

Public Works Subcommittee Meeting on 18 October 2017

Issues requiring follow-up actions by the Government

**PWP Item No. 281RS – Reprovisioning of Tsun Yip Street
Playground facilities to Hong Ning Road Park and Ngau Tau Kok
Fresh Water Service Reservoir**

Members discussed the above works project at the Public Works Subcommittee meeting on 18 October 2017. Dr Hon KWOK Ka-ki's request for supplementary information from the Government (shown in *italics* below). After consulting the relevant government departments, our reply is set out below.

“Are the roofs of any existing service reservoirs in Hong Kong provided with grass? If yes, please provide a list of the sites; if no, what are the reasons? (please provide details of the technical problems involved, if any).”

2. As the service reservoir involved in the 281RS works project is a fresh water service reservoir, the supplementary information will focus on fresh water service reservoirs for relevant reference. A list of the existing fresh water service reservoirs in Hong Kong with grass on the roofs is at **Enclosure 1**.

3. When government departments or private organisations have any appropriate proposals for using the roofs of service reservoirs, the Water Supplies Department will facilitate for efficient use of resources. The main reason why the roofs of some existing fresh water service reservoirs in Hong Kong are not covered with grass is that the departments or organisations concerned have laid hard-paved materials on the roofs to suit the functional needs of various recreational facilities, such as basketball courts, tennis courts, hard-surface soccer pitches, fitness facilities and jogging tracks.

“Will the Government explore a technically feasible option to use the roof of the Ngau Tau Kok Fresh Water Service Reservoir as a lawn under project 281RS? If yes, what are the details; if no, what are the reasons?”

4. The following factors are relevant if the roof of the Ngau Tau Kok Fresh Water Service Reservoir is to be used as a lawn and open for public recreational purposes:

- (a) Based on the assessment at the design stage of the works project, the live load (or imposed load) of the existing service reservoir roof is currently 3 kPa and it is not open for public use. If it is open for public recreational purposes, the live load has to be increased to 5 kPa. To achieve such higher live load requirement, the solution is to reduce the weight of the current surface materials on the service reservoir roof (including soil and drainage layer) to free up the additional load required. Furthermore, given the loading constraint of the existing roof, it is not suitable for accommodating heavier facilities, such as goalposts, lampposts and fences required for ball games, and sheltered seats. As such, the roof of the service reservoir is only suitable for general passive leisure activities.
- (b) As the service reservoir is a fresh water service reservoir, if the roof is to be covered with lawn, no fertilisers or pesticides shall be used for lawn maintenance to avoid water contamination due to the consideration of drinking water safety.
- (c) The Government has further reviewed the feasibility of using the service reservoir roof as a lawn for general leisure activities. After careful examination, we propose to use part of the roof as a lawn on the following conditions:
 - i) In order to meet the additional live load requirement for this usage, the depth of soil has to be reduced, and hence the soil of the lawn will be shallower. If 40% of the area is to be used as a lawn, the maximum soil depth that can be laid for planting purpose will be only about 250mm (the ideal soil depth for lawn planting is 300mm). As members of the public will frequently use the lawn, more significant wear and tear is expected. The department concerned will have to deploy additional manpower and resources to carry out maintenance, and close off part of the lawn for maintenance or even replace the worn patches when necessary.

- ii) While only irrigation, mowing and weeding can be carried out, the Leisure and Cultural Services Department will, as far as practicable, maintain the growth of the lawn for public use. However, the quality of the lawn will not match with other lawns with adequate soil depth and maintained with fertilisers and pesticides in general.
- iii) The remaining hard-paved area adjacent to the lawn will be used as a jogging track, space for leisure activities and related maintenance access.

