For discussion **PWSC(2017-18)9**
on 10 June 2017

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Health – Hospitals
86MM – Extension of Operating Theatre Block for Tuen Mun Hospital
87MM – New Acute Hospital at Kai Tak Development Area
75MM – Redevelopment of Prince of Wales Hospital, phase 2 (stage 1)

Members are invited to recommend to the Finance Committee the upgrading of **86MM**, part of **87MM** and part of **75MM** to Category A at estimated costs of $2,980.8 million, $1,150.0 million and $1,377.6 million in money-of-the-day prices respectively.

PROBLEM

We need to extend the Operating Theatre (OT) Block of Tuen Mun Hospital (TMH), construct a new acute hospital (NAH) at Kai Tak Development Area (KTDA) and redevelop Prince of Wales Hospital (PWH) to enhance service capacity and services in order to cope with the rising demand of the increasing and ageing population.

/PROPOSAL.....

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Food and Health, proposes to upgrade the following projects to Category A –

(a) **86MM** at an estimated cost of $2,980.8 million in money-of-the-day (MOD) prices for the extension of OT Block for TMH;

(b) part of **87MM** at an estimated cost of $1,150.0 million in MOD prices to carry out the preparatory works for the development of a NAH at KTDA; and

(c) part of **75MM** at an estimated cost of $1,377.6 million in MOD prices to carry out the preparatory works for phase 2 (stage 1) of the redevelopment of PWH.

3. Details of the three hospital projects are at Enclosures 1 to 3.

4. We consulted the Legislative Council Panel on Health Services on **86MM** on 25 April 2017, and **87MM** and **75MM** on 15 May 2017. Members supported the submission of the projects to the Public Works Subcommittee of the Finance Committee for consideration.

Food and Health Bureau
June 2017

Extension of Operating Theatre Block for Tuen Mun Hospital

PROJECT SCOPE AND NATURE

The extension of operating theatre [1] (OT) block for Tuen Mun Hospital (TMH) comprises two stages of works. The substructure and utilities diversion works (i.e. stage 1) commenced in May 2016 and will be completed in late 2017. The remaining part of **86MM** which we propose to upgrade to Category A (i.e. stage 2) includes the following main works –

(a) construction of an OT extension block in the open car parking area to accommodate 20 OTs, intensive care unit and associated supporting areas;

(b) construction of a link bridge to connect the extension block with the existing OT Block;

(c) expansion of the existing accident and emergency (A&E) department and radiology department at the OT extension block and ground floor of Block D of TMH respectively, as well as refurbishment of the existing OT Block and the existing A&E and radiology departments located on the ground floor of Block D of TMH to integrate with the extension block for coherent workflows;

(d) construction of a new Electrical Building for the relocation of existing transformer rooms currently located at the ground floor of the existing OT Block; and

(e) construction of an additional Dangerous Goods (DG) Building for the OT extension block.

The site plan showing the location of the OT extension block is at Annex 1 to Enclosure 1. The floor plans, sectional drawings and a perspective view (artist's impression) of the extension block are at Annexes 2 to 12 to Enclosure 1.

/2. …..

[1] "Operating Theatre" is operationally defined within Hospital Authority as a designated area where operations are performed under anaesthesia and which can meet all physical requirements in terms of air ventilation, air filter and patient preparation or recovery space.

2. Subject to funding approval of the Finance Committee (FC), we plan to commence the proposed main works in the third quarter of 2017 for completion of the whole project in the fourth quarter of 2021. To meet the programme, the Hospital Authority (HA) has invited tenders on 30 March 2017. The contract will only be awarded upon obtaining FC's funding approval. TMH will remain functional at all times during the works and any disruption of services, if unavoidable, will be kept to a minimum.

JUSTIFICATION

3. At present, HA provides public hospital services for Tuen Mun and Yuen Long districts through its New Territories West Cluster (NTWC), which comprises TMH, Pok Oi Hospital, Castle Peak Hospital, Siu Lam Hospital and Tin Shui Wai Hospital. TMH, established in 1989, provides a comprehensive range of specialty services at secondary and tertiary levels. Over the years, the population of Tuen Mun and Yuen Long districts has grown rapidly. According to the latest projection of the Census and Statistics Department and the Planning Department, the total population of the two districts was 1 117 500 in mid-2015 and is projected to reach 1 241 300 by mid-2024, representing an increase of 11%. While there has been continuous expansion in service capacity in NTWC in the past few years[2] to strengthen the provision of medical services to the local community, there is a genuine need to expand the OT facilities, A&E department and radiology department of TMH in view of the projected population growth and TMH's status as the major acute hospital and tertiary referral centre for the NTWC.

4. TMH runs a 24-hour A&E department and provides a full range of acute, ambulatory, extended care and community medical services. It also serves as a tertiary referral centre for trauma and neurosurgery of NTWC. Most of the ultra-major and major operations performed in OTs (including main theatre and day surgery centre) of NTWC are carried out in TMH. Demand for the services of TMH, in particular surgical services, has been constantly high. In 2015-16, there were around 24 800 inpatient and day inpatient discharges and deaths in the surgical specialty of TMH, which was the fifth highest among HA hospitals. Over 40% of the operations performed at the OTs of TMH are emergency surgeries in 2016, resulting in long waiting time for elective surgery of surgical and orthopaedic specialties. Furthermore, among the 11 existing OTs, ten of them

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[2] Namely the commissioning of additional beds at TMH and Pok Oi Hospital, opening of Tin Shui Wai (Tin Yip Road) Community Health Centre, and commissioning of Tin Shui Wai Hospital in phases from early 2017.

have an area of around 40 square metres (m^2) each only, as compared with the international standard of 60 m^2. To cope with the anticipated growth in service demand as well as to upgrade the OT facilities comparable to international standard, we plan to extend the existing OT Block to accommodate 20 OTs up to modern standard to meet the rising demand for surgical services in TMH.

5. The current A&E department and radiology department are located on the ground floor of Block D of TMH. There has been a large number of A&E attendances at TMH which was around 222 000 in 2015-16 and was the highest among all HA acute hospitals. It now occupies an area of around 1 900 m^2 which is insufficient to meet the rising service demand. Furthermore, no major renovation of the A&E department in TMH has been conducted since its establishment in 1990. The existing facilities are unable to meet modern standards for the delivery of emergency care. We therefore plan to expand TMH's A&E department to cater for the heavy demand for A&E services. Besides, as many patients seeking emergency care require radiology examinations, it is also imperative to expand the adjoining radiology department to better manage the high patient volume. The Construction Floor Area (CFA) of the A&E department will be increased from around 1 900 m^2 to around 3 800 m^2. The expansion will provide sufficient space and upgraded facilities to meet the overwhelming demand as well as modern standards for the delivery of emergency care. The CFA of the radiology department will be increased from around 2 400 m^2 to around 2 800 m^2. The expansion will facilitate prompt diagnosis for patients who require radiological examinations such as computed tomography scan or magnetic resonance imaging at the A&E department. Upon completion of the extension works, the existing A&E department and radiology department will be refurbished for delivery of coherent patient care and treatment.

6. In view of the substantial and extensive coordination work with all departments of the hospital required to formulate the planning and logistic arrangement of hospital services, substructure and utilities diversion works of this project were entrusted to HA. We plan to also entrust the main works to HA in order to expedite project implementation and achieve cost effectiveness by capitalising on the HA's experience and organisational capabilities.

/FINANCIAL …..

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the proposed main works to be $2,980.8 million in MOD prices (please see paragraph 9 below), broken down as follows –

		$ million
(a)	Site works and demolition	7.6
(b)	Basement enclosure	73.9
(c)	Building[3] (new OT extension block, new Electrical Building and DG Building)	544.6
(d)	Building services[4] (new OT extension block, new Electrical Building and DG Building)	473.1
(e)	Alteration and Addition (A&A) works to existing OT Block	235.4
(f)	Renovation of existing A&E and radiology departments	136.3
(g)	Drainage	4.0
(h)	External works	74.0

/$ million …..

[3] Building works cover construction of superstructure of the building.

[4] Building services works cover electrical installations, ventilation and air conditioning installations, fire services installations, lifts and other specialist installations, etc.

