

GREEN MARK FOR BUILDINGS AWARD



The Award

The BCA Green Mark scheme was launched in 2005 as a key strategic programme to raise the awareness of sustainable and environmentally friendly buildings. It evaluates buildings for their environmental impact and performance. The benefits of Green Mark buildings include cost savings from efficient use of key resources such as energy and water, leading to lower operation and maintenance costs. Other less tangible benefits include enhanced occupant productivity and health due to good indoor environmental quality.

BCA GREEN MARK TECHNICAL ADVISORY COMMITTEE

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Mr Lee Chuan Seng	BCA Board Member Chairman, Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd
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Mr Tan Tian Chong	Building and Construction Authority
Mr Wong Wai Ching	Building and Construction Authority

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Platinum

NO. 9 TAMPINES GRANDE



Client / Developer	City Developments Limited
Project Manager	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Architect	Architects 61 Pte Ltd
M&E Engineer	Conteem Engineers Pte Ltd
Structural Engineer	LSW Consulting Engineers
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	Dragages Singapore Pte Ltd
Landscape Consultant	Coen Design International Pte Ltd
Others	Building System & Diagnostics Pte Ltd Meinhardt Façade Technology Pte Ltd

Key Green Features:

- Estimated energy savings: 2,700,000 kWh/yr
- Photovoltaic cells 100 kWp
- Building Integrated Photovoltaic at the west façade (7 kWp)
- Solar air conditioning system
- Rainwater collection system (70m³)
- NEWater for toilet flushing

GREEN MARK FOR BUILDINGS AWARD

Platinum

313@SOMERSET



Client	Lend Lease Retail Investments 1 Pte Ltd
Developer,	Lend Lease Retail Pte Ltd
Concept & Retail Architect	
D & C Contractor	Bovis Lend Lease Pte Ltd
Architect	Aedas Pte Ltd
M&E Engineer	Bescon Consulting Engineers Pte
Structural Engineer	Meinhardt Infrastructure Pte Ltd
Energy, Wind & Sun	Building Systems & Diagnostics Pte Ltd
Consultant	
Carbon Management	Battle McCarthy / DCarbon8
Consultant	
Lighting Consultant	Speirs & Major Associates

Key Green Features:

- Estimated energy savings: 6,300,000 kWh/yr, water savings: 22,500 m³/yr
- Control on energy usage (W/m²) specified in Green Lease for tenants
- Solar panels to power up carpark lightings and barrier system
- Small portion of carpark fees fund solar panels for development to offset the carbon of vehicles getting to the mall
- Sprinkler Tank for Thermal Energy Storage Bank
- Carbon footprint studies for the embodied carbon of the development

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OCEAN FINANCIAL CENTRE



Client / Developer	Ocean Properties Pte Ltd
Project Manager	Keppel Land International Limited
Architect	Architects 61 Pte Ltd
M&E Engineer	Pelli Clarke Pelli Architects Inc.
Structural Engineer	Parsons Brinckerhoff Pte Ltd
Quantity Surveyor	T.Y.Lin International Pte Ltd
	KPK Quantity Surveyors (1995)
	Singapore Pte Ltd
Builder	Obayashi – Woh Hup Joint Venture
Landscape Consultant	Tierra Design (S) Pte Ltd
Architectural Lighting Consultant	Parsons Brinckerhoff Pte Ltd
Energy & Green Mark Consultant	Lighting Planners Associates Inc.
Façade Consultant	G-Energy Global Pte Ltd
Façade Access Consultant	ALT Cladding, Inc.
Wind Engineer Services Consultant	Lerch Bates – Façade Access
Acoustic Consultant	WindTech Consultants Pty Ltd
	Acvicon Acoustic Consultants Pte Ltd

Key Green Features:

- Estimated energy savings: 9,000,000 kWh/yr, water savings: 42,000 m³/yr
- Use of photovoltaic to harness solar energy (75 kWp)
- Eco Switch Control Programme for tenants to control temperature and light fittings to minimise power consumption during off-peak and lunch hours
- Use of Regenerative Drive System for all low, mid and high-rise lifts
- Extensive vertical greening and roof gardens
- Integrated paper recycling facility for offices and users to recycle paper waste. Concerted effort by building management to achieve 100% recycling of paper waste generated by the development

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THE SOLITAIRE



Client / Developer	City Developments Limited
Project Manager	City Developments Limited
Architect	Team Design Architects Pte Ltd
M&E Engineer	Squiremech Pte Ltd
Structural Engineer	KTP Consultants Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Poh Lian Construction Pte Ltd
Landscape Consultant	Site Concepts International

Key Green Features:

- Estimated energy savings: 1,250,000 kWh/yr, water savings: 2,500 m³/yr
- Use of bio-fuel for construction equipment
- Motion and lux sensors for staircase half landing and private lift lobby
- Use of recycling aggregates for single storey structure
- Pneumatic waste collection system with additional chute for recyclable refuse
- Green roof and vertical green

