

Implementing the Beautification and Sustainable Designs for the Harbour Area Treatment Scheme (HATS) Stage 2A

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6 June 2017



Organisers:



International Co-owners:



Sustainable Buildings and Climate Initiative
Promoting Policies and Practices for Sustainability



Agenda

- Project background
- Key challenges
- Visions for future sustainable designs



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Project Background



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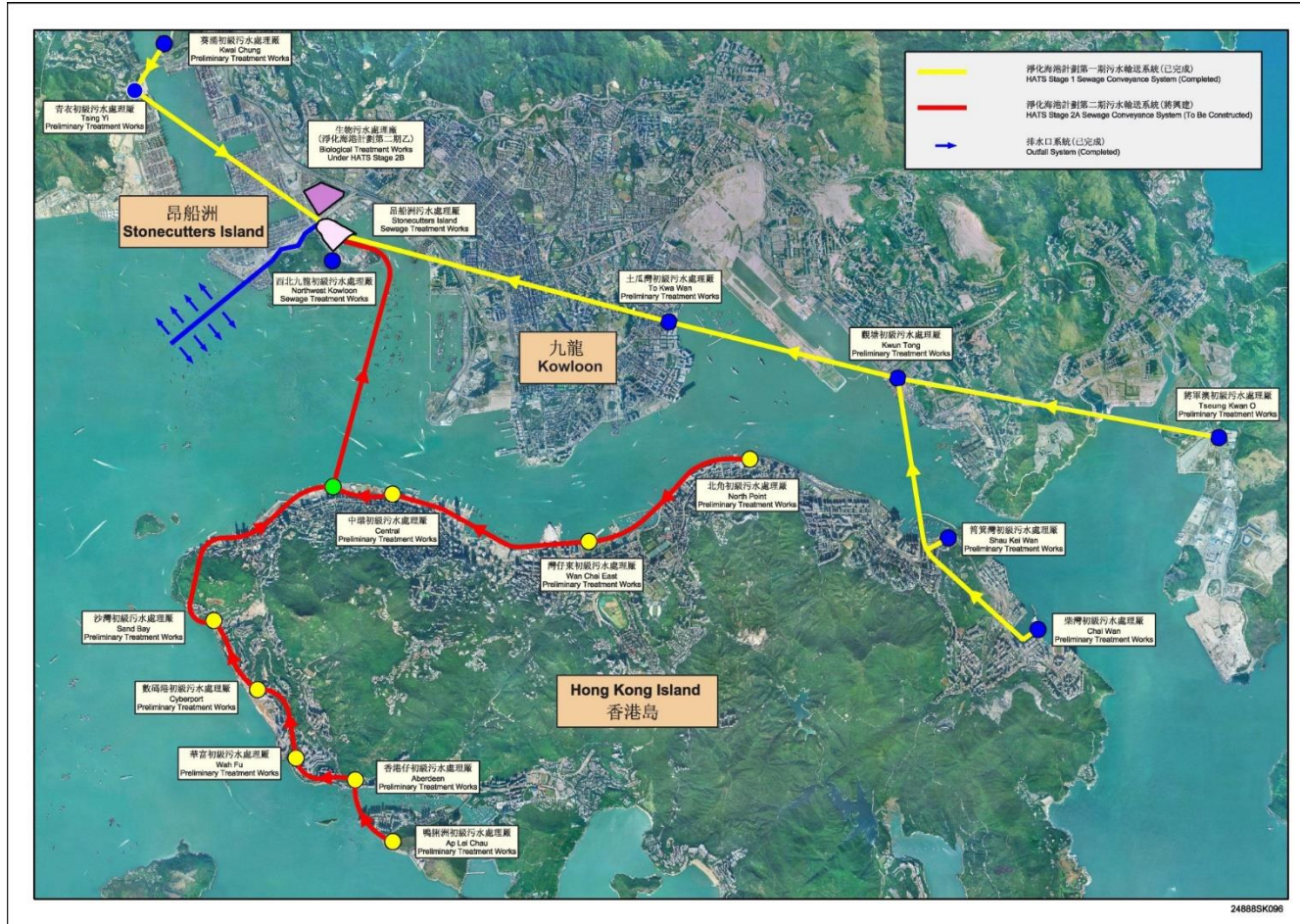