		$ million	
(i)	Additional energy conservation, green and recycled features	21.4	
(j)	Furniture and equipment (F&E)[5]	432.8	
(k)	Consultants' fees for contract administration	25.1	
(l)	Remuneration of resident site staff (RSS)	33.7	
(m)	Contingencies	206.2	
	Sub-total	2,268.1	(in September 2016 prices)
(n)	Provision for price adjustment	712.7	
	Total	2,980.8	(in MOD prices)

8. HA will engage consultants to undertake contract administration and directly employ RSS for the construction supervision of the proposed works. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 13 to Enclosure 1. The CFA of the proposed OT extension block (including the new Electrical Building and DG Building) is approximately 21 982 m^2. The estimated construction unit cost represented by the building and the building services costs is $46,297 per m^2 of CFA in September 2016 prices. We consider the unit cost reasonable as compared with that of similar projects.

9. Subject to funding approval, we will phase the expenditure of the project as follows -

/**Year** …..

[5] Based on an indicative list of F&E items at Annex 14 to Enclosure 1 and their estimated prices.

Year	$ million (Sept 2016)	Price adjustment factor	$ million (MOD)
2017 – 18	30.0	1.05750	31.7
2018 – 19	120.0	1.12095	134.5
2019 – 20	290.0	1.18821	344.6
2020 – 21	540.0	1.25950	680.1
2021 – 22	610.0	1.32562	808.6
2022 – 23	300.0	1.39190	417.6
2023 – 24	214.0	1.46150	312.8
2024 – 25	164.1	1.52909	250.9
	2,268.1		2,980.8

10. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2017 to 2025. Subject to funding approval, HA will award the contract on a lump-sum basis because the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

11. HA has assessed the requirements for F&E for this project, and estimates the F&E costs to be $432.8 million. The proposed F&E provision represents 29.5% of the total construction cost of the project[6]. An indicative list of major F&E items (costing $1 million or above per item) to be procured for the project is at Annex 14 to Enclosure 1.

12. We estimate the additional annual recurrent expenditure arising from this project to be in the order of around $470 million.

/**PUBLIC** …..

[6] Represented by building (new OT extension block, new Electrical Building and DG Building), building services (new OT extension block, new Electrical Building and DG Building), A&A works to existing OT Block, renovation of existing A&E and radiology departments, drainage and external works.

PUBLIC CONSULTATION

13. HA consulted the Social Services Committee (SSC) of the Tuen Mun District Council (TMDC) on the proposed project on 12 May 2015 and updated the SSC of TMDC on the current status of the project on 10 January 2017. Members of the SSC of TMDC supported the project.

14. We consulted the Legislative Council Panel on Health Services on 25 April 2017. Members of the Panel supported the project.

ENVIRONMENTAL IMPLICATIONS

15. The extension of OT Block for TMH project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). In August 2015 and May 2017 respectively, HA has completed and updated the Preliminary Environmental Review (PER) for the project which covers the proposed stage 1 and stage 2 works as stated in paragraph 1 above. The PER has concluded and the Director of Environmental Protection agreed that the project would not have long-term adverse environmental impacts with implementation of suitable mitigation measures.

16. HA will incorporate into the works contract mitigation measures recommended in the PER in order to ensure that the environmental impacts arising from the main works are within established standards and guidelines. These include the use of silencers, mufflers, acoustic linings or shields and temporary noise barriers for noisy construction activities, frequent cleaning, watering of the site and the provision of wheel washing facilities. HA has included in the project estimates the cost for the implementation of the environmental mitigation measures.

/17. …..

17. At the planning and design stages, HA has considered measures to reduce the generation of construction waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, we will require the contractor to reuse inert construction waste (e.g. use of excavated materials for filling within the site) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities[7]. HA 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.

18. At the construction stage, HA 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. HA will ensure that the day-to-day operations on site comply with the approved plan. HA will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. HA will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

19. HA estimates that the project will generate in total 35 317 tonnes of construction waste. Of these, HA will reuse 247 tonnes (0.7%) of inert construction waste on site and deliver 29 587 tonnes (83.8%) of inert construction waste to public fill reception facilities for subsequent reuse. HA will dispose of the remaining 5 483 tonnes (15.5%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $3.2 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)).

/**ENERGY** …..

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[7] 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.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

20. This project will adopt various forms of energy efficient features and renewable energy technologies, in particular –

(a) high efficiency air-cooled chillers with variable speed drive for the OT extension block;

(b) automatic demand control of supply air;

(c) heat wheels or heat pipes for heat energy reclaim of exhaust air;

(d) heat pump for domestic hot water, space heating or dehumidification;

(e) building energy management system for large installations;

(f) lift power regeneration; and

(g) solar hot water system.

21. For recycled features, HA will adopt rainwater harvesting system for irrigation purpose.

22. The total estimated additional cost for adoption of the above features is around $21.4 million (including $7.4 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 5.9% energy savings in the annual energy consumption with a payback period of about 9 years.

HERITAGE IMPLICATIONS

23. This 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

24. This proposed works do not require any land acquisition.

BACKGROUND INFORMATION

25. The extension of OT block for TMH is one of the projects covered by the Ten-year Hospital Development Plan (HDP). We upgraded **86MM** to Category B in September 2014. In February 2016, FC approved the upgrading of part of **86MM**, entitled "Extension of OT Block for TMH – substructure and utilities diversion works" to Category A at an estimated cost of $167.2 million in MOD prices. The remainder of **86MM** for the main works of the project has been placed in the HDP.

26. HA engaged consultants to carry out ground investigation works, topographical, tree, utility and asbestos surveys as well as to prepare the tender document. The total cost of the above-mentioned services is about $39.5 million, including the pre-construction consultancy fees of both stage 1 and stage 2 works, and is charged to **Subhead 8083MM** "One-off grant to the Hospital Authority for minor works projects". The above consultancy services are ongoing for the design development and tender preparation for the superstructure and refurbishment works of existing areas in TMH and will be completed in 2018.

27. The proposed main works will involve felling of one tree. The tree to be felled is not an important tree[8]. We will incorporate planting proposals as part of the project, including a total of 11 trees and 1 700 shrubs. These 11 new trees are proposed as compensatory planting for both stages of works and will be implemented in stage 2.

28. We estimate that the proposed works will create 685 jobs (600 for labourers and 85 for professional or technical staff), providing a total employment of 16 500 man-months.

