

**For discussion
on 23 January 2018**

Legislative Council Panel on Development

**355WF - Water Supply to New Housing Developments
in Sheung Shui and Fanling**

PURPOSE

This paper briefs Members on our proposal to upgrade **355WF**, entitled “**Water supply to new housing developments in Sheung Shui and Fanling**”, to Category A at an estimated cost of \$1,699.7 million in money-of-the-day (MOD) prices to improve the fresh water supply to Sheung Shui and Fanling (SSF) areas for the planned housing developments.

PROJECT SCOPE

2. The scope of works under **355WF** comprises –
 - (a) construction of a service reservoir at Tong Hang with a capacity of 55 000 cubic metres (m³);
 - (b) laying of about 2 kilometres (km) trunk mains of 900 millimetres (mm) in diameter connecting the new service reservoir to existing water supply system;
 - (c) laying of about 12 km distribution mains ranging from 150 mm and 700 mm in diameter in the south-western part of SSF areas and associated service connections;
 - (d) upgrading of the existing Tai Po fresh water pumping station and laying of associated water mains; and
 - (e) associated works including engineering, environmental mitigation works and landscaping works.

_____ Layout plans showing the proposed works are at **Enclosure 1**.

3. Subject to the funding approval of the Finance Committee (FC) of the Legislative Council (LegCo), we plan to commence the proposed works in the second quarter of 2018 for completion in stages from the first quarter of 2021 to the first quarter of 2024.

JUSTIFICATION

4. The existing fresh water service reservoirs supplying to SSF areas have a total storage capacity of 139 500 m³. In order to cope with the anticipated increase in water demand arising from planned new housing developments in SSF areas from 2021, we need to construct a new service reservoir with a storage capacity of 55 000 m³ so that the total service reservoir storage capacity in SSF areas will be increased to 194 500 m³. Upon completion of the proposed works, the total storage capacity of the fresh water service reservoirs within SSF areas can meet the daily demand of 203 000 m³ per day.

5. We also need to upgrade the existing Tai Po fresh water pumping station and lay associated water mains for transferring fresh water from Tai Po water treatment works to SSF areas and to construct additional distribution mains in the south-western part of SSF areas with sizes ranging from 150 mm diameter to 700 mm diameter to increase the water carrying capacity of the distribution network in order to cope with the increasing water demand.

FINANCIAL IMPLICATIONS

6. We estimate the cost of the proposed works to be \$1,699.7 million in MOD prices.

PUBLIC CONSULTATION

7. We consulted the Environment, Housing and Works Committee of the Tai Po District Council and the District Minor Works and Environmental Improvement Committee of the North District Council on 13 July 2016 and 18 July 2016 respectively. Members generally supported the proposed works.

8. On 22 December 2017, the Town Planning Board approved the application for permission under section 16 of the Town Planning Ordinance (Cap. 131) for the proposed fresh water reservoir site.

ENVIRONMENTAL IMPLICATIONS

9. The proposed works is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have carried out the Preliminary Environmental Review (PER) for the project. The PER concluded and the Director of Environmental Protection agreed in July 2017 that the project would not have any long-term environmental impacts. We will incorporate the mitigation measures recommended in the PER into the works contract to control the environmental impacts arising from the construction works to within established standards and guidelines. These measures include frequent watering of the site, provision of wheel-washing facilities, covering of materials on trucks and use of silenced construction plant. We have included in the project estimate for the implementation of these environmental mitigation measures.

10. At the planning and design stages, we have considered design and layouts optimisation to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. demolished concrete and excavated soil and rock) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities¹. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

11. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

12. We estimate that the proposed works will generate in total 729 577 tonnes of construction waste. Of these, we will reuse about 50 218 tonnes (7%) of inert construction waste on site and deliver 662 180 tonnes (91%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 17 179 tonnes (2%) of non-inert construction waste at landfills. The total cost for disposal of

¹ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

construction waste at public fill reception facilities and landfills is estimated to be \$50.5 million for this project (based on a unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

13. The proposed works will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites or buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

14. The proposed works do not involve resumption of private land, but clearance of about 270 100 square metres of government land and 9 temporary structures are required.