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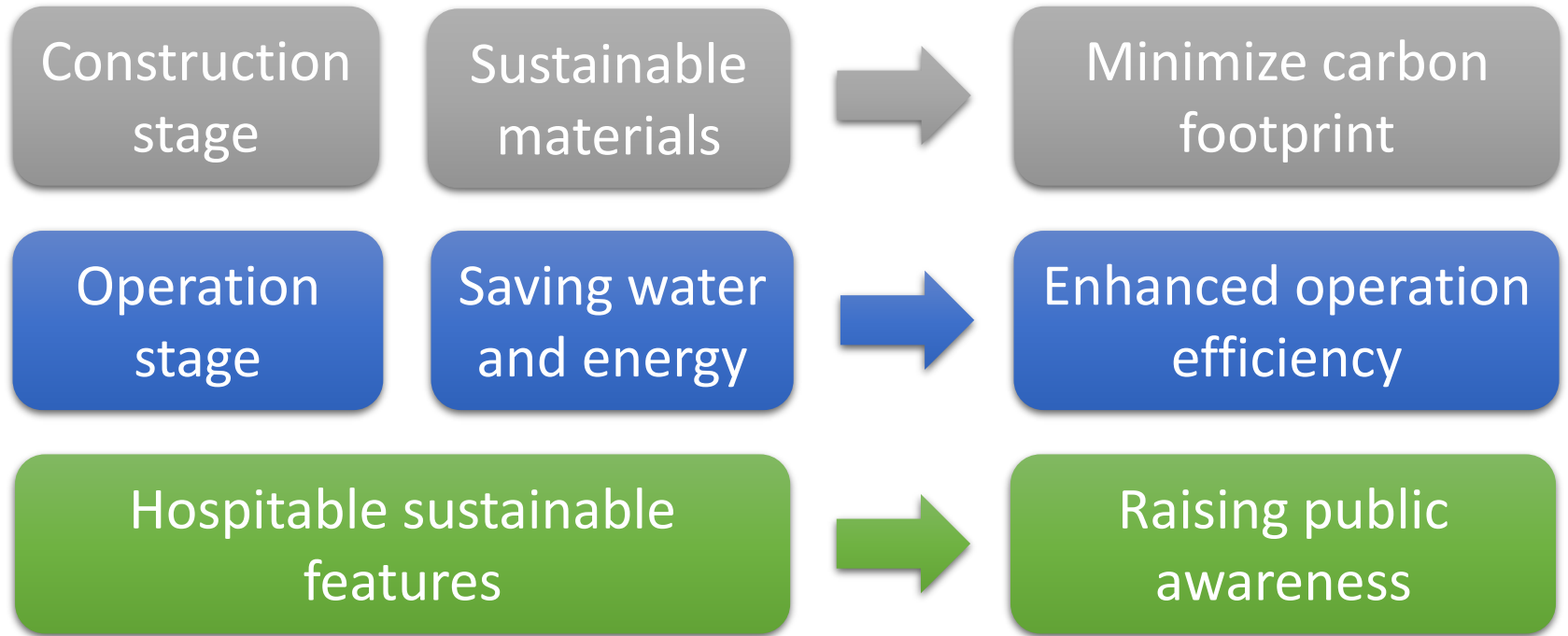


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Overview of Harbour Area Treatment Scheme (HATS) Stage 2A



Design Principles



Proposed Works

- Beautification
 - Featured Water Wall
 - Designated Visitor Route
 - Greening Enhancement
 - Renewable Energy Devices (PV panel, hydro turbine)
- Sustainable Urban Drainage System (SUDS)
 - Bioswale (site trial)
 - Rain Garden (site trial)
 - Permeable Pavement (by others)



