

Indonesia is Set to Really Take Off

Indonesia construction industry has performed very well during the past four years. This is reflected in the number of projects secured and completed by Fast Flow from 2010 to early 2014. As one of the few countries that emerged from the global crisis relatively unscathed, Indonesia continues to gain interest from regional and international investors.

Fast Flow's licensed distributor in Indonesia, Siphonic Flow Mandiri (SFM) has put a lot of effort in understanding and penetrating the local market. And with the help of SFM team, Fast Flow has recently secured five projects in West Java to kick-start 2014. The projects are Denpasar Residence, Terminal 3 - Soekarno Hatta International Airport, Museum Sejarah dan Purbakala, South Quarter (formerly PKV Dharmala) and Kamadjaja Logistic Cibitung.

South Quarter, Jakarta

Mixed-use property is now blossoming in Jakarta as people seek to reduce the pain of dealing with traffic jams. More developers are providing residential condominiums that are integrated with offices, retail facilities and even entertainment. South Quarter is a prime example.



The design process of this 7.1-hectare mixed-use development comprising three office towers, two residential towers and supporting retail facilities started in 2010. However due to cost uncertainties, the development was put on hold by the previous developer.

Early in 2012, a new developer, PT Intiland Development Tbk took over the project and changed the project name to South Quarter. And in December 2013, Fast Flow became the appointed rainwater solution provider for South Quarter's three office towers with a total catchment area of 6815, 16sqm.

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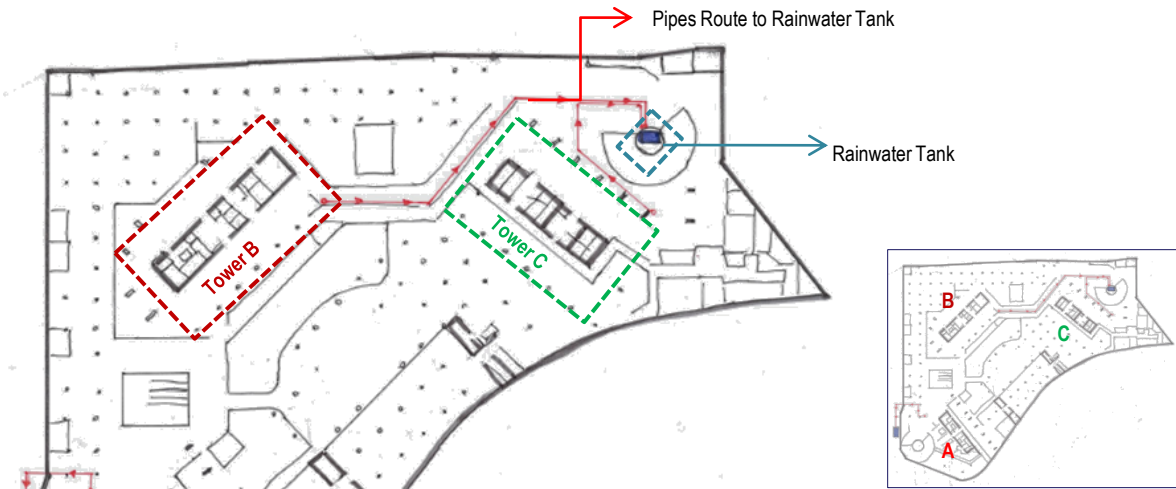
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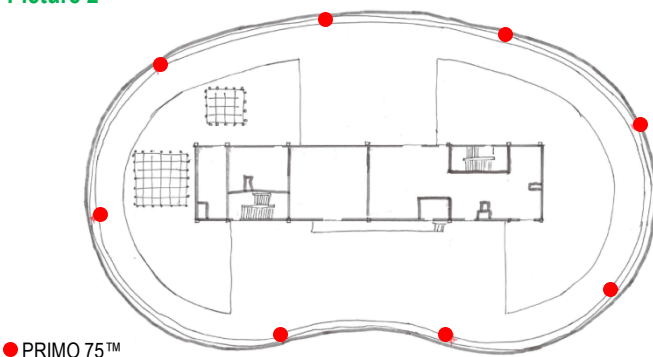
South Quarter is also defined by its green credentials. The green buildings incorporate a large number of sustainable design features that promote energy and water savings. Energy savings are made through building orientation and the facade design, which incorporates overhangs, louvres and double glazing. Water resource management is provided by rainwater harvesting and the recycling of waste water. The three towers (Tower A, Tower B and Tower C) are well equipped with a rainwater harvesting system. Tower A has its own rainwater tank while Tower B and Tower C share the same rainwater tank.