Platinum

CLIVEDEN AT GRANGE



Client / Developer	City Developments Limited
Project Manager	City Developments Limited
Architect	ADDP Architects
M&E Engineer	Meinhardt (Singapore) Pte Ltd
Structural Engineer	LSW Consulting Engineers
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Kajima Overseas Asia Pte Ltd
Landscape Consultant	Cicada Pte Ltd
Design Consultant	Carlos A. Ott Architect
Façade Consultant	Connell Wagner Pte Ltd
Acoustic Consultant	Acvicon Acoustics Consultants Pte Ltd
Interior Designer	Axis ID Pte Ltd

Key Green Features:

- “Green” Clubhouse with green roof, photo-catalyst coating with water film cooling system, heat pump to heat up water for showers and natural ventilation at changing rooms
- “Green” Clubhouse used as Green Educational Centre to promote environment friendly features and good practices to residents
- Wireless lighting on/off and dimming switches for all apartment units
- Centralised recyclables refuse chute with pneumatic collection system
- Regenerative fan and dynamo-fitted basement Mechanical Ventilation system

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GOODWOOD RESIDENCE



Client / Developer	GuocoLand Limited
Architect	WOHA Architects Pte Ltd
M&E Engineer	Rankine and Hill (S) Pte Ltd
Structural Engineer	DE Consultants (S) Pte Ltd
Quantity Surveyor	WT Partnership
Landscape Consultant	ICN Design International Pte Ltd
Façade Design Consultant	Connell Wagner (Pte) Ltd
Lighting Design Consultant	Fabulux Pte Ltd
Computer Fluid Dynamics Consultant	Building System & Diagnostics
Acoustic Consultant	Acvicon Acoustic Consultants

Key Green Features:

- Estimated energy savings: 2,300,000 kWh/yr, water savings: 2,000 m³/yr
- Operable sunscreens in building façade shade apartments and allow for good natural ventilation
- Building façades incorporate Green Walls with lush vegetations to reduce the ambient temperature
- Waste generated by demolition of existing building is utilised as aggregates for new building's precast internal walls
- Infiltration trenches built at the base of adjoining Goodwood Hill to collect and filter groundwater before channeling to rainwater harvesting tank
- Pneumatic collection system – double refuse chutes provided in service lobbies to separate recyclable and non-recyclable wastes

Gold^{plus}

TOKIO MARINE CENTRE



Client / Developer	TM Asia Insurance Singapore Limited
Architect	Chan Sau Yan Associates
M&E Engineer	Vincent Han & Associates
Structural Engineer	WEB Structures
Quantity Surveyor	Northcroft Lim Consultants Pte Ltd
Builder	Shimizu Corporation
Landscape Consultant	Hydroscape Culture Pte Ltd
Energy & Green Mark Consultant	G-Energy Global Pte Ltd
Lighting Consultant	BO Steiber Lighting Design

Key Green Features:

- Estimated energy savings: 830,000 kWh/yr, water savings: 5,400 m³/yr
- Efficient air-con system
- Automated carpark system
- Heat pipe for relative humidity control
- Plasma air purifiers

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Goldplus

RIVERIA GARDENS



Client / Developer	I. Contemporary Living Pte Ltd
Architect	Park Associates Pte Ltd
M&E Engineer	Bescon Consulting Engineers Pte
Structural Engineer	EPM Consultants
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	I. Delight (S) Pte Ltd
Others	2nd Edition Pte Ltd

Key Green Features:

- Estimated energy savings: 550,000 kWh/yr, water savings: 8,000 m³/yr
- Sky garden at every floor
- Turbine above airwell to improve air circulation for clothes drying at yard
- Motion sensors to dwelling units' toilets and kitchens
- Access hub (combination of motion sensors and photocells) at staircase half-landing
- Solar heated spa and ozone treatment system for swimming pool

Goldplus

SHELFORD SUITES



Client / Developer	City Developments Limited
Architect	New Space Int'l Architectural Practice Pte Ltd
M&E Engineer	Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd
Structural Engineer	LSW Consulting Engineers
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	Tiong Seng Contractors (Pte) Ltd
Landscape Consultant	Site Concepts International
Interior Designer	Index Design Pte Ltd
Energy Consultant	G Energy Global
Acoustic Consultant	Acvicon Acoustics Consultant
Natural Ventilation Consultant	Building System and Diagnostics Pte Ltd

Key Green Features:

- Estimated energy savings: 280,000 kWh/yr, water savings: 4,300 m³/yr
- Photovoltaics for management office and heat pump for club house toilet
- Light pipe for basement carpark
- Motion sensors for staircase half landing
- Green roof
- Pneumatic waste collection system

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Gold^{plus}

AALTO



Client / Developer	Hong Leong Holdings Ltd
Architect	RDC Architects Pte Ltd
M&E Engineer	Meinhardt (Singapore) Pte Ltd
Structural Engineer	KTP Consultants Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Hup Soon Construction Pte Ltd
Landscape Consultant	Sitetectonic Pte Ltd
Interior Designer	Axis ID Pte Ltd