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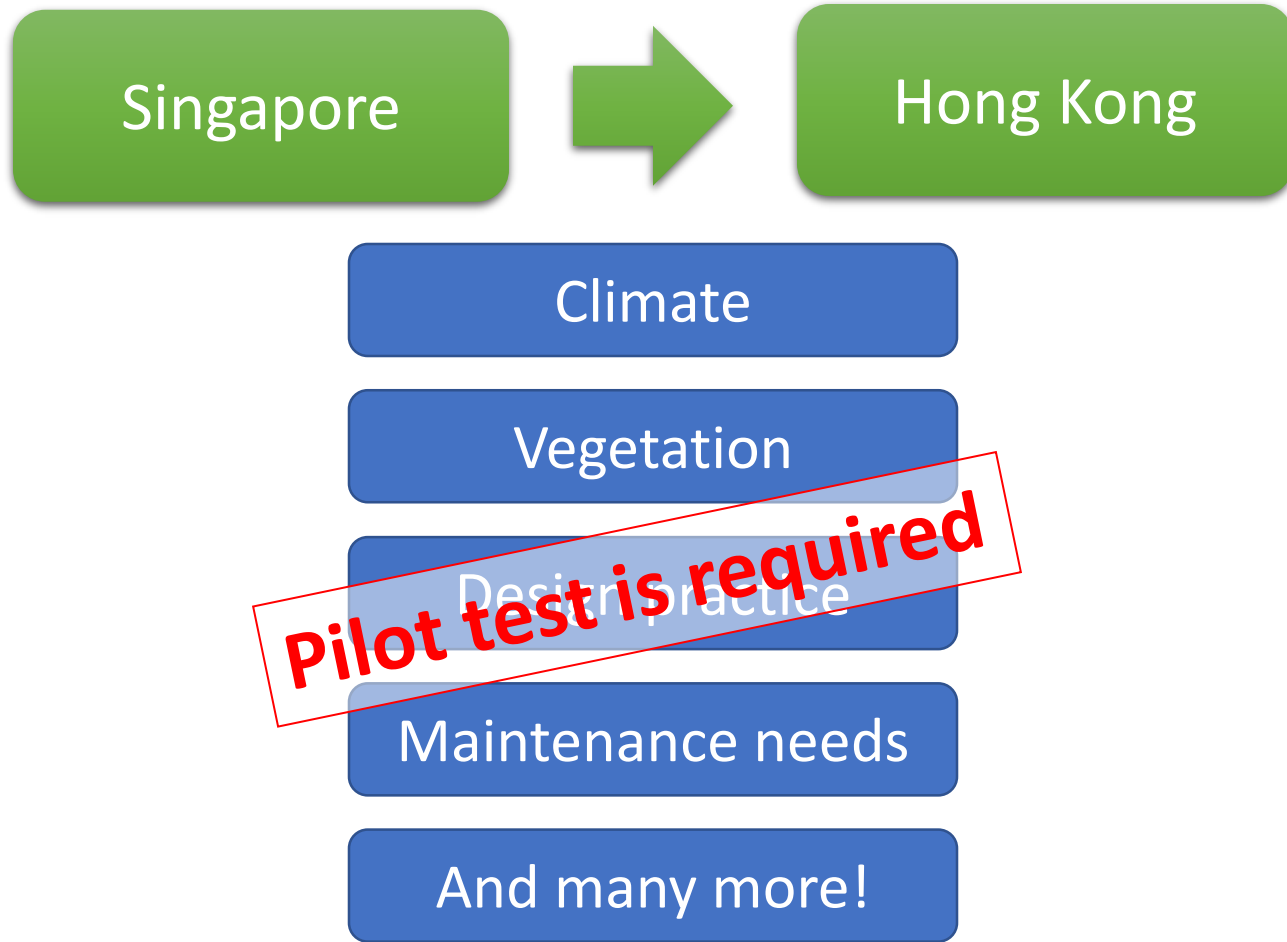


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Localisation of Sustainable Design



Challenges



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Overview of Stonecutters Island Sewage Treatment Works (SCISTW)



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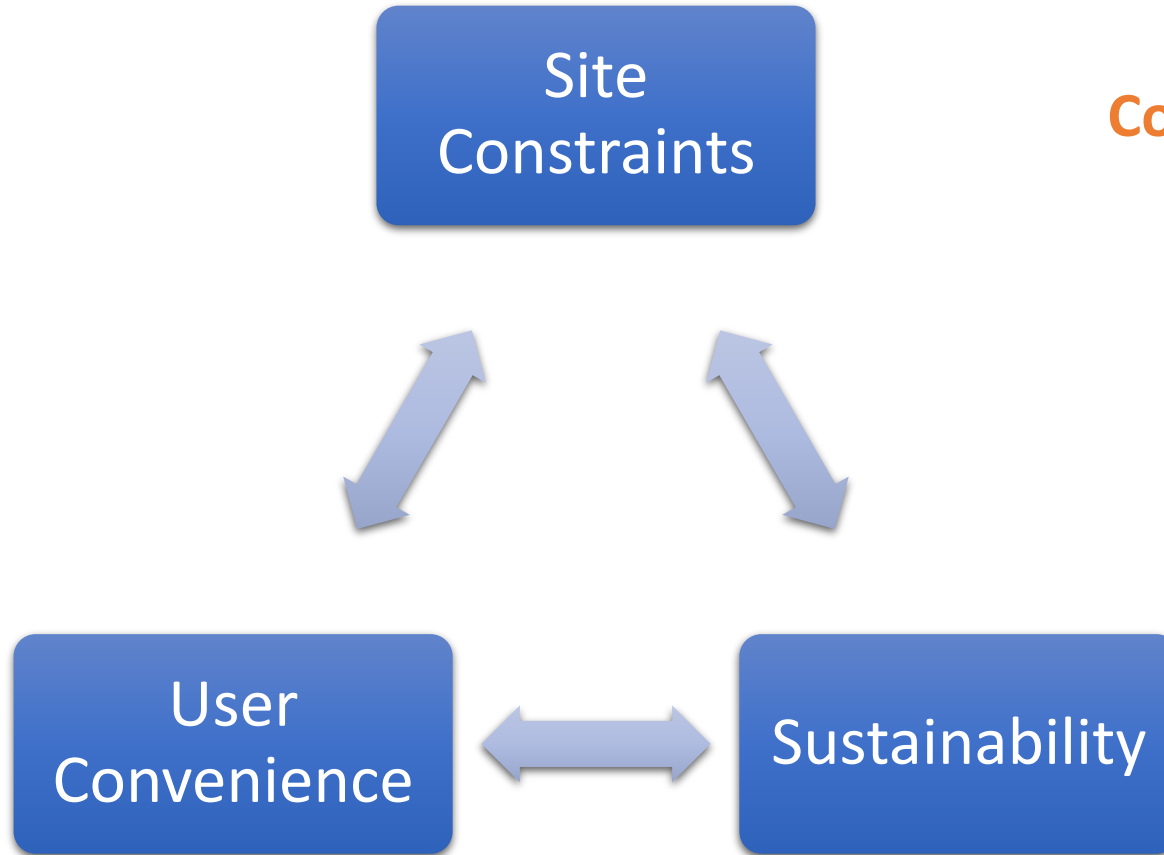