5. A revised site plan for the service reservoir roof is at **Enclosure 2**.

Development Bureau
November 2017

Enclosure 1

List of Existing Fresh Water Service Reservoirs in Hong Kong with Grass on Roof

Hong Kong and Island Region

Mount Davis Fresh Water Primary Service Reservoir
Eastern No.2 Fresh Water Service Reservoir
Magazine Gap Road No.2 Fresh Water Service Reservoir
Kai Lung Wan Fresh Water Service Reservoir
North Point High Level Fresh Water Service Reservoir
Western Fresh Water Service Reservoir
Western No.2 Fresh Water Service Reservoir
Eastern Fresh Water Service Reservoir
Jardine's Lookout Fresh Water Service Reservoir
Pok Fu Lam Fresh Water Service Reservoir
Stanley Mound Fresh Water Service Reservoir
Peak Road Fresh Water Service Reservoir
Cheung Chau Fresh Water Service Reservoir
Sai Wan Fresh Water Service Reservoir
Aberdeen Fresh Water Service Reservoir
Peak Fresh Water Service Reservoir
Mount Nicholson Fresh Water Service Reservoir
Peng Chau Fresh Water Service Reservoir
Middle Gap Fresh Water Service Reservoir
Chung Hom Kok Fresh Water Service Reservoir
Severn Road Fresh Water Service Reservoir
Jardine's Lookout No.2 Fresh Water Service Reservoir
Tai Hang Fresh Water Service Reservoir
Red Hill Fresh Water Service Reservoir
Pok Fu Lam No.2 Fresh Water Service Reservoir
Tai O Fresh Water Service Reservoir
Cheung Chau No.2 Fresh Water Service Reservoir
Braemar Hill Fresh Water Service Reservoir
Mount Gough Fresh Water Service Reservoir
Chung Hom Kok No.2 Fresh Water Service Reservoir
Peng Chau No.2 Fresh Water Service Reservoir
Chai Wan North No.2 Fresh Water Service Reservoir

Cheung Chau No.3 Fresh Water Service Reservoir
Cheung Sha Fresh Water Service Reservoir
Shek O North Fresh Water Service Reservoir
Victoria Road Fresh Water Service Reservoir
Tai Tung Shan Fresh Water Service Reservoir
Tai Hang No.2 Fresh Water Service Reservoir
Siu Sai Wan Fresh Water Service Reservoir
Shau Kei Wan High Level Fresh Water Service Reservoir
Repulse Bay Fresh Water Service Reservoir
Kotewall Road Fresh Water Service Reservoir
Tung Chung Fresh Water Service Reservoir
Sunny Bay Fresh Water Service Reservoir
Wah Fu Fresh Water Service Reservoir
Shau Kei Wan East High Level Fresh Water Service Reservoir
Magazine Gap Road No.3 Fresh Water Service Reservoir
Ngong Ping Fresh Water Service Reservoir
Hatton Road Fresh Water Service Reservoir
Hatton Road No.2 Fresh Water Service Reservoir
Peak No.2 Fresh Water Service Reservoir
Repulse Bay No.2 Fresh Water Service Reservoir
Pok Fu Lam No.3 Fresh Water Service Reservoir
Shouson Hill Fresh Water Service Reservoir
Lamma Island Fresh Water Service Reservoir
Tai Tam Reservoir Road Fresh Water Service Reservoir

Kowloon Region

Lok Fu Fresh Water Service Reservoir
Lion Rock High Level Fresh Water Primary Service Reservoir
Lion Rock Low Level Fresh Water Primary Service Reservoir
Ho Man Tin High Level Fresh Water Service Reservoir
Kwun Tong High Level Fresh Water Service Reservoir
Shek Kip Mei Fresh Water Service Reservoir
Ho Man Tin East Fresh Water Service Reservoir
Lion Rock High Level No.2 Fresh Water Primary Service Reservoir
Ho Man Tin West Fresh Water Service Reservoir
Tai Po Road Fresh Water Service Reservoir
Diamond Hill No.2 Fresh Water Service Reservoir