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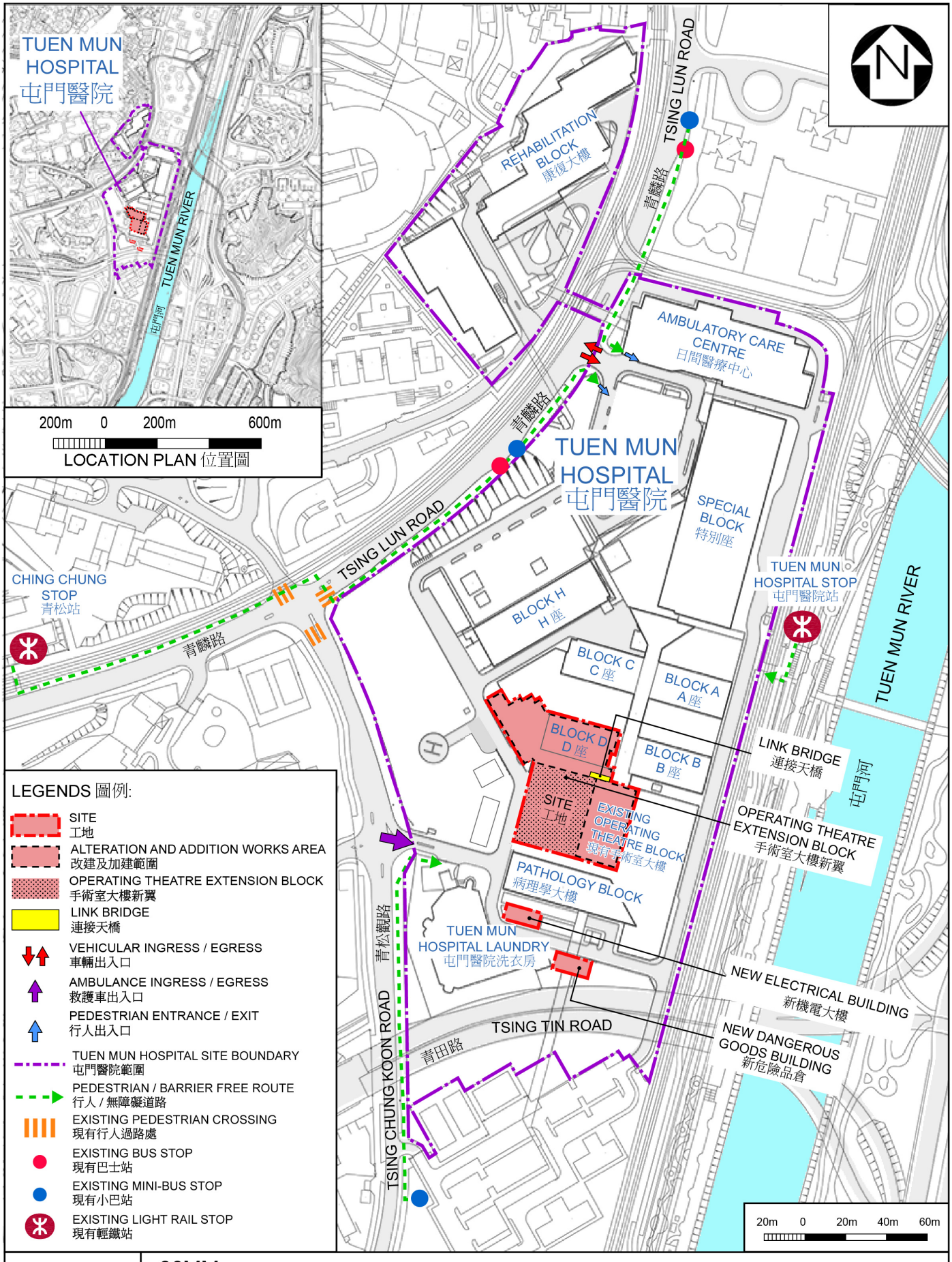
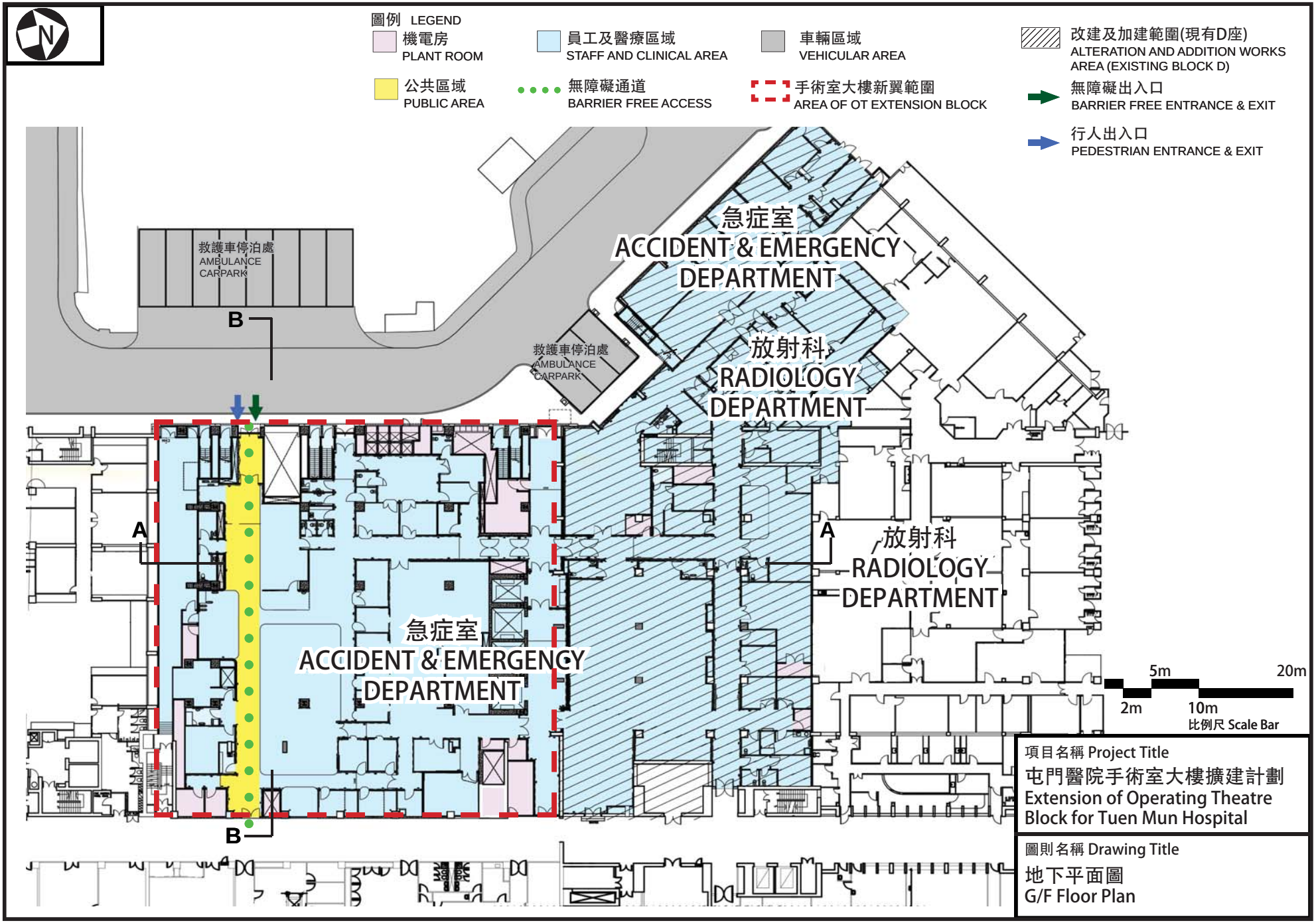
[8] "Important tree" refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(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 an important person or event;
(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 or exceeding 25 m.