International Co-owners:



Need to Balance

Accomplished
Busy
Compacted



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Water Feature Wall



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Water Feature Wall

Purpose

Echo with the Client's identity

Grab visitors' attention upon arrival

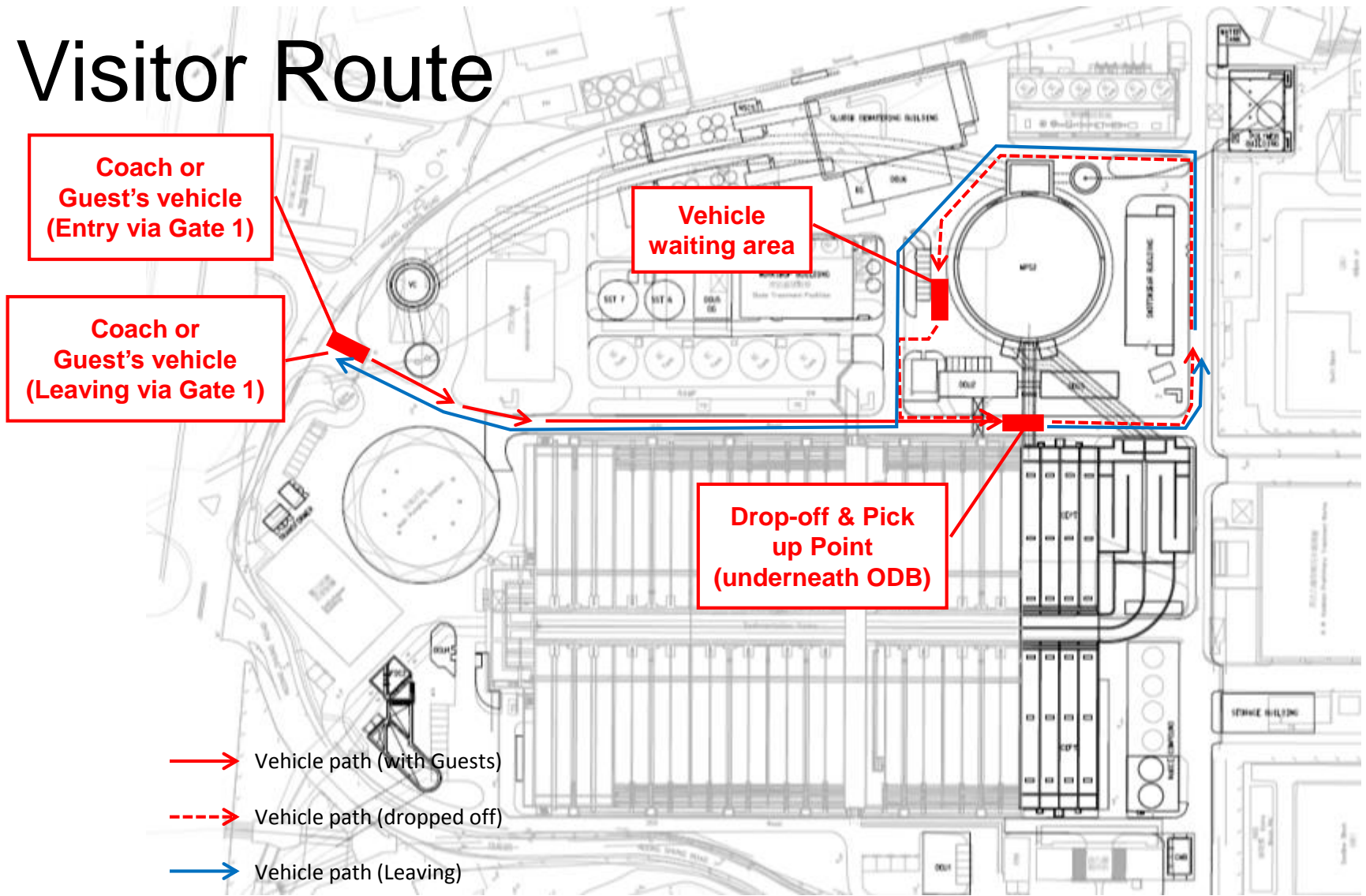
Challenge

Unknown ground utilities

Solution

Adaptation such as diverting surface runoff and roof drainage to an underground grey water storage tank for screening and disinfection