Key Green Features:

- Estimated energy savings: 2,500,000 kWh/yr, water savings: 12,000 m³/yr
- Motion sensor lighting at all private lift lobbies, changing rooms and common staircases leading down to basement carpark
- Pneumatic waste collection system with inverter controller
- Rooftop garden at clubhouse
- Collection of air-con condensate water for irrigation use
- Collection of rainwater for landscape irrigation use

Gold^{plus}

WILKIE STUDIO



Client / Developer	City Developments Limited
Architect	ADDP Architects
M&E Engineer	Belmacs Pte Ltd
Structural Engineer	KTP Consultants Pte Ltd
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	Tiong Seng Contractors (Pte) Ltd
Landscape Consultant	Site Concept International
Interior Designer	Index Design Pte Ltd
Acoustic Consultant	Acvicon Acoustics Consultant
Natural Ventilation Consultant	Building System and Diagnostics Pte Ltd

Key Green Features:

- Estimated energy savings: 150,000 kWh/yr, water savings: 500 m³/yr
- 100% recycled drywall partition system, compressed marble floor finish and honeycomb door for all units
- 100% 4 ticks fridge and multi-split air-con system
- Rainwater harvesting and automatic water-drip irrigation system
- On-site water recycling plant
- Twin chute pneumatic refuse chute system with recycling facilities

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Gold^{plus}

CLEMENTIWOODS CONDOMINIUM



Client / Developer	Frasers Centrepoint Limited
Project Manager	FCL Loft Pte Ltd
Architect	ADDP Architects
M&E Engineer	Belmacs Pte Ltd
Structural Engineer	P&T Consultants Pte Ltd
Quantity Surveyor	JIA Quantity Surveyors & Project Management Pte Ltd
Builder	China Construction (South Pacific) Development Co Pte Ltd
Landscape Consultant	Mace Studio Pte Ltd

Key Green Features:

- Estimated energy savings: 2,400,000 kWh/yr, water savings: 23,000 m³/yr
- Energy-saving and timer lightings in common areas, inverter air-con system and energy-efficient lift system
- Thermal insulating paint used for external façade wall to reduce solar heat gain
- Water-efficient dual flush sanitary wares and fittings for units and sensors in common area toilets
- Rainwater harvesting for e-deck landscaping irrigation
- Extensive landscaping including green roof, vertical / horizontal green screening, green “column” and bio-filter aquatic pond to regulate micro-climate

Gold^{plus}

THE REGENT SINGAPORE, A FOUR SEASONS HOTEL



Client / Developer	Pontiac Hotel Pte Ltd
Landscape Consultant	Mirage Landscape
Energy Consultant	SuperSolutions Pte Ltd

Key Green Features:

- Estimated energy savings: 300,000 kWh/yr
- Energy Smart Hotel with excellent building energy performance
- Replacement of diesel boiler with a heat recovery system
- Extensive installation of LED lighting system for spiral staircases in the lobby, fountain lights, and decorative chandelier
- Photocell was installed to monitor the luminance level at the guest room corridor of Level 12, which is directly under the skylight
- Extensive recycling programmes - waste (tin cans, plastic bottles, glass bottles, papers, waste oil from the various kitchens and food waste) generated by hotel operation are sent for recycling

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HONG WEN SCHOOL



Client / Developer	Hong Wen School / Ministry of Education, Singapore
Project Manager	Davis Langdon & Seah Project Management Pte Ltd
Architect	Architects Vista Pte Ltd
M&E Engineer	CMP Consulting Engineers
Structural Engineer	Lim Kim Cheong Consultants
Quantity Surveyor	WT Partnership
Builder	CMC Construction Pte Ltd
Landscape Consultant	Prince's Landscape & Construction Pte Ltd

Key Green Features:

- Use of Solar tube to bring in external light into 1st storey foyer space
- Depth of most classrooms is not more than 9.5m to allow for natural daylighting
- Use of light-weight roof garden system over classroom blocks

Gold

RIVER VALLEY HIGH SCHOOL



Client / Developer	Ministry of Education, Singapore
Project Manager	PM Link Pte Ltd
Architect	Architects 61 Pte Ltd
M&E Engineer	Alpha Engineering Consultant
Structural Engineer	Fong Consulting
Quantity Surveyor	CPG Consultants Pte Ltd
Builder	Koh Brothers Building & Civil Engineering Contractor Pte Ltd

Key Green Features:

- Adopted good building envelope design for right orientation and maximising natural daylighting
- Use of energy-efficient fittings such as lightings, lighting controls, air-con and lifts
- Use of high-frequency electronic ballasts to all fluorescent luminaries for better lighting

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CANADIAN INTERNATIONAL SCHOOL



Client / Developer	Canadian International School
Architect	Strategic Design International
M&E Engineer	Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd
Structural Engineer	BK Consulting Engineers
Quantity Surveyor	Turner & Townsend Pte Ltd

Key Green Features:

- Thermal Energy Storage installed to balance the energy demand between peak and off-peak hours and enables chiller plant to operate at best efficiency
- Light pipes are provided to maximise day lighting and reduce the need for lighting power
- Extensive greening with lakeside view gives a “School House in the Garden” concept

Gold

CAPITALAND INSTITUTE OF MANAGEMENT & BUSINESS (CLIMB) @ SENTOSA



Client / Developer	CapitaLand Commercial Ltd
Project Manager	CapitaLand Commercial Ltd
Architect	CPG Consultants Pte Ltd
M&E Engineer	CPG Consultants Pte Ltd
Structural Engineer	Tham & Wong LLP
Quantity Surveyor	Rider Levett Bucknall
Builder	HON Industries Pte Ltd
Landscape Consultant	Cicada Pte Ltd
Green Consultant	CPGreen @ CPG Consultants Pte Ltd
Interior Consultant	Ministry of Design Pte Ltd
Acoustic Consultant	Acvicon Acoustics Consultants Pte Ltd

Key Green Features:

- Restoration, conservation and adaptive reuse of whole building
- Rainwater harvesting system to store collected rainwater in an underground tank and then deliver the filtrated rainwater to water points for general washing and irrigation purposes
- Conservation of mature trees

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Gold

ONE SHENTON



Client / Developer	City Developments Limited
Architect	Architects 61 Pte Ltd
M&E Engineer	Parsons Brinckerhoff Pte Ltd
Structural Engineer	Meinhardt (Singapore) Pte Ltd
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	Hyundai Engineering & Construction Co Ltd
Landscape Consultant	Tierra Design (S) Pte Ltd
Energy Consultant	G-Energy Global Pte Ltd
Façade Consultant	Connell Wagner Pte Ltd

Key Green Features:

- Use of pneumatic twin refuse chute
- Use of motion sensors for staircase half landing and private lift lobbies
- Bio pond

Gold

71 ROBINSON ROAD



Client / Developer	Kajima-Lehman (Robinson) Development Pte Ltd
Architect	Architects 61 Pte Ltd
M&E Engineer	Squire Mech Pte Ltd
Structural Engineer	RSP Architects Planners & Engineers Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Kajima Overseas Asia Pte Ltd
Landscape Consultant	Tar Hong Pte Ltd / Geok Lan Landscape
Others	Project Lighting Design (Lighting Consultant)

Key Green Features:

- Water-efficient irrigation and landscaping are achieved from harvested rainwater and NEWater
- Low Flow High Temperature chilled water system is implemented using less energy for cooling
- Priority carpark lots allocated for fuel efficient green vehicles like hybrid cars as an encouragement to car users

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Gold

MARINA BAY FINANCIAL CENTRE PHASE 1 – COMMERCIAL



Client / Developer	Keppel Land International Limited / Hong Kong Land (Singapore) Pte Ltd / Cheung Kong (Holdings) Limited
Project Management	BFC Development Pte Ltd
Architect	DCA Architects Pte Ltd
Design Consultant	Kohn Pedersen Fox Associates PC
M&E Engineer	Meinhardt (Singapore) Pte Ltd
Structural Engineer	Meinhardt (Singapore) Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Kajima-Tiong Seng Joint Venture
Landscape Consultant	Tierra Design (S) Pte Ltd
Piling Contractor	Tiong Seng Contractors (Pte) Ltd
Energy Audit Consultant	G-Energy Global Pte Ltd

Key Green Features:

- Additional Waste Compactor for recyclables is provided
- Carpark Guidance System
- Use of Seawater for ground improvement works

Gold

PATERSON SUITES



Client / Developer	Bukit Sembawang View Pte Ltd
Project Manager	Bukit Sembawang View Pte Ltd
Architect	DP Architects
M&E Engineer	Rankine and Hill Consulting Engineers
Structural Engineer	KTP Consultants Pte Ltd
Quantity Surveyor	WT Partnership
Builder	Greathouse Construction Pte Ltd
Landscape Consultant	DLQ Design Pte Ltd

Key Green Features:

- Building design which minimises west-facing windows and allows cross ventilation and natural light through the units
- Rainwater harvesting and auto irrigation
- Use of energy-efficient features such as motion detectors for private lift lobbies and walk-in wardrobes, energy-efficient air-con, fridges and lifts

GREEN MARK FOR BUILDINGS AWARD

Gold

THE VERMONT ON CAIRNHILL



Client / Developer	Bukit Sembawang View Pte Ltd
Project Manager	Bukit Sembawang View Pte Ltd
Architect	P&T Consultants Pte Ltd
M&E Engineer	United Project Consultants Pte Ltd
Structural Engineer	P&T Consultants Pte Ltd
Quantity Surveyor	WT Partnership Pte Ltd
Builder	Kimly Construction Pte Ltd
Landscape Consultant	Site Concept Pte Ltd
Others	Cynosure Interior Design Pte Ltd

Key Green Features:

- Use of insulation paint for west-facing walls
- Green wall
- Bio pond

Gold

THE VERDURE



Client / Developer	Bukit Sembawang View Pte Ltd
Project Manager	Bukit Sembawang View Pte Ltd
Architect	CPG Consultants Pte Ltd
M&E Engineer	KTP Consultants Pte Ltd
Structural Engineer	Rankine & Hill Singapore Pte Ltd
Quantity Surveyor	Northcroft Lim Consultants Pte Ltd
Landscape Consultant	DLQ Design Pte Ltd
Others	Index Design Pte Ltd

Key Green Features:

- Provision of sun-shading, low-E glass and thermal insulating paint treatment for western façade
- Provision of titanium dioxide coating to external glazing for self-cleaning capability
- Solar tube to convey daylighting to basement carpark

GREEN MARK FOR BUILDINGS AWARD

Gold

L'VIV



Client / Developer	Winnorth Investment Pte Ltd
Project Manager	Wing Tai Property Management Pte Ltd
Architect	Arc Studio Architecture + Urbanism
M&E Engineer	United Project Consultants Pte Ltd
Structural Engineer	P&T Consultants Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Landscape Consultant	Salad Dressing Pte Ltd
Lighting Consultant	Lighting Planners Associates (S) Pte Ltd

Key Green Features:

- Building blocks are placed and oriented to reduce direct sunlight into apartment units
- Solar panel for common staircase lighting
- Extensive green wall and trellis at driveway

Gold

THE RIVERINE BY THE PARK



Client / Developer	Wintree Investment Pte Ltd
Architect	P&T Consultants Pte Ltd
M&E Engineer	United Project Consultants Pte Ltd
Structural Engineer	P&T Consultants Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Greathouse Corporation Pte Ltd
Landscape Consultant	DLQ Design Pte Ltd

Key Green Features:

- Use of motion sensor for clubhouse toilets and private lift lobbies
- Provision of green walls and green trellises
- Chemical-free termite treatment system

GREEN MARK FOR BUILDINGS AWARD

Gold

HELIOS RESIDENCES



Client / Developer	Winnervest Investment Pte Ltd
Project Manager	Wing Tai Property Management Pte Ltd
Architect	P&T Consultants Pte Ltd
M&E Engineer	Beca Carter Hollings & Ferner (S.E.Asia) Pte Ltd
Structural Engineer	DE Consultants (S) Pte Ltd
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Thian Sung Construction Pte Ltd
Landscape Consultant	Sitetectonix Pte Ltd

Key Green Features:

- Motion detectors to staircases
- Rainwater collection tank for landscaping irrigation
- Extensive landscaping at entrance levels. Planting vine extended vertically to residential towers

Gold

8 NASSIM HILL



Client / Developer	Tennessee Pte Ltd
Architect	Chan Sau Yan Associates
M&E Engineer	Chee Choon & Associates Consulting Engineers
Structural Engineer	Web Structures
Quantity Surveyor	Northcroft Lim Consultants Pte Ltd
Builder	Tokyu Construction Pte Ltd
Landscape Consultant	Lekker Design Pte Ltd
Green Consultant	Connell Wagner Pte Ltd
Acoustic Consultant	Connell Wagner Pte Ltd
Façade Consultant	Connell Wagner Pte Ltd

Key Green Features:

- Southwest and Northeast oriented
- Energy-efficient air-con, refrigerator, T5 and LED lighting
- Gas water heater

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Gold

LATITUDE



Client / Developer	Phoenix Realty Pte Ltd (subsidiary of CapitalLand)
Architect	RSP Architects Planners & Engineers Pte Ltd
M&E Engineer	Belmacs Pte Ltd
Structural Engineer	SCE Consultants Pte Ltd
Quantity Surveyor	Rider Levett Bucknall
Builder	Nakano Singapore (Pte) Ltd
Landscape Consultant	Sitetectonix Private Limited
Acoustic Consultant	CCW Associates Pte Ltd

Key Green Features:

- Extensive landscape at the e-deck, green roofs at the clubhouse and gymnasium. Planting in the basement and planters on building façade provide lush greenery
- Use of energy-efficient light fittings in common areas, inverter air-con system with energy green labels and VVVF lifts reduce energy consumption
- Online portal with green building guide to educate residents on the energy-efficient features of the apartment unit and development

Gold

TURQUOISE



Client / Developer	Ho Bee Cove Pte Ltd
Project Manager	Mr Lum Hon Chew
Architect	RSP Architects Planners and Engineers Pte Ltd
M&E Engineer	Bescon Consulting Engineers Pte
Structural Engineer	Arup Singapore Pte Ltd
Quantity Surveyor	Davis Langdon & Seah S'pore Pte Ltd
Builder	Kim Seng Heng Engineering Construction Pte Ltd
Landscape Consultant	Coen Design International Pte Ltd
Lighting Consultant	The Lightbox

Key Green Features:

- North-South orientation with short sides facing East-West, thus minimising heat gain
- Use of low voc internal paint and recycled products eg. carpets, drainage cells and green label products ie. paint and waterproofing
- Use of pneumatic refuse conveyance system and siphonic drainage system

GREEN MARK FOR BUILDINGS AWARD

Gold

THE ORANGE GROVE



Client / Developer	Ho Bee Developments Pte Ltd
Project Manager	Ho Bee Investment Ltd
Architect	DCA Architects Pte Ltd
M&E Engineer	Parsons Brinckerhoff Pte Ltd
Structural Engineer	KTP Consultants Pte Ltd
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Builder	Kim Seng Heng Engineering Construction Pte Ltd
Landscape Consultant	Coen Design International Pte Ltd
Others	CCW Associates Pte Ltd

Key Green Features:

- Use of energy-efficient equipment such as lightings, air-con and lifts
- Use of pneumatic waste conveyance system
- Use of solar energy for all energy requirements of the guardhouse

Gold

URBAN RESORT CONDOMINIUM



Client / Developer	Jubilee Realty Pte Ltd
Project Manager	CapitaLand Residential Singapore Pte Ltd
Architect	Kerry Hill Architects
Quantity Surveyor	KPK Quantity Surveyors (1995) Singapore Pte Ltd
Landscape Consultant	ICN Design International

Key Green Features:

- Use of motion sensors and photo sensors at lift lobbies and clubhouse changing room
- Use of energy-efficient water heater with heat elevator
- Use of LED lighting for landscape and bathroom night lights

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ST THOMAS SUITES



Client / Developer
Project Manager
Architect

M&E Engineer
Structural Engineer
Quantity Surveyor
Builder
Landscape Consultant
Interior Designer

FCL Tower Pte Ltd
FCL Management Services Ltd
SAA Architects Pte Ltd In association with
Miyake Masaki Associates
Alpha Consulting Engineers Pte Ltd
SCE Consultants Pte Ltd
Davis Langdon & Seah Singapore Pte Ltd
Nakano Singapore Pte Ltd
Belt Collins International (Singapore) Pte Ltd
Leo International Design Group Co. Pte Ltd

Key Green Features:

- Provision of pneumatic waste collection system
- Solar powered light emitting tiles & solar powered bollard lighting at landscape areas
- Sun pipes with e-deck for natural lighting to basement car park

Gold

REFLECTIONS @ KEPPEL BAY



Client / Developer
Project Manager
Architect
M&E Engineer

Structural Engineer
Quantity Surveyor
Builder
Landscape Consultant
Lighting Consultant

Keppel Bay Pte Ltd
Keppel Land International Ltd
DCA Architects Pte Ltd
Beca Carter Hollings & Ferner
(S.E.Asia) Pte Ltd
T.Y.Lin International Pte Ltd
Davis Langdon & Seah Singapore Pte Ltd
Woh Hup Pte Ltd
Sitetectonix Pte Ltd
Lighting Associates (S) Pte Ltd

Key Green Features:

- Use of motion sensors at lift lobbies and clubhouse toilets
- Provision of pneumatic waste collection system
- Green roofs and green walls at substation and tennis courts

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CASA MERAH



Client / Developer	Choice Home Beta Pte Ltd
Project Manager	Wing Tai Property Management Pte Ltd
Architect	P&T Consultants Pte Ltd
M&E Engineer	United Project Consultants Pte Ltd
Structural Engineer	DE Consultants (S) Pte Ltd
Quantity Surveyor	Rider Levett Bucknall
Builder	Thian Sung Construction Pte Ltd / Hock Guan Cheong Construction Pte Ltd
Landscape Consultant	Sitetectonix Pte Ltd

Key Green Features:

- Use cool paint for west-facing external wall
- Integrating grassed swales, a water-sensitive urban design's concept, into development for storm water conveyance, screening and removal of gross pollutants from storm water runoff
- Integrating Floating Fountain @ Bio-Pond as part of landscape water feature

Gold

HALIA



Client / Developer	Maylands Investment Pte Ltd
Architect	Chan Sau Yan Associates
M&E Engineer	Bescon Consulting Engineers Pte
Structural Engineer	WEB Structures
Quantity Surveyor	WT Partnership
Landscape Consultant	Coen Design International Pte Ltd
Green Mark Consultant	G-Energy Global Pte Ltd

Key Green Features:

- Heat recovery system for hot water at clubhouse changing room and use of LED lighting for main entrance signage with photovoltaic cell
- Sun pipes are installed to distribute natural day lighting to the basement car park
- Motion detectors to control basement carpark lighting

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PHILIPS ELECTRONICS SINGAPORE PTE LTD -TOA PAYOH COMPLEX



Client / Developer Philips Electronics Singapore Pte Ltd
 – Toa Payoh Complex

Key Green Features:

- Adopted energy-saving lighting solutions that resulted in annual saving of 353,500 kWh with pay back periods of 5 years
- Used more energy-efficient LED lights for building signage instead of neon lamps
- Rainwater harvesting tank with capacity of three cubic meters was installed. Water collected is used for irrigation and washing of floors

Gold

OFFICE RENOVATION AT APPLE OPERATIONS EUROPE, SINGAPORE BRANCH



Client / Developer	Apple Operations Europe, Singapore Branch
Project Manager	DTZ Debenham Tie Leung (SEA) Pte Ltd
Architect	Elton-Road Architects
M&E Engineer	Unipac Consulting Engineers LLP
Structural Engineer	PnE Consultants
Quantity Surveyor	Faithful + Gould
Builder	Kenyon Engineering Pte Ltd

Key Green Features:

- T5 fluorescent light fittings with electronic high-frequency ballast are used to provide good visual comfort with energy savings
- Daylight-linking sensors are installed on light fittings near windows to automatically dim the lights when there is sufficient daylight
- Condensate water collected from the AHUs is recycled for the cooling make-up water

GREEN MARK FOR BUILDINGS AWARD

Gold

FUJI XEROX TOWERS



Client / Developer City Developments Limited

Key Green Features:

- Use of Heat Pipe to reduce relative humidity in the room without consuming energy
- Use of ultrasonic sensors for toilets and motion sensors for staircases/ photosensors for carpark entrance and exit to reduce energy consumption in lightings
- Use of CO₂ sensors at basement carpark to control mechanical ventilation fans

Gold

UE SQUARE SHOPPING MALL, PARK AVENUE SUITES & SHELL HOUSE @UE SQUARE



Client / Developer	United Engineers Limited
Project Manager	United Engineers Developments Pte Ltd
Architect	Architect 61 Pte Ltd
M&E Engineer	United Engineers (Singapore) Pte Ltd
Structural Engineer	HCE Engineers Partnership
Quantity Surveyor	Davis Langdon & Seah (S) Pte Ltd
Builder	Kajima Overseas Asia Pte Ltd
Landscape Consultant	Garden & Landscape Centre Pte Ltd

Key Green Features:

- Replacement of all T8 fluorescent light tubes with energy-saving T5 tubes at the entire three-level basement carpark
- Upgraded all condenser and chilled water pumps by resizing the pumps and adding Variable Speed Drives (VSD)
- Installation of the odourless vacuum pneumatic waste system

GREEN MARK FOR BUILDINGS AWARD

Gold

CITY HOUSE



Client / Developer City Developments Limited

Key Green Features:

- Chiller System Optimisation programme
- Use of ultrasonic sensors for toilets, motion sensors for staircases and photosensors for corridors to reduce energy consumption of lightings
- Use of CO₂ sensors to regulate CO₂ level in rooms

Gold

APPLIED MATERIALS SOUTH EAST ASIA PTE LTD



Client / Developer	Applied Materials South East Asia Pte Ltd
Project Manager	Bovis Lend Lease Pte Ltd
Architect	3HP Architects Pte Ltd
M&E Engineer	Bescon Consulting Engineers Pte
Structural Engineer	HCE Engineers Partnership
Quantity Surveyor	Davis Langdon & Seah Singapore Pte Ltd
Builder	Bovis Lend Lease Pte Ltd
Landscape Consultant	Bovis Lend Lease Pte Ltd
Energy Consultant	SuperSolutions Pte Ltd

Key Green Features:

- Energy-efficient air-con system in VAV air-distribution, district cooling system and high chilled water delta-temperature design (7 °C)
- Energy-efficient lighting system with Facilities Management software to provide precise control of the lighting system. Motion sensors for after-hours lighting control and toilet lighting system for all times
- Improvement of existing skylight to reduce the glare of sun light, yet harnessing maximum amount of natural day light into the office spaces

GREEN MARK FOR BUILDINGS AWARD

Gold

THE URA CENTRE



Client / Developer	Urban Redevelopment Authority
Project Manager	Kajima-Fourseas J.V
Architect	Exodus Architect & Planners Pte Ltd
M&E Engineer	Squire Mech Pte Ltd
Structural Engineer	RSP Architects, Planners and Engineers Pte Ltd
Quantity Surveyor	Kajima-Fourseas J.V
Builder	Kajima-Fourseas J.V
Landscape Consultant	Peridian Pte Ltd

Key Green Features:

- All windows use low emission double-glazed light green glass and are sunshaded, reducing solar radiation and transmission without compromising visibility
- First in Singapore to use the Miconic M10 Lift Control System which conserves energy through reduced stoppages, shorter average waiting time and lesser number of trips for each lift
- Natural ventilation and lighting in the 5-storey high glass central atrium by means of stratum air-con system and low emission skylight glass ceiling respectively

BCA GREEN MARK (CERTIFIED)

Project	Developer / Client
Humanities & Social Sciences Building at Nanyang Technological University	Nanyang Technological University
Duke-NUS Graduate Medical School Singapore	Duke-NUS Graduate Medical School Singapore
Memories at Old Ford Factory	National Heritage Board
Naval Base Secondary School	Project Development & Management Office, Ministry of Education
Physical and Mathematical Sciences Building, Nanyang Technological University	Nanyang Technological University
Anchorvale Community Club	People's Association Singapore
Crowne Plaza Changi Airport	LC Airport Hotel Pte Ltd
UE Print Media Hub	United Engineers Developments Pte Ltd
Hillcrest Villa	MCL Land Realty Pte Ltd
Sage	Hong Leong Holdings Limited
Trilights	Pacific Rover Pte Ltd
Clementi N4 C8	Housing & Development Board
Punggol Vista	Housing & Development Board
Kim Tian Green	Housing & Development Board
Army Museum of Singapore	Defence Science & Technology Agency
Golden Shoe Car Park	HSBC Institutional Trust Services (S) Ltd as Trustee of CapitaCommercial Trust
Market Street Car Park	HSBC Institutional Trust Services (S) Ltd as Trustee of CapitaCommercial Trust
Central Mall Office Tower	City Developments Limited
Palais Renaissance	Citydev Real Estate (Singapore) Pte Ltd
Robinson Point	HSBC Institutional Trust Services (Singapore) Limited as Trustee of CapitaCommercial Trust
Starhub Centre	HSBC Institutional Trust Services (Singapore) Limited as Trustee of CapitaCommercial Trust
Shimei East Kitchen	Housing & Development Board
Gourmet East Kitchen	Housing & Development Board

GREEN MARK FOR PARKS AWARD

BCA/NParks Green Mark for Parks Award



BCA/NParks Green Mark for Parks is a joint initiative by the Building Construction Authority (BCA) and the National Parks Board (NParks). It aims to promote, recognise and evaluate environmentally friendly and sustainable practices and features in parks.

The initiative is meant to inspire and promote improvements in parks, as well as to raise public awareness of such Green Mark Parks. This allows parks to be benchmarked for the first time, against credible, quantitative, sustainable park environmentally friendly management standards, including community involvement and conservation values.

Under a comprehensive assessment system, parks are evaluated based on six criteria:

- Waste & Material Minimisation
- Water Efficiency
- Energy Efficiency
- Park Management
- Conservation & Heritage
- Other Green Features

All parks, including regional and neighbourhood parks, conservation and nature parks as well as public theme parks, can be assessed under this scheme.

Full pilot assessments were successfully conducted last year. Sungei Buloh Wetland Reserve, Fort Canning Park and Chinese Garden are the first parks to be presented with the BCA/NParks Green Mark for Parks Award in 2008.

GREEN MARK FOR PARKS AWARD

Gold

FORT CANNING PARK



Client / Developer / Owner
Landscape Management

National Parks Board
Fort Canning Park
Management Team
Evershine Florist Pte Ltd

Landscape Maintenance
Contractor

Key Green Features:

- Turning horticultural waste into art pieces, garden ornaments and furniture and converting Fort Canning Centre into a more energy efficient building
- Recycling is practised through awareness messages during events as well as through all park programmes
- Use of potable water is reduced with the installation of irrigation tanks. Water collected from rain and run-off is channelled to the tanks and is used in the maintenance of plants and cleaning of park facilities
- Conservation of both natural and built heritage is achieved by having nine heritage trees in the park, numerous relics and an actual display of archaeological dig sites and monuments
- Outreach activities involving the community like Adopt-A-Park, tree planting and guided heritage walks

GREEN MARK FOR PARKS AWARD

Gold

SUNGEI BULOH WETLAND RESERVE



Client / Developer / Owner	National Parks Board
Landscape Management	Sungei Buloh Wetland Reserve Management Team
Landscape Maintenance Contractor	Yong Landscape Contractor & Kim Bock Contractor Pte Ltd
Waste Recycling Contractor	SembWaste Pte Ltd

Key Green Features:

- Timber from the Reserve's boardwalks and old signposts are recycled into lecterns, bird tables and other useful tools and items
- Glass fibre reinforced concrete was used for the boardwalks and bridges instead of traditional hardwood timbers
- Wireless nature trail using hand-held devices to promote paperless learning in an outdoor environment
- Installation of designated composting areas, rainwater harvesting, energy-saving lamps and water efficient fittings
- Other energy-saving initiatives include recycling of fallen leaves, use of motion sensors for exhibits, lighting and fans at the Nature Gallery, as well as an open concept toilet with skylight and a high ceiling

GREEN MARK FOR PARKS AWARD

Certified

CHINESE GARDEN



Client / Developer / Owner
Landscape Management
Landscape Maintenance
Contractor
Landscape Construction
Contractor

JTC Corporation
Customer Services Group
M/S Toh Kim Bock C-E Contractor
Pte Ltd
M/S Toh Kim Bock C-E Contractor
Pte Ltd

Key Green Features:

- Regular use of Green Label Compost on landscaped areas within the Garden
- Granite slabs, Balustrades, Lions were recovered from Tang Dynasty to be reused to create plazas, decorations, etc within the Garden. Roof slabs and test cubes were recovered from other work sites to form footpaths and reinforce the Garden's embankment
- Installation of sub-meters for tenants, toilets and key buildings to monitor water usage
- Use of toilet fittings with Water Efficient Labels to help reduce potable water usage
- Use of lake water for irrigation helped reduce potable water usage