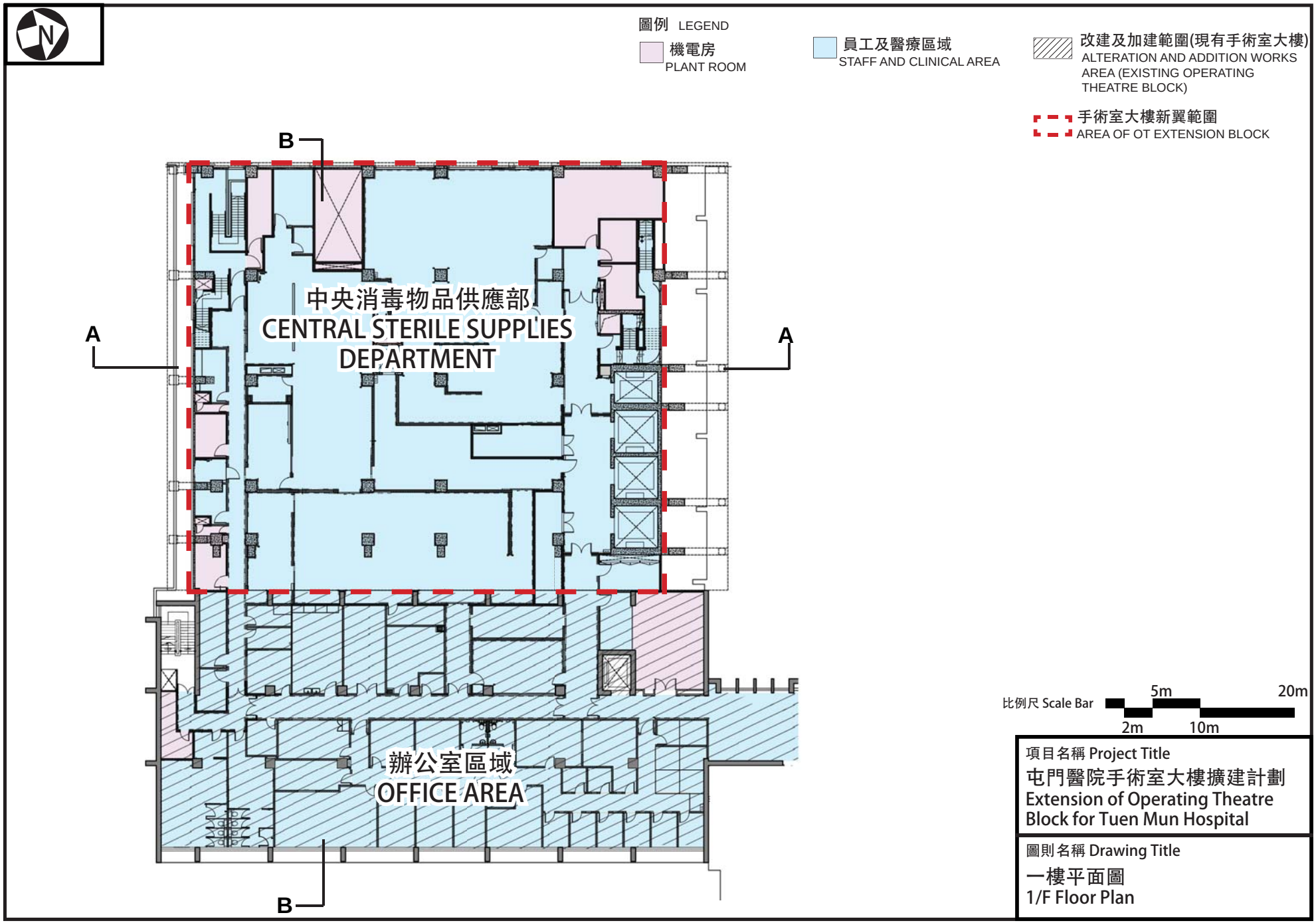


SITE PLAN
工地平面圖

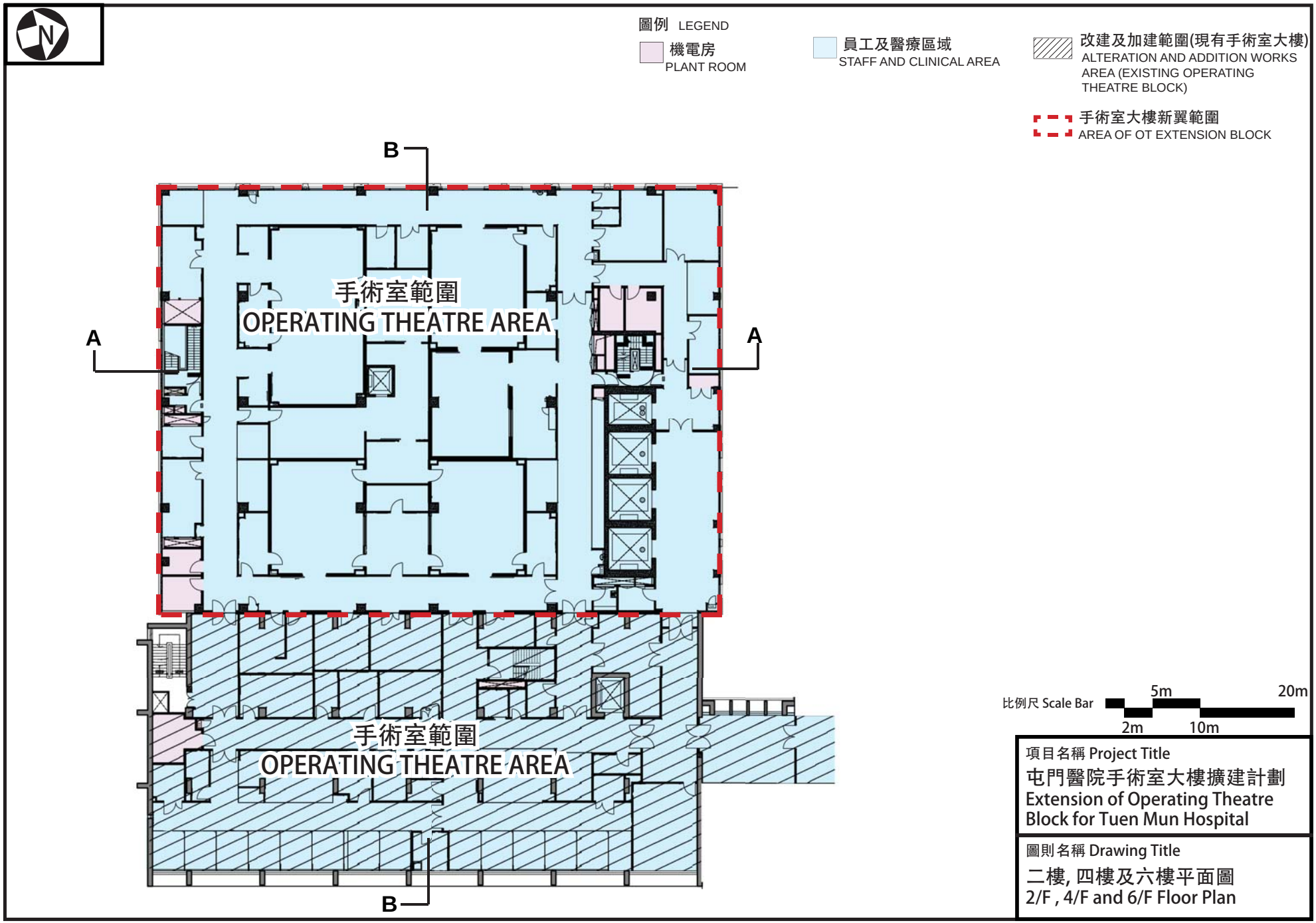
86MM
EXTENSION OF OPERATING THEATRE BLOCK FOR TUEN MUN HOSPITAL
屯門醫院手術室大樓擴建計劃