Visitor Route



Visitor Route

Purpose

Minimize the interference from visitors to operations

Enhance learning experience for sustainability

Challenge

Congested on-site traffic

Solution

Coordination for thorough understanding of the operations



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Sustainable Urban Drainage System



Vegetated Bioswale



Rain Garden

Sustainable Urban Drainage System

Purpose

Reduce surface runoff and lighten drainage system

Challenge

Concurrent construction works

New design implemented in Hong Kong

Solution

Site trials to collect useful data before full-scale implementation



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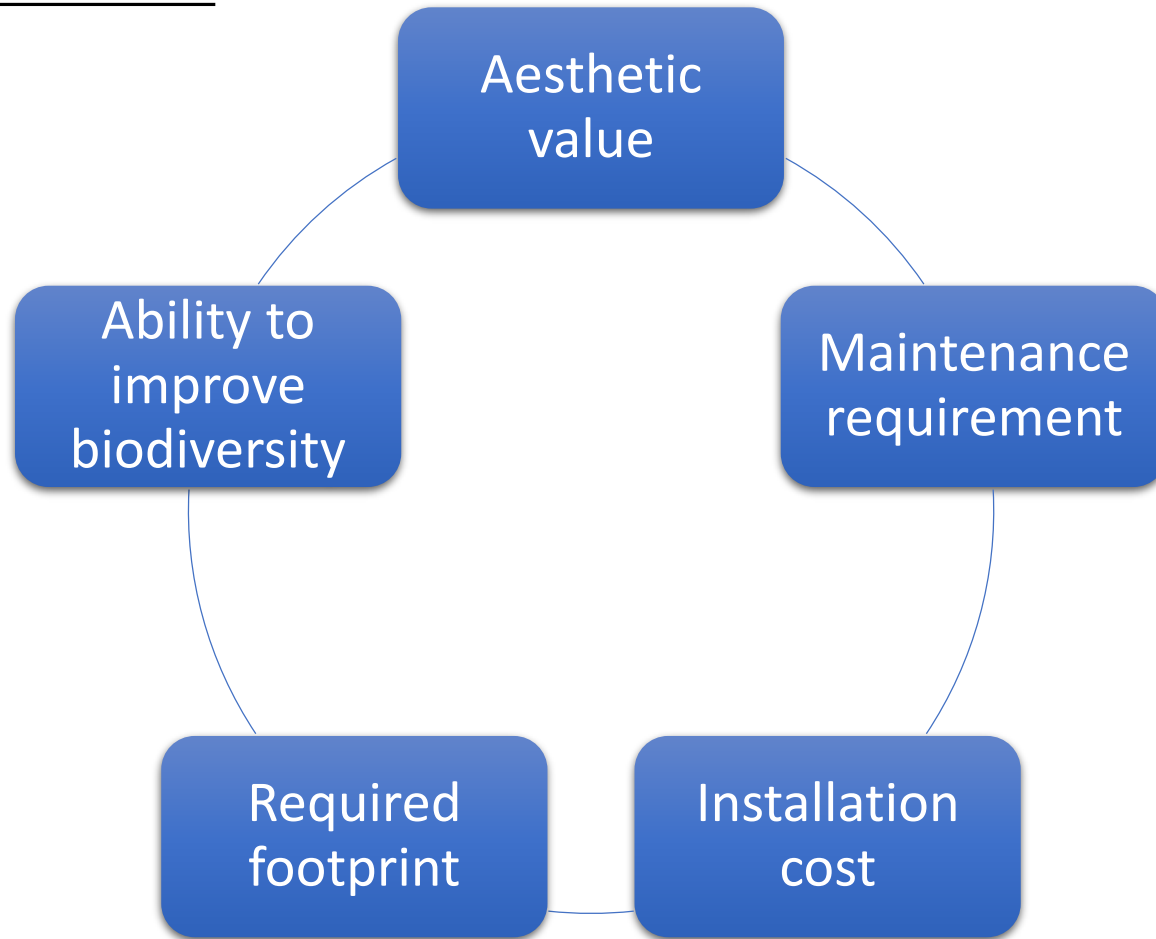


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Sustainable Urban Drainage System