The system provides an efficient overall drainage planning of the entire project. Fast Flow utilises eight PRIMO 75™ for each tower and uses 150mm diameter pipe which is smaller than conventional pipe to travel long distance (114 meters) without any gradient from Tower B to the rainwater tank. This project once again shows how Fast Flow's siphonic system is able to provide a total freedom and flexibility in roof drainage.

Picture 1



Picture 2



Picture1: Pipe works from Tower B and Tower C to the rainwater tank.
Controlled distribution and management of rainwater discharge.

Picture 2: Tower A – rainwater outlets position.
Flexible locations of outlets on the roof.

Singapore: Stepping Up with Green

In a highly urbanised and build-up area, rainwater tends to flow quickly from the roofs of buildings into the storm sewer and when such sewer system cannot cope with the increased flow, flooding generally occurs. Green Roofs also known as roof gardens and eco-roofs have been used extensively in Europe and more recently in America, South Korea, Japan and Singapore to mitigate such adverse effects of urbanisation.

A green roof or living roof is a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and irrigation systems. Green roofs can be installed on a wide range of buildings, including industrial, educational, commercial, residential, public and private properties.

In Singapore, The Urban Redevelopment Authority (URA) and National Parks Board (NParks) are introducing a series of initiatives to promote skysrise greenery for a lush, greener Singapore. These initiatives support the Government blueprint for sustainable development launched on 27 April 2009, and contribute toward the Sustainable Development Blueprint target of an additional 50 hectares of skysrise greenery by 2030*.



Project Name: Resorts World Sentosa
Landscape Drainage Specialist: Fast Flow Singapore Pte Ltd

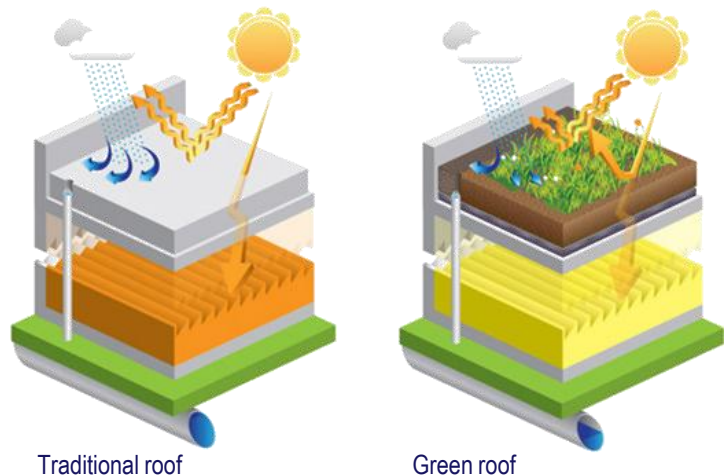
To date, Fast Flow has completed more than 50 projects in Singapore, Malaysia and Thailand which are topped with green roofs. Fast Flow's siphonic system enhances the efficiency and aesthetic of the network drainage connection, creating elegant landscape and effectual green roof by allowing sufficient drainage yet protect the integrity of the growth media and vegetation while providing seamless finishing with the landscape design.

*Source: <http://www.nparks.gov.sg>

Did You Know?

- The plants on green roofs can capture airborne pollutants and atmospheric deposition.
- They can also filter noxious gases.
- The temperature moderating effects of green roofs can reduce demand on power plants, and potentially decrease the amount of CO₂ and other polluting by-products being released into the air.
- Green roof growing media retain rainwater and, together with plants, return a portion of this water to the atmosphere through evaporation and transpiration (evapotranspiration).
- Stormwater that does leave the roof is delayed and reduced in volume. The vegetation slows down the water through friction and root absorption.
- Stormwater that runs off a green roof is cleaner than runoff from a conventional roof.
- The growth of green roof and wall market gives new job opportunities related to manufacturing, plant growth, design, installation, and maintenance.

Green Roof Comparison



Source: <http://www.greenroofs.org/index.php/about/greenroofbenefits>

Fast Flow's Key Milestones and Accomplishments

Since becoming fully operational in 1996, Fast Flow has already achieved a number of key milestones and outcomes, making a significant impact on rainwater management development in Asia Pacific.

To date Fast Flow has completed over 2000 projects with more than 30.000.000 square meters of roof area drained in South East Asia, Greater China and Australia.