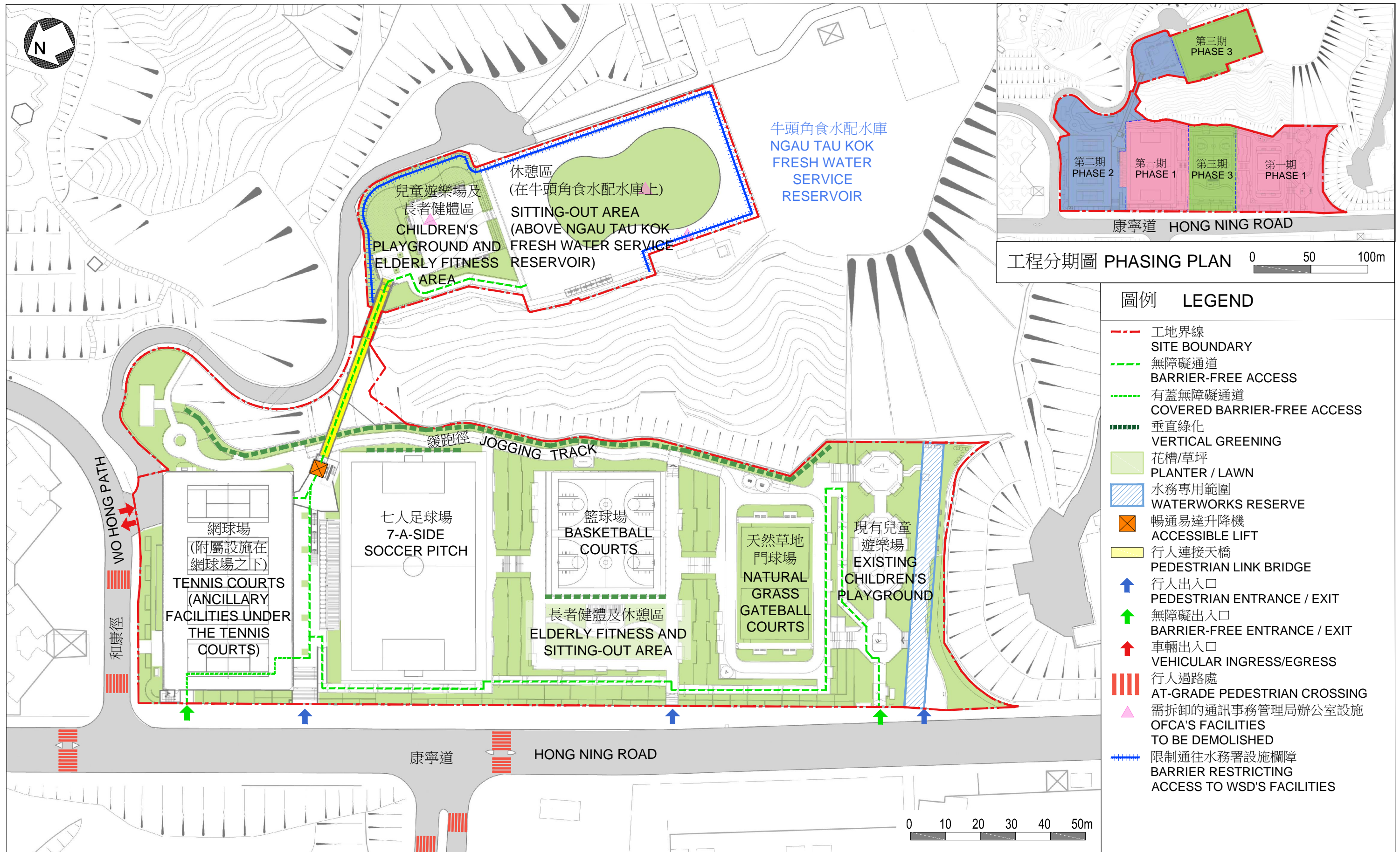
Diamond Hill Fresh Water Service Reservoir
Beacon Hill High Level Fresh Water Service Reservoir
Fung Wong Fresh Water Service Reservoir
Beacon Hill Intermediate Level Fresh Water Service Reservoir
Lam Tin High Level Fresh Water Service Reservoir
Ngau Chi Wan Fresh Water Service Reservoir
Ma Chai Hang Fresh Water Service Reservoir
Ngau Chi Wan High Level Fresh Water Service Reservoir
Shek Kip Mei No.2 Fresh Water Service Reservoir
Yau Tong No.2 Fresh Water Service Reservoir
Shek Kip Mei No.3 Fresh Water Service Reservoir
Butterfly Valley Fresh Water Primary Service Reservoir
Choi Wan Road Fresh Water Service Reservoir
Anderson Road Fresh Water Service Reservoir
Anderson Road No. 3 Fresh Water Service Reservoir
Ngau Tau Kok Fresh Water Service Reservoir