TRAFFIC IMPLICATIONS

15. We have carried out Traffic Impact Assessments (TIAs) for the proposed works. The TIAs concluded that the proposed works would not cause any significant impact on the traffic through implementation of appropriate traffic management schemes but a traffic review at the construction stage is needed to further ascertain the feasibility of the temporary traffic arrangements to meet the latest traffic situation before implementation.

BACKGROUND

16. We upgraded **355WF** to Category B in September 2014.

17. In February 2016, we engaged a consultant to undertake the investigation and detailed design and engaged contractors to carry out site investigation works for the proposed works at an estimated cost of \$17.1 million in MOD prices. We have charged this amount to block allocation **Subhead 9100WX** "Waterworks, studies and investigations for items in Category D of the Public Works Programme". The investigation and detailed design of the proposed works have been completed.

18. Of the 206 trees within the project boundary, 132 trees will be preserved and 74 trees will be felled. All trees to be removed are not important trees². We will incorporate planting proposals as part of the project, including estimated quantities of 74 trees and 9 200 square metres of grassed area.

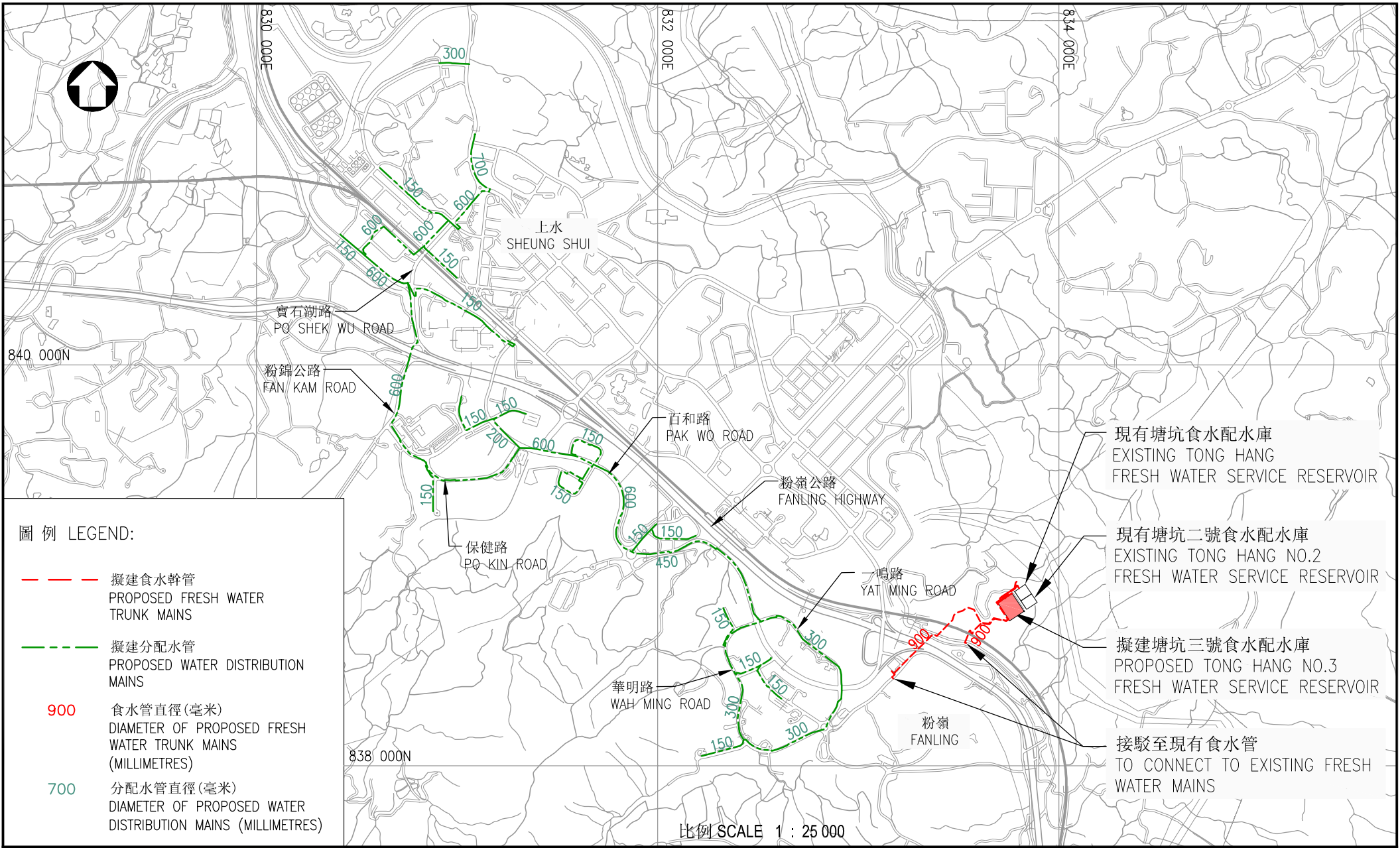
WAY FORWARD

19. We will seek support of the Public Works Subcommittee for the approval from the FC to upgrade **355WF** to Category A and will invite tenders in parallel to enable early commencement of the proposed works. We will only award the contract after obtaining FC's funding approval.

**Development Bureau
Water Supplies Department
January 2018**

² "Important trees" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria-

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of important persons or events;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height or canopy spread equal to or exceeding 25 m.



圖例 LEGEND:

- - - 擬建食水幹管
PROPOSED FRESH WATER TRUNK MAINS
- - - 擬建分配水管
PROPOSED WATER DISTRIBUTION MAINS
- 900 食水管直徑(毫米)
DIAMETER OF PROPOSED FRESH WATER TRUNK MAINS (MILLIMETRES)
- 700 分配水管直徑(毫米)
DIAMETER OF PROPOSED WATER DISTRIBUTION MAINS (MILLIMETRES)