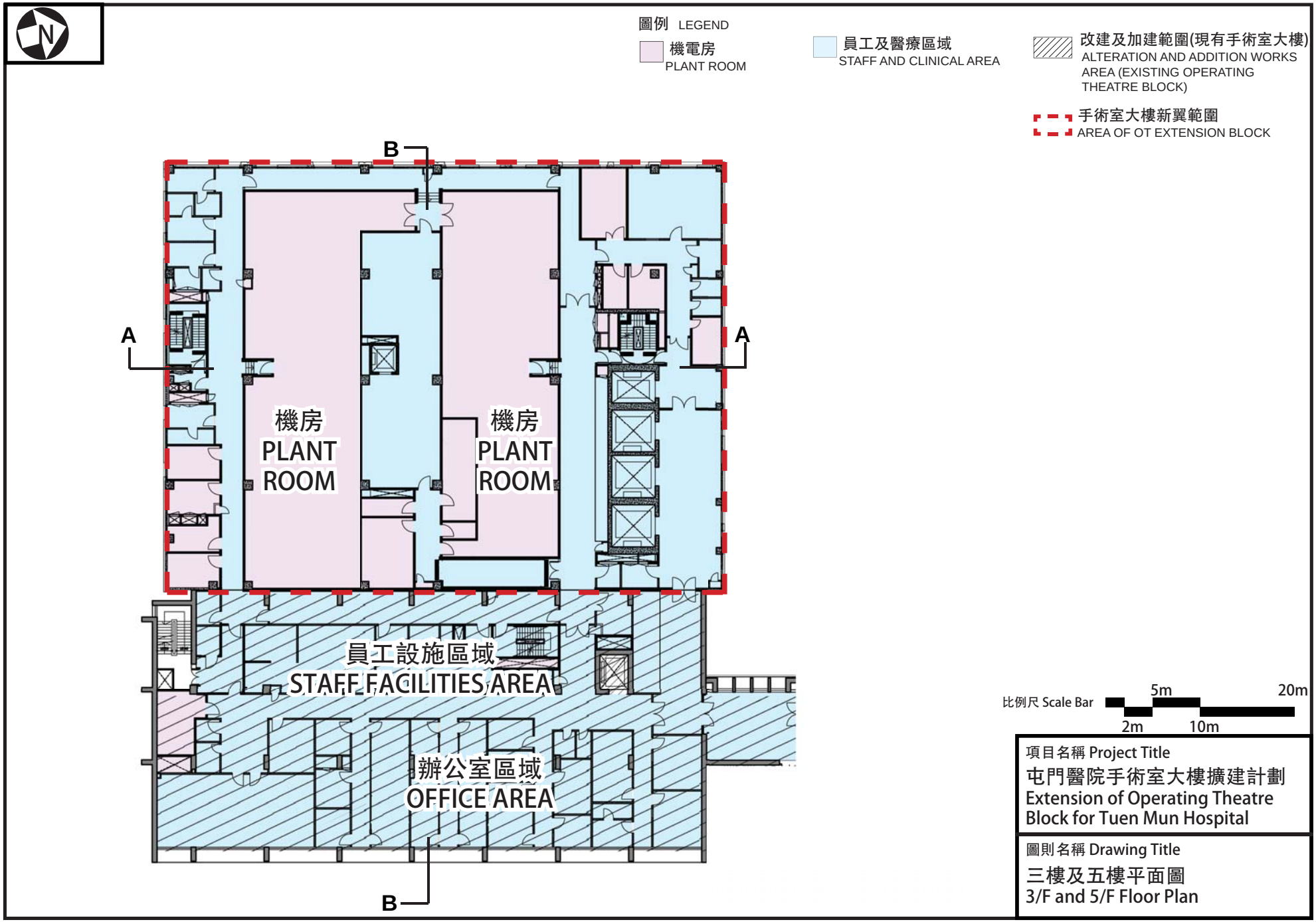
附件 1 附錄 2 Annex 2 to Enclosure 1



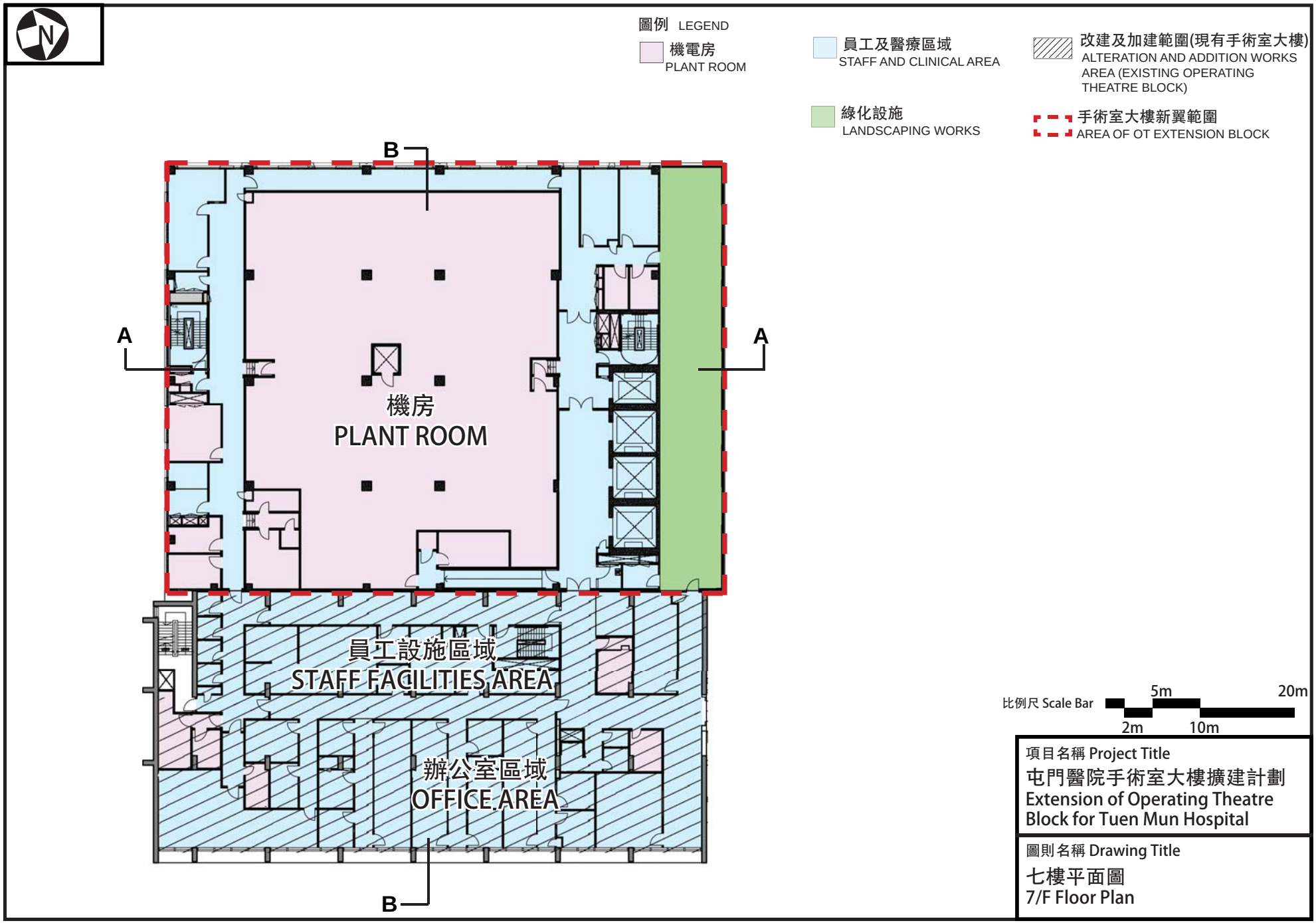
附件 1 附錄 3 Annex 3 to Enclosure 1



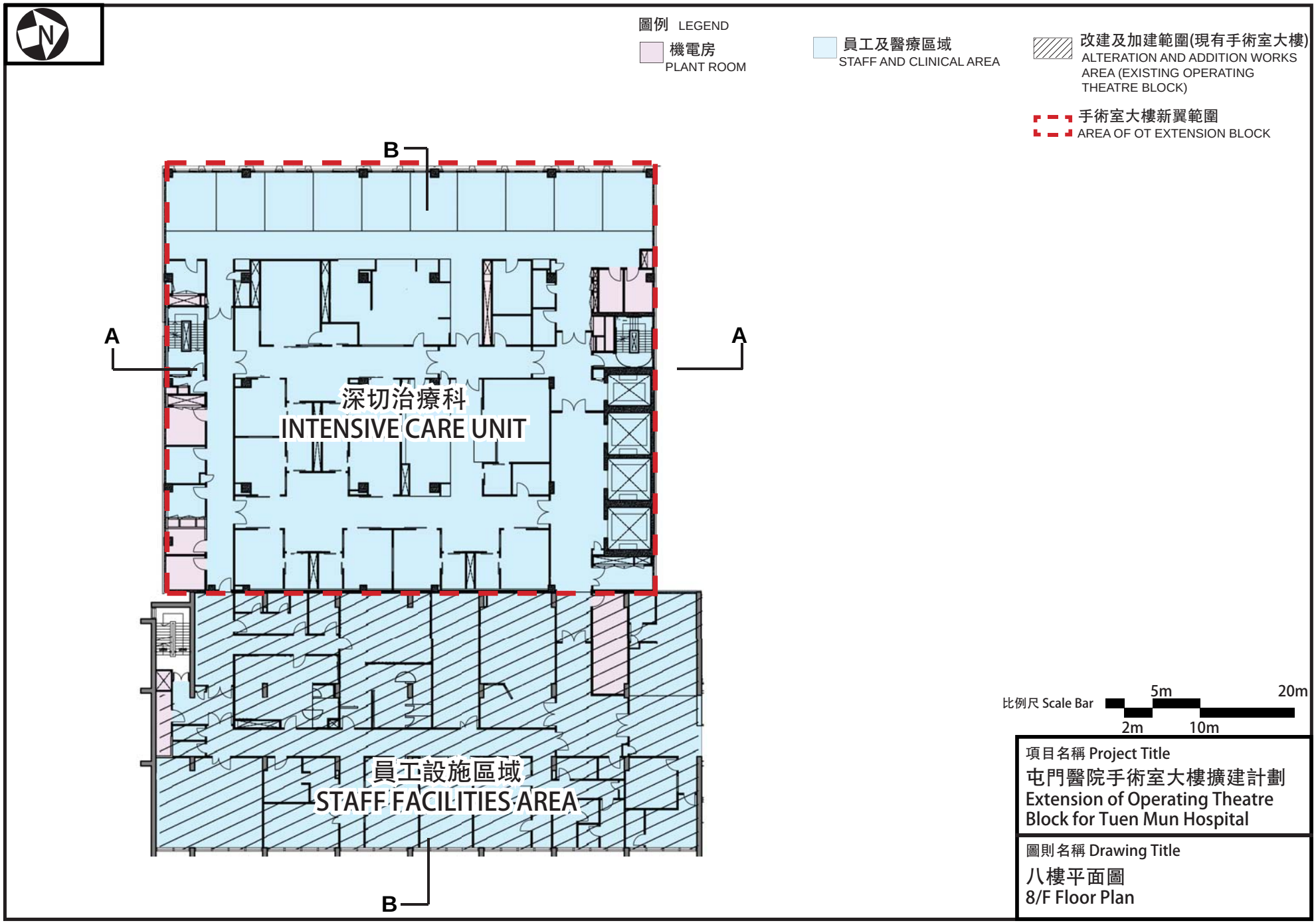
附件 1 附錄 4 Annex 4 to Enclosure 1



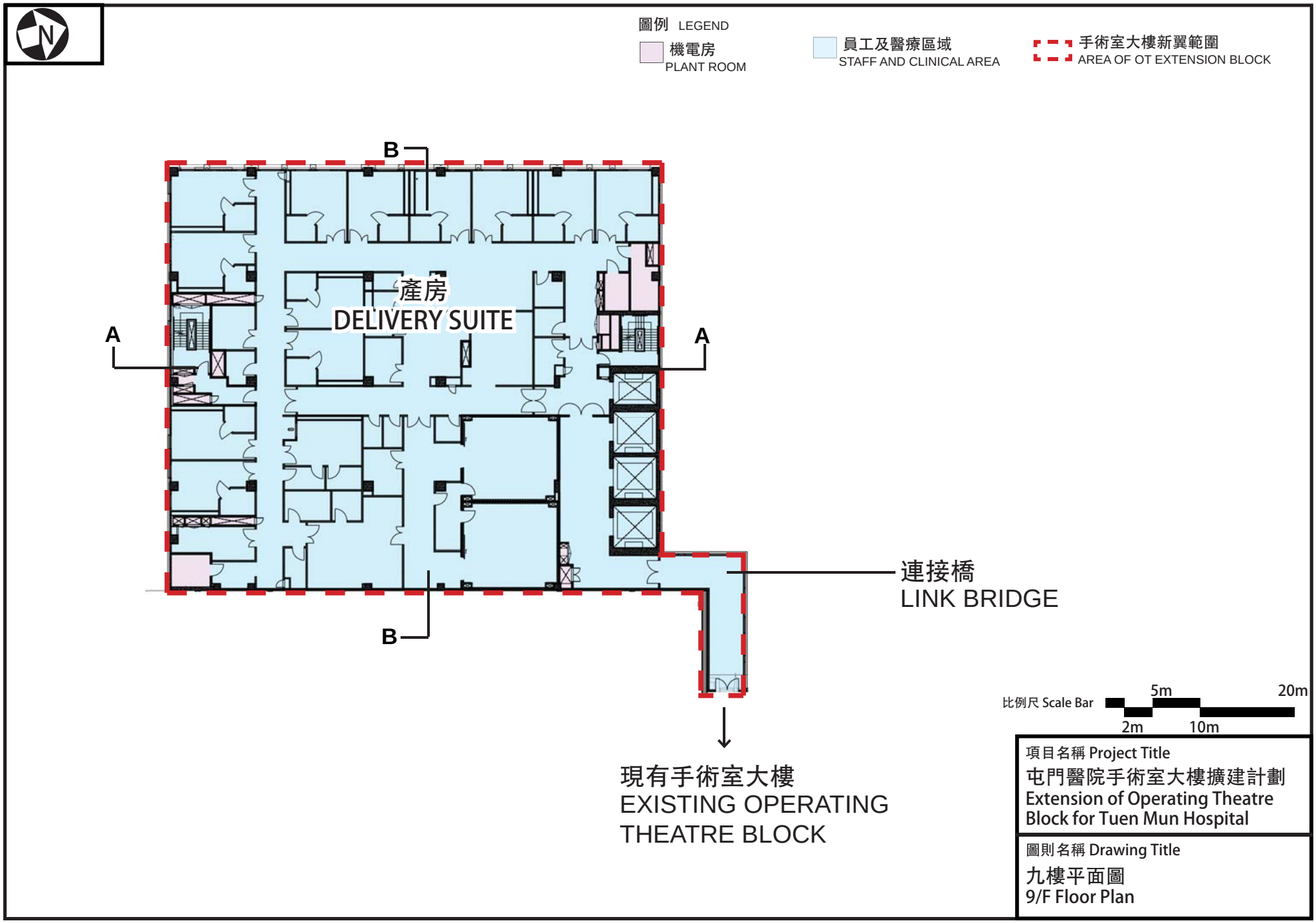
附件 1 附錄 5 Annex 5 to Enclosure 1



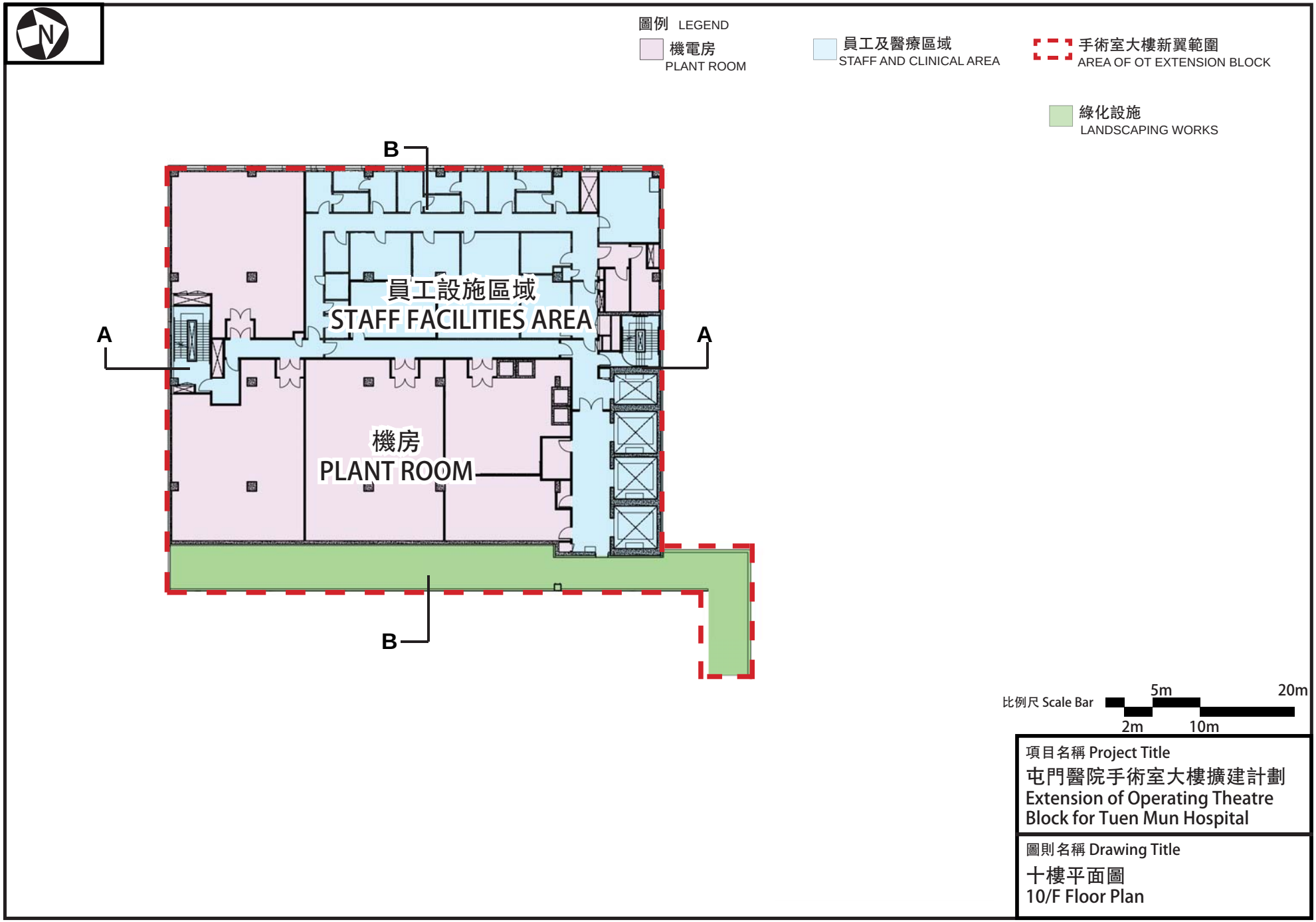
附件 1 附錄 6 Annex 6 to Enclosure 1



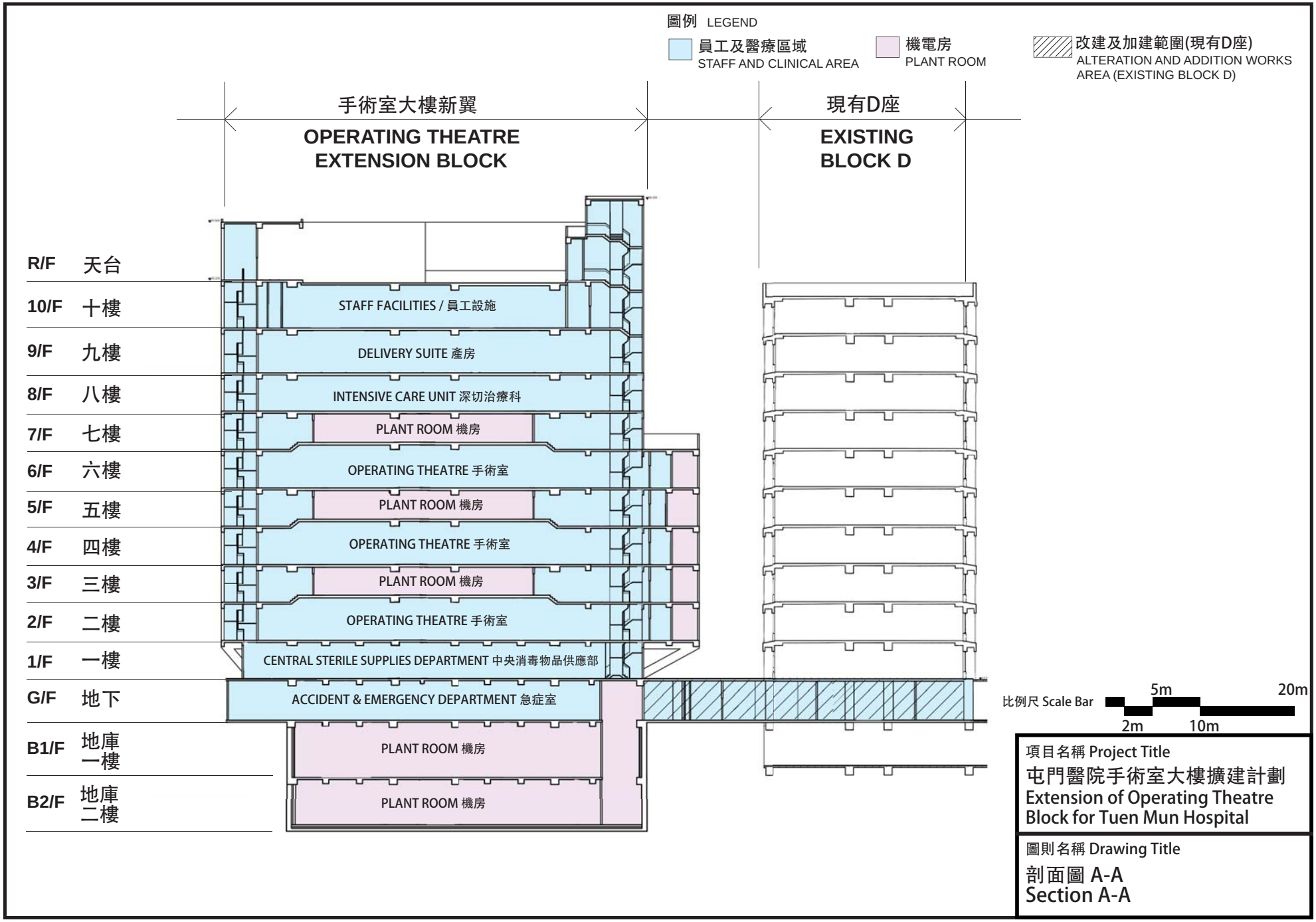
附件 1 附錄 7 Annex 7 to Enclosure 1

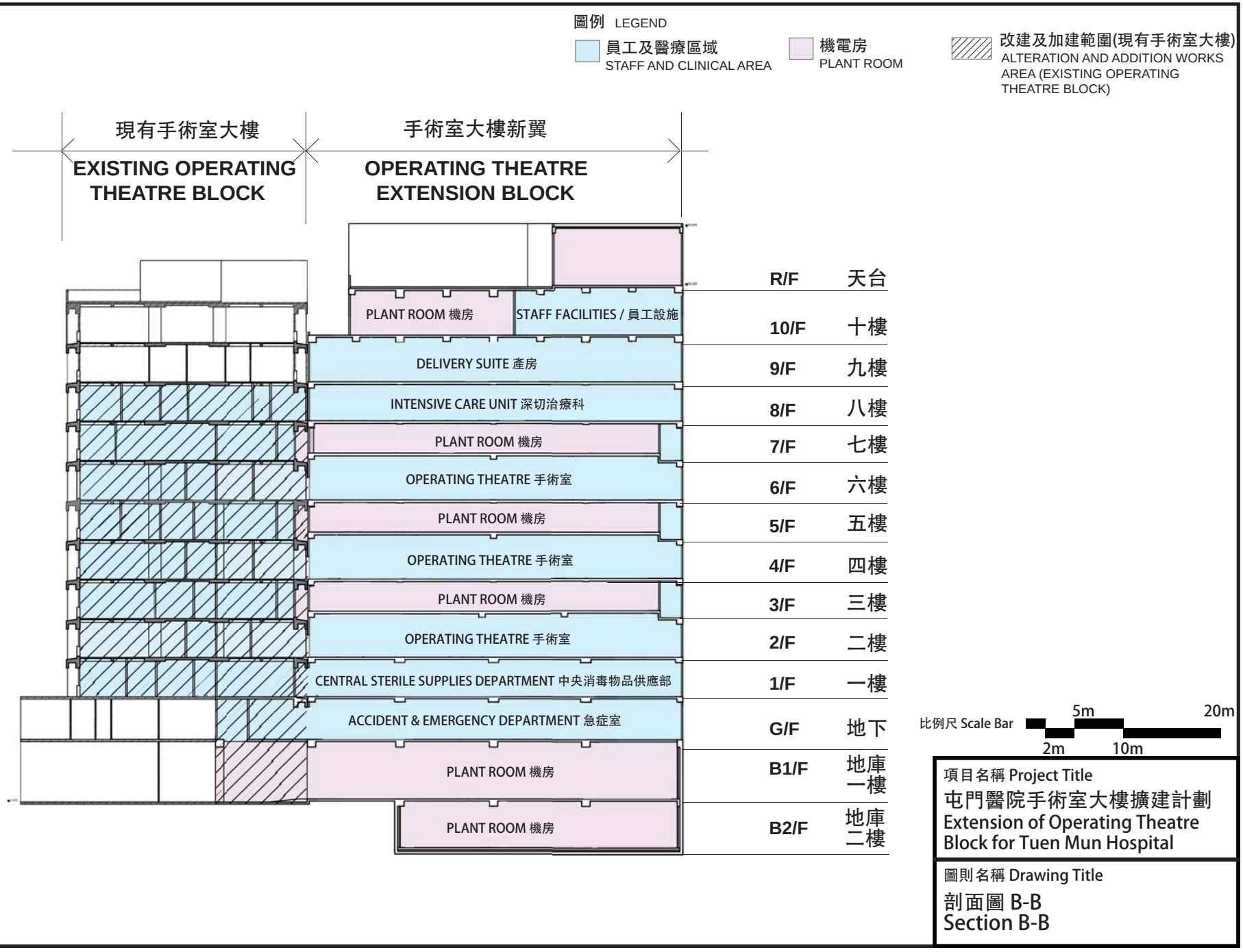


附件 1 附錄 8 Annex 8 to Enclosure 1



附件 1 附錄 9 Annex 9 to Enclosure 1


圖例 LEGEND
員工及醫療區域
STAFF AND CLINICAL AREA
機電房
PLANT ROOM
改建及加建範圍(現有D座)
ALTERATION AND ADDITION WORKS AREA (EXISTING BLOCK D)
手術室大樓新翼
OPERATING THEATRE EXTENSION BLOCK
現有D座
EXISTING BLOCK D
R/F 天台
10/F 十樓
9/F 九樓
8/F 八樓
7/F 七樓
6/F 六樓
5/F 五樓
4/F 四樓
3/F 三樓
2/F 二樓
1/F 一樓
G/F 地下
B1/F 地庫一樓
B2/F 地庫二樓
STAFF FACILITIES / 員工設施
DELIVERY SUITE 產房
INTENSIVE CARE UNIT 深切治療科
PLANT ROOM 機房
OPERATING THEATRE 手術室
PLANT ROOM 機房
OPERATING THEATRE 手術室
PLANT ROOM 機房
OPERATING THEATRE 手術室
CENTRAL STERILE SUPPLIES DEPARTMENT 中央消毒物品供應部
ACCIDENT & EMERGENCY DEPARTMENT 急症室
PLANT ROOM 機房
PLANT ROOM 機房
比例尺 Scale Bar
5m
20m
2m
10m
項目名稱 Project Title
屯門醫院手術室大樓擴建計劃
Extension of Operating Theatre Block for Tuen Mun Hospital
圖則名稱 Drawing Title
剖面圖 A-A
Section A-A



附件 1 附錄 11 Annex 11 to Enclosure 1

項目名稱 Project Title

屯門醫院手術室大樓擴建計劃
Extension of Operating Theatre Block for Tuen Mun Hospital

圖則名稱 Drawing Title

從西面望向手術室大樓新翼的構思透視圖
Perspective View of the Operating Theatre Extension Block from West Direction (Artist's Impression)

86MM – Extension of Operating Theatre Block for Tuen Mun Hospital

Breakdown of the estimates for consultants' fees and resident site staff (RSS) costs (in September 2016 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
Consultants' fees for contract administration (Note 2)	Professional	-	-	-	15.5