New Territories Region

Sha Tin North Fresh Water Service Reservoir
Table Hill Fresh Water Service Reservoir
Tai Po Tau Fresh Water Primary Service Reservoir
Sai Kung Fresh Water Service Reservoir
Tong Hang Fresh Water Service Reservoir
Tui Min Hoi Fresh Water Service Reservoir
Fei Ngo Shan Fresh Water Service Reservoir
Ha Hang Fresh Water Service Reservoir
To Shek Fresh Water Service Reservoir
Tong Hang No.2 Fresh Water Service Reservoir
Ha Wo Che Fresh Water Service Reservoir
Pai Tau Hang Fresh Water Service Reservoir
A Kung Kok Fresh Water Service Reservoir
Tseung Kwan O West High Level Fresh Water Service Reservoir
Pun Chun Yuen Fresh Water Service Reservoir
Sha Tin West Fresh Water Service Reservoir
Sha Tin South Fresh Water Service Reservoir
Sheung Wong Yi Au Fresh Water Service Reservoir
Tseung Kwan O Fresh Water Primary Service Reservoir

Tai Po East High Level Fresh Water Service Reservoir
Siu Lek Yuen Fresh Water Service Reservoir
Ma On Shan Fresh Water Service Reservoir
Tseung Kwan O West Low Level Fresh Water Service Reservoir
Pak Kong Au Fresh Water Service Reservoir
Tai Po Tsai Fresh Water Service Reservoir
Tai Po East Low Level Fresh Water Service Reservoir
Kwu Tung Fresh Water Service Reservoir
Tseung Kwan O East Low Level Fresh Water Service Reservoir
Ma On Shan Fresh Water Primary Service Reservoir
Tiu Keng Leng Fresh Water Service Reservoir
Pak Shek Kok Fresh Water Service Reservoir
Anderson Road No.2 Fresh Water Service Reservoir
Sheung Wong Yi Au No.2 Fresh Water Service Reservoir
Shui Chuen O Fresh Water Service Reservoir
Ma On Shan No.2 Fresh Water Service Reservoir
Ping Che Fresh Water Service Reservoir
Kau To High Level Fresh Water Service Reservoir
Tsuen Wan Fresh Water Service Reservoir
Kau Wa Keng No.2 Fresh Water Service Reservoir
Yuen Long Fresh Water Service Reservoir
Kwai Chung North Fresh Water Service Reservoir
Tsuen Wan West Low Level Fresh Water Service Reservoir
Au Tau Fresh Water Service Reservoir
Tsuen Wan West High Level Fresh Water Service Reservoir
Tuen Mun Fresh Water Primary Service Reservoir
Lai King Headland Fresh Water Service Reservoir
Tuen Mun East Fresh Water Service Reservoir
Au Tau No.2 Fresh Water Service Reservoir
Tai Wo Tsuen Fresh Water Service Reservoir
Wang Chau Fresh Water Service Reservoir
Tuen Mun North Fresh Water Service Reservoir
Tsing Yi South Fresh Water Service Reservoir
Yau Kom Tau Fresh Water Primary Service Reservoir
Tsing Yi North Low Level Fresh Water Service Reservoir
Tsuen Wan West Ultra High Level Fresh Water Service Reservoir
Tuen Mun West Fresh Water Service Reservoir
Ma Wan Fresh Water Service Reservoir

Tsuen Wan No.2 Fresh Water Service Reservoir
Tsing Yi North High Level Fresh Water Service Reservoir
Siu Lam Fresh Water Service Reservoir
Tuen Mun East No.2 Fresh Water Service Reservoir
Au Tau Fresh Water Primary Service Reservoir
Sham Tseng West Fresh Water Service Reservoir
Tuen Mun West No.2 Fresh Water Service Reservoir
Yau Kom Tau No.2 Fresh Water Primary Service Reservoir
Tsing Yi East No.2 Fresh Water Service Reservoir
Tan Kwai Tsuen South Fresh Water Service Reservoir
Ma Wan No.2 Fresh Water Service Reservoir
Siu Lam No.2 Fresh Water Service Reservoir
Ngau Tam Mei Fresh Water Primary Service Reservoir
Tan Kwai Tsuen North Fresh Water Service Reservoir
Lung Kwu Sheung Tan Fresh Water Service Reservoir
Kau Wa Keng Fresh Water Service Reservoir



擬建工地平面圖
PROPOSED SITE PLAN

281RS
重置駿業街遊樂場設施至康寧道公園及牛頭角配水庫
REPROVISIONING OF TSUN YIP STREET PLAYGROUND FACILITIES
TO HONG NING ROAD PARK AND NGAU TAU KOK FRESH WATER SERVICE RESERVOIR