Design Consideration

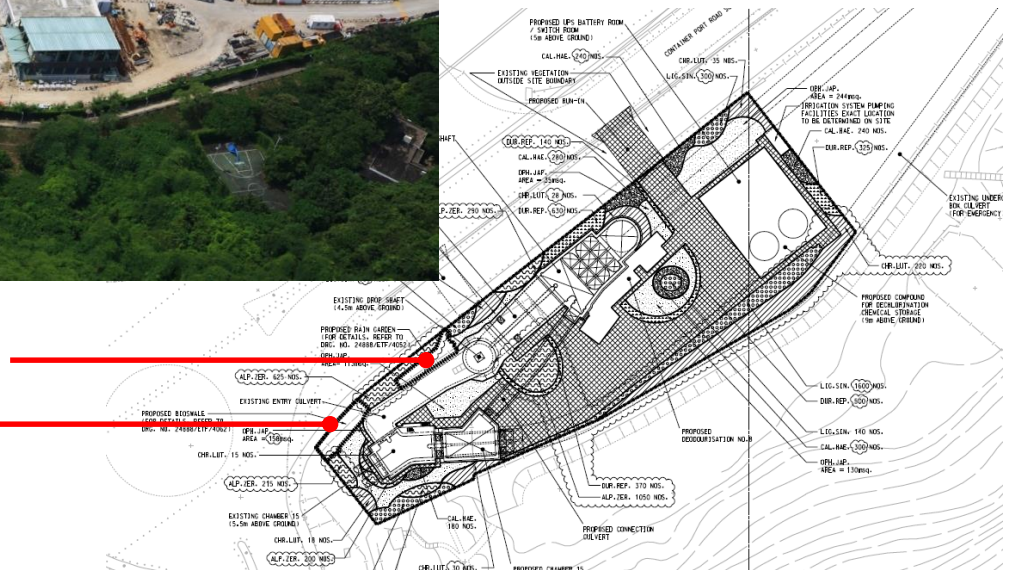


Sustainable Urban Drainage System

Site Trial Locations



Rain Garden
Bioswale



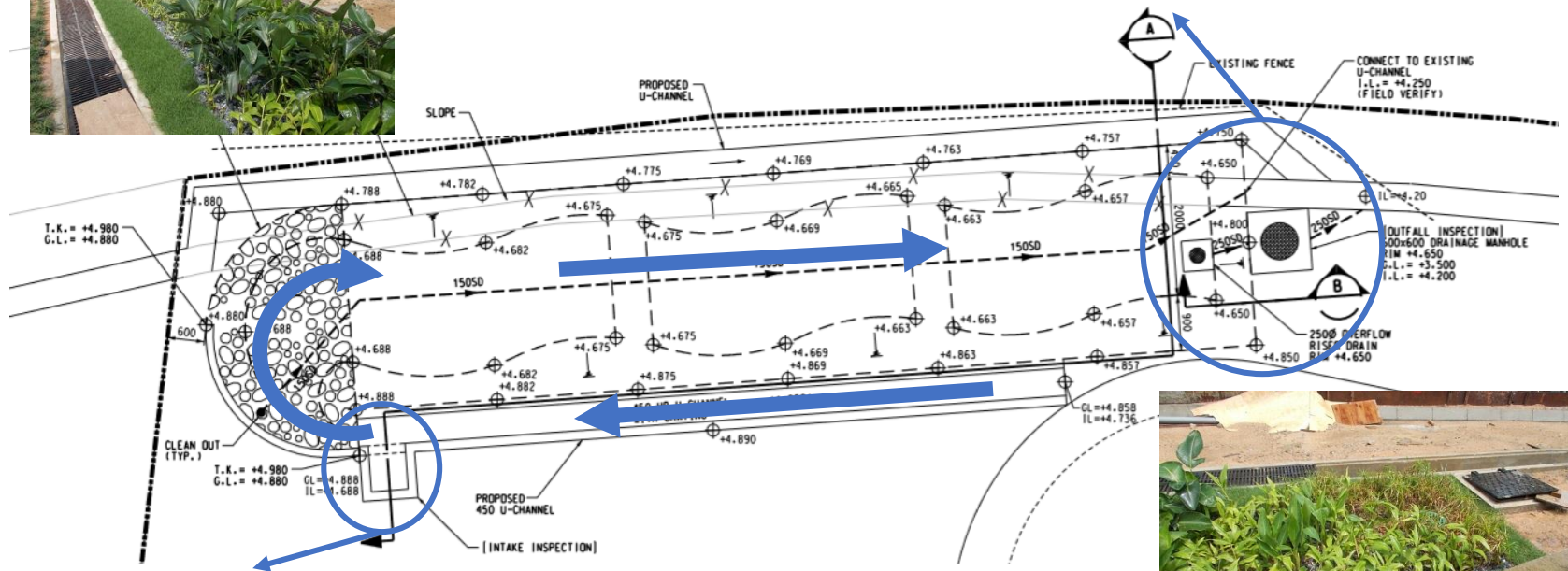
Sustainable Drainage

- Key Considerations of Site Trials

1. Sample taking



Outflow samples taken at the end of horizontal flow (channel)