1993
Pilot Project

The first siphonic system project (Givaudan Singapore Pte Ltd) is completed in Singapore under Fastrack Projects

1995

Colin Thoms and Yap Kern Ling agree to venture into siphonic business



1996

Fast Flow first office set up in Singapore



1997

Fast Flow expansion to Malaysia



1998

Fast Flow awarded Esplanade project in Singapore

Fast Flow Hong Kong set up



1999

Fast Flow enters China



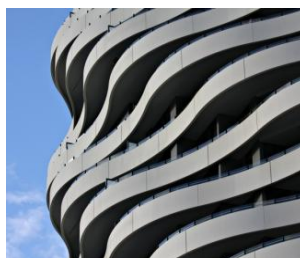
2000

Fast Flow seeks distributor

Fast Flow Malaysia office set up in Kuala Lumpur

2002

Fast Flow Thailand office set up in Bangkok



2004

Fast Flow Australia set up in Brisbane



Fast Flow's Key Milestones and Accomplishments

2005

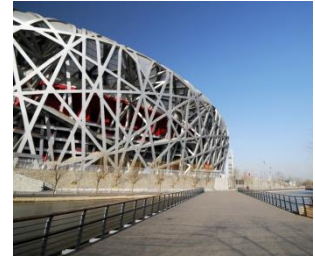
Fast Flow sets up manufacturing operation in China

Fast Flow awarded Beijing Olympic Stadium (Bird's Nest)



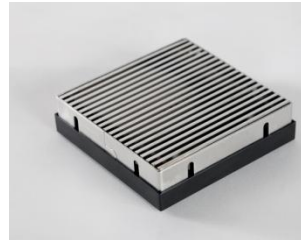
2006

Primo™ siphonic outlet range is born



2007

Arteco™ siphonic outlet range is expanded



2007

Fast Flow supplies Primo™ range of outlets to Akatherm under the brand of Akasion. First public appearance in ISH Frankfurt

2008

psVent™ is invented



2008

Fast Flow awarded two integrated resorts in Singapore (Marina Bay Sands Integrated Resort and Resorts World Sentosa)



2009

Fast Flow Systems regional distributorship program is launched. Fast Flow Systems ventures into Taiwan, Indonesia, Philippines and Turkey setting up distributorship



2010

Fast Flow corporate rebranding

2012

Primo 75HD™ (Heavy Duty), car park drainage system is launched

Second MOU is signed by Fast Flow and Aliaxis



2013

psStackH System, psPipe & psFittings (LEAD-FREE) are launched

2014

The future begins

Fast Flow China's Achievements in 2013

Since entering the China market in 1998, siphonic roof drainage is now at the mature stage with 60% technology adoption across various building segments. Below are some of Fast Flow China's achievements in 2013.

1) Wuxi Inter IKEA Furnishing Plaza



Main Contractor: China Construction Eighth Engineering Division Co., Ltd.
Location: Wuxi
Total roof area: 56,342.9sqm
Project type: Commercial building

2) Pudong Airport West Goods District No. 3 Freight Station No. 2 Port Freight Station

Main Contractor: Shanghai Construction Group No. 1 Engineering Group Co., Ltd.
Location: Shanghai
Total Roof area: 71,000sqm
Project Type: Factory

3) Tianjin Adidas Factory

Main Contractor: GSE China Limited
Location: Tianjin
Total Roof area: 60,000sqm
Project type: Factory

4) Xiamen Airport T4 terminal

Main Contractor: Beijing Urban Construction Group
Location: Xiamen
Total Roof area: 66,000sqm
Project Type: Airport

5) Hubei Tobacco Cigarette Factory Technical Innovation Project of The U.N Roof Siphon Rainwater Drainage System Project



Architect: Sixth Machinery Institute
Main Contractor: China Construction Third Engineering Bureau Co., Ltd.
Location: Wuhan
Total Roof area: 150,000sqm
Project Type: Factory

Fast Flow is committed to providing its value partners with innovative, reliable and sustainable rainwater management solutions using its siphonic system to achieve excellences. Through a successful bidding strategy, product and technology proposal, Fast Flow Technology Engineering (Guangzhou) just recently secured another project in Wuhan.

With a total roof area of 150,000sqm, the design of this industrial joint factory project required a siphonic system plus an overflow system to achieve a recurrence interval of 100 years in Wuhan. Fast Flow design team analysed the rainfall intensity, the water flow and optimised the installation of underground pipe works across the factory. The team minimised the pipe trench excavation and concealed the rainwater pipe to integrate the hydraulics, structural and architectural aesthetic requirements into a complete design solution.



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