	Technical	-	-	-	9.6
				Sub-total	25.1
Resident site staff (RSS) costs (Note 3)	Professional	60	38	1.6	7.4
	Technical	615	14	1.6	26.3
				Sub-total	33.7
				Total	**58.8**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS (as at now, MPS salary point 38 = $77,320 per month and MPS salary point 14 = $26,700 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for preparatory works of **86MM**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade the remaining part of **86MM** to Category A.

3. The actual man-months and actual fees will only be known after completion of the proposed works.

86MM – Extension of Operating Theatre Block for Tuen Mun Hospital

Indicative list of furniture and equipment items with unit cost of $1 million or above

Item description	Quantity	Unit cost ($ million)	Total cost ($ million)
Third Generation (3G) / Fourth Generation (4G) Communication System	1	2.500	2.500
Anaesthetic Machine with Medical Gas Outlet, Anaesthetic Gas Scavenging System, Patient Monitoring System and Anesthesia Clinical Information System (Magnetic Resonance Imaging compatible)	1	2.800	2.800
Aspirator/Irrigators, Surgical, Ultrasonic	2	1.000	2.000
Automatic Endoscopic Reprocessor (AER)	3	1.573	4.719
Cart Washer	1	2.600	2.600
Closed Circuit Television (CCTV) System	1	3.230	3.230
Clean Steam Generator	4	1.500	6.000
Computed Tomography System	1	12.000	12.000
Digital Radiography System	1	2.150	2.150
Endolap Theatre Equipment	3	8.400	25.200
High Definition (HD) / Three Dimensional (3D) Endoscopic TV system	3	1.300	3.900
Instrument Washer Disinfector and Accessory	1	1.700	1.700
Intercommunication System and Audio System	1	1.530	1.530

Item description	Quantity	Unit cost ($ million)	Total cost ($ million)
Intraoperative Magnetic Resonance Imaging (MRI)	1	40.000	40.000
Isolation Washer with 2 Chambers and Accessories	3	3.000	9.000
Lasers, Carbon Dioxide, Surgical/Dermatologic	1	1.700	1.700