Inflow samples taking

Bioswale



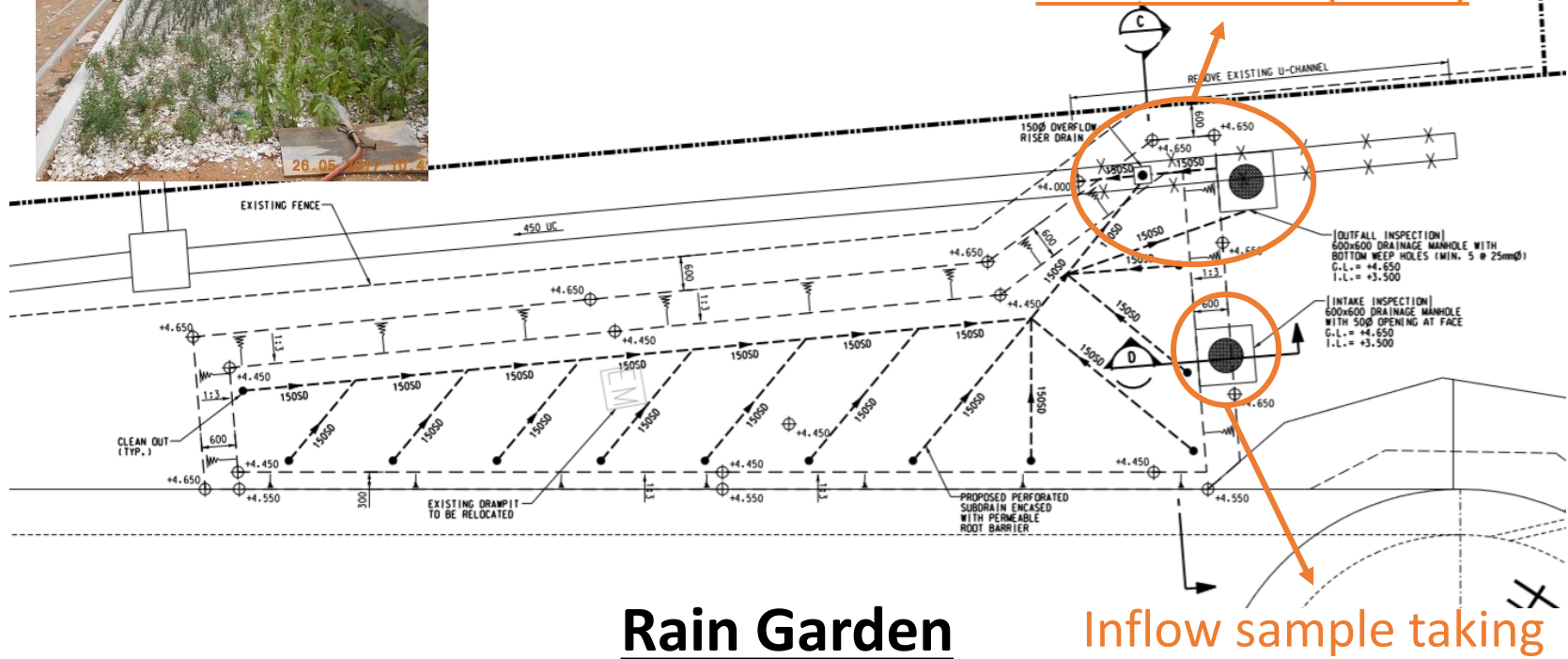
Sustainable Drainage

- Key Considerations of Site Trials

1. Sample taking



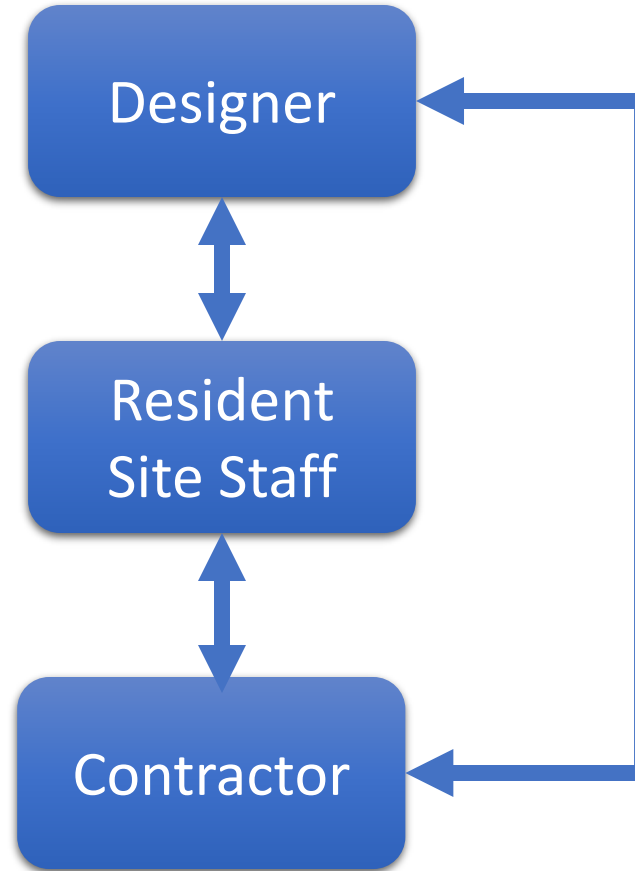
Samples taken at the bottom of vertical flow (Pond)