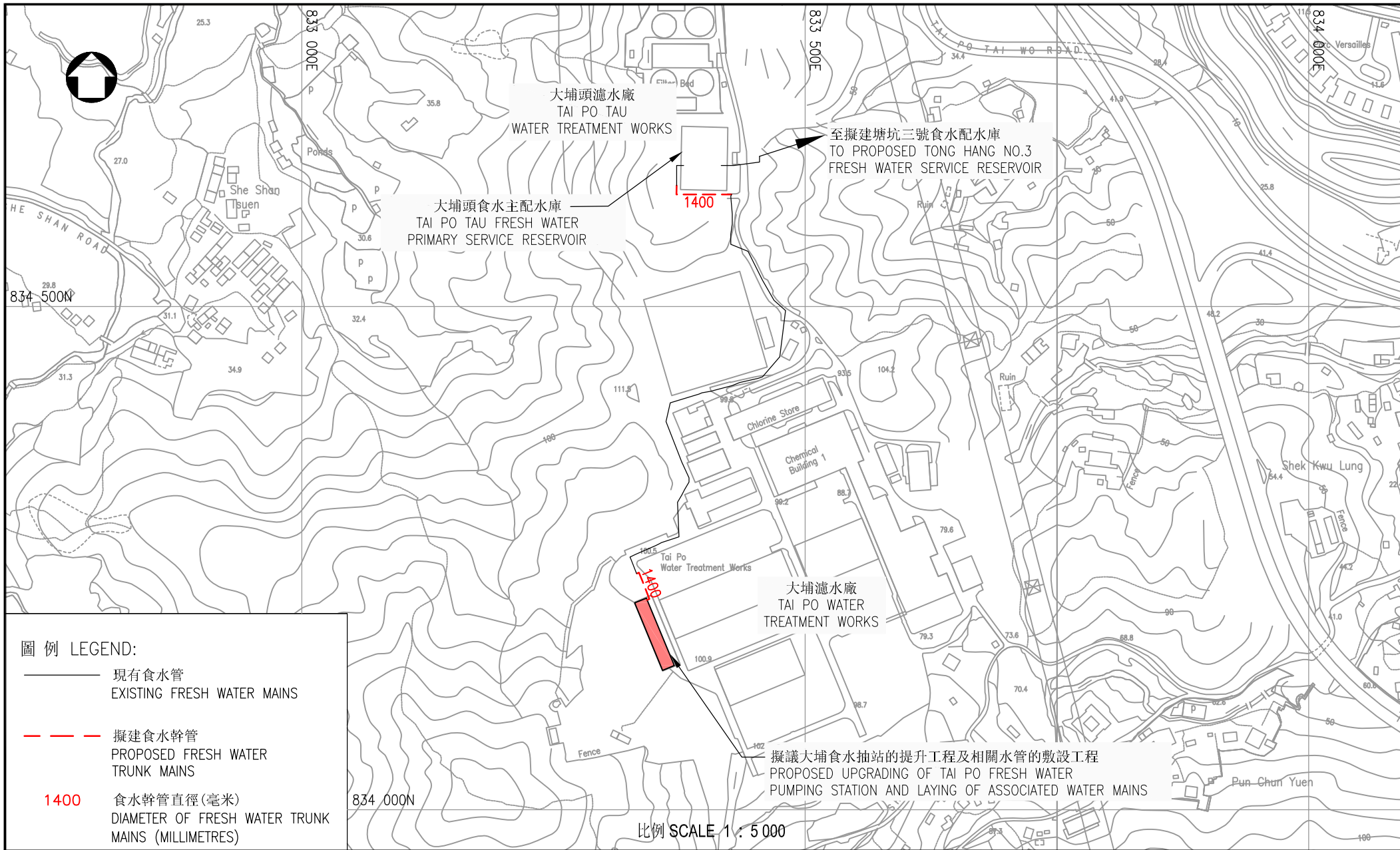
- 現有塘坑食水配水庫
EXISTING TONG HANG FRESH WATER SERVICE RESERVOIR
- 現有塘坑二號食水配水庫
EXISTING TONG HANG NO.2 FRESH WATER SERVICE RESERVOIR
- 擬建塘坑三號食水配水庫
PROPOSED TONG HANG NO.3 FRESH WATER SERVICE RESERVOIR
- 接駁至現有食水管
TO CONNECT TO EXISTING FRESH WATER MAINS

比例 SCALE 1 : 25 000

工務計劃項目第355WF號 --- 上水及粉嶺新房屋發展供水計劃
P.W.P. Item No.355WF --- Water supply to new housing developments in Sheung Shui and Fanling

水務署
WATER SUPPLIES DEPARTMENT

(二之一) 草圖編號 SK 62017 / 112 / 001
(Sheet 1 of 2) SKETCH NO.



圖例 LEGEND:

- 現有食水管
EXISTING FRESH WATER MAINS
- - - 擬建食水幹管
PROPOSED FRESH WATER TRUNK MAINS
- 1400 食水幹管直徑(毫米)
DIAMETER OF FRESH WATER TRUNK MAINS (MILLIMETRES)

擬議大埔食水抽站的提升工程及相關水管的敷設工程
PROPOSED UPGRADING OF TAI PO FRESH WATER PUMPING STATION AND LAYING OF ASSOCIATED WATER MAINS

比例 SCALE 1 : 5 000

工務計劃項目第355WF號 --- 上水及粉嶺新房屋發展供水計劃
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