Low Temperature Hydrogen Peroxide Sterilizer and Accessories	2	1.650	3.300
Master Clock System	1	1.580	1.580
Microscope, Light, Operating	1	1.800	1.800
Mobile Fluoroscopy Machine	1	1.200	1.200
Neuro-spine Operation Table	1	1.391	1.391
Obstetrical Information Management System	1	8.909	8.909
Operating Microscope	1	2.900	2.900
Operating Microscope, Floor Stand	1	3.500	3.500
Operating Microscope, Surgical	1	1.600	1.600
Ophthalmic Surgery Machine with Laser Function for Posterior Surgery	1	1.326	1.326
Patient Monitoring System and Anaesthesia Clinical Information System	1	40.000	40.000
Public Address System	1	3.650	3.650
Queue Management System	1	1.050	1.050
Radiographic/Fluoroscopic Systems, Angiography/Interventional	1	44.500	44.500

Item description	Quantity	Unit cost ($ million)	Total cost ($ million)
Scanning system, Ultrasonic	1	1.670	1.670
Scanning Systems, Ultrasonic, Intravascular	1	1.497	1.497
Spinal Surgery Operating Table	1	1.500	1.500
Steam Sterilizer (1 Trolley) and Accessories	4	2.100	8.400
Steam Sterilizer (2 Trolleys) and Accessories	2	3.000	6.000
Storage System: Mobile Racking	1	5.400	5.400
Storage System: Movable Compact Shelves System	1	2.000	2.000
Telecommunication System	1	6.000	6.000
Tunnel Washer and Accessories	3	5.000	15.000
Ultrasound System, Neurosurgery	1	1.447	1.447
Ultrasound Machine, Obstetrics & Gynaecology	1	1.800	1.800
Vascular Trolley with Advance Endovascular Items	1	2.682	2.682
Video Conferencing System	1	3.000	3.000
Video System for Endoscopic Surgery (TV system)	2	1.200	2.400
Water Purification Systems	1	1.480	1.480
Water Treatment Plant with Water Softener	2	4.000	8.000
Wide Field Digital Retinal Camera / Imaging System for Paediatric Patients including Premature Infants	1	1.600	1.600

New Acute Hospital at Kai Tak Development Area

PROJECT SCOPE AND NATURE