Sustainable Drainage

- Key Considerations of Site Trials

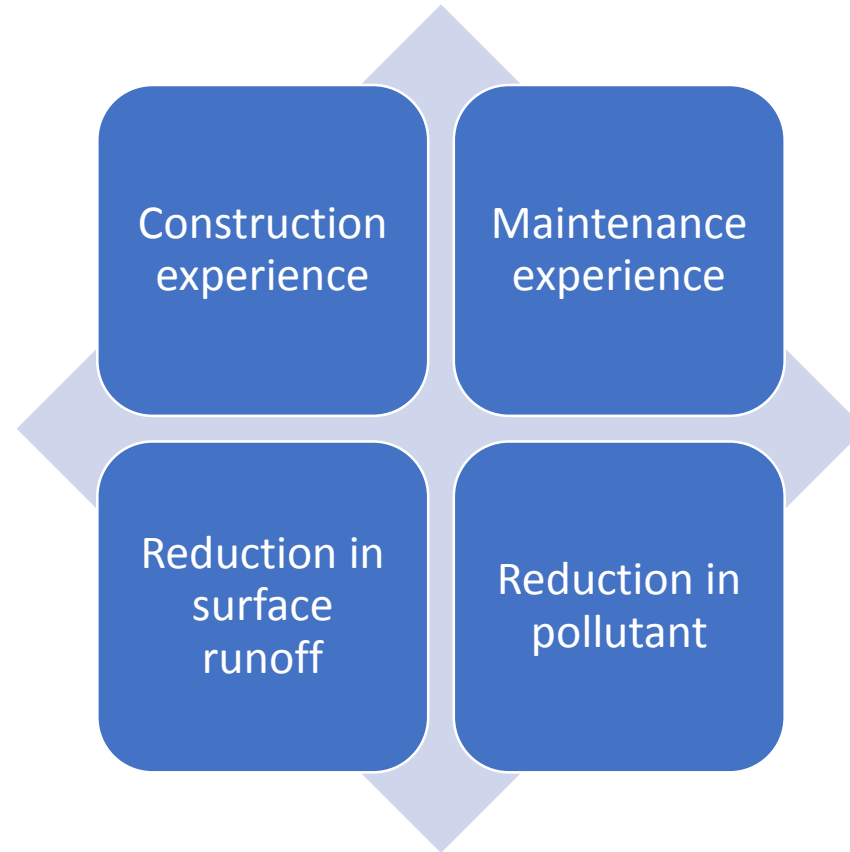
2. Communication in implementation



Sustainable Drainage

- Key Considerations of Site Trials

3. Observations / measurements to take



Visions for Future



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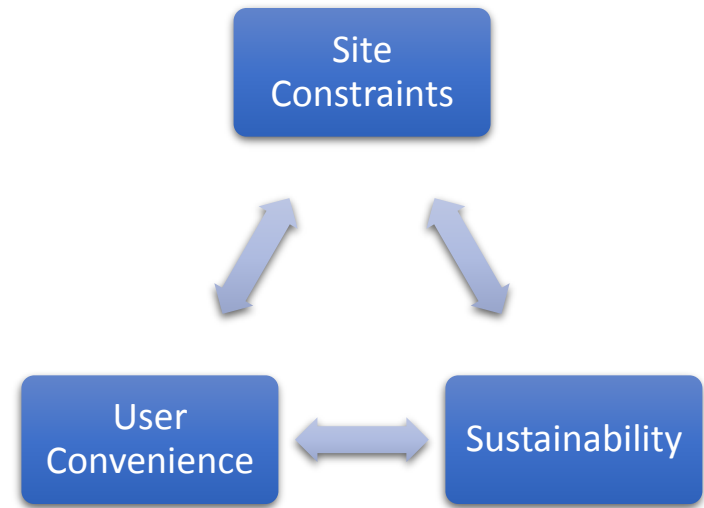


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Visions for the Future

- Developer and Project Promoter can plan ahead to incorporate the sustainable design
- By adapting the sustainable design, the design life of the facilities can be lengthened



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Thank you



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