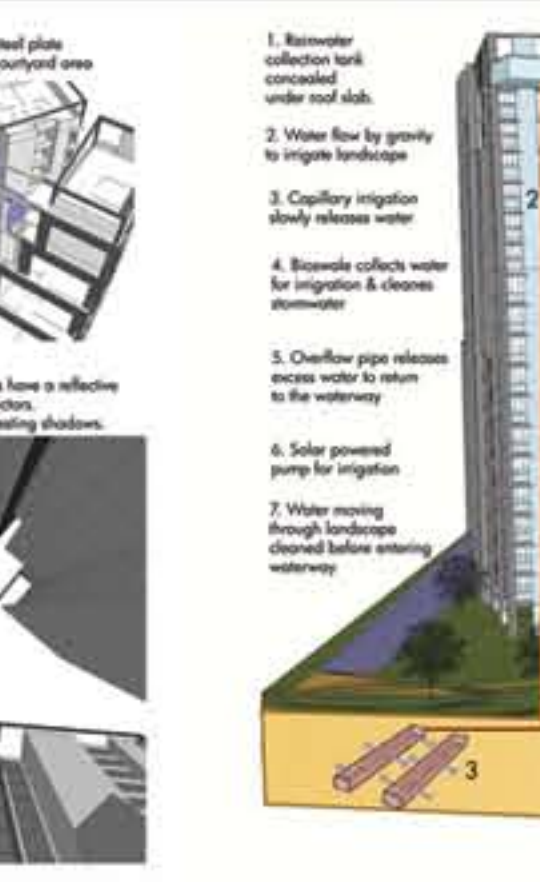
INNOVATION

earth wall & automated waste collection system



INNOVATION

water management system



Flexibility for all families

The Interlocking 4, 5, 6, 7 room units