The part of **87MM** that we propose to upgrade to Category A (i.e. preparatory works for the construction of a new acute hospital (NAH) at Kai Tak Development Area (KTDA)) covers –

(a) consultancy services for outline the sketch design and detailed design, as well as preparation of tender documentation and tender assessment for the proposed NAH and the adjoining section of the waterfront promenade; and

(b) site investigations and minor studies (such as preliminary environmental review, tree and topographical surveys, utilities survey and survey for impact assessment studies, etc.).

2. A site and location plan of the proposed NAH is at Annex 1 to Enclosure 2.

3. We plan to commence the preparatory works for the construction of NAH at KTDA by end-2017 after obtaining funding approval of the Finance Committee (FC) with a view to completing the whole NAH project in 2024. To meet the programme, the Hospital Authority (HA) invited tenders in May 2017 for consultancy services relating to design and tendering. The contracts will only be awarded upon obtaining FC's funding approval.

4. We will retain the remaining part of **87MM** in the Ten-year Hospital Development Plan (HDP), which involves the construction of NAH at KTDA and the adjoining section of the waterfront promenade. Separate funding from FC for the remaining part of the NAH project will be sought later to dovetail with the implementation programme.

/**JUSTIFICATION** …..

JUSTIFICATION

5. According to the population estimates published by the Census and Statistics Department and population projections of 2015-2024 of the Planning Department, the population in Hong Kong is projected to increase from 7 305 700 in 2015 to 7 755 800 in 2024. Around 46% of this growth occurs in the Kowloon region [1] with the overall population of the region projected to increase from 3 603 900 in 2015 to 3 809 100 in 2024 (representing an increase of 6%), where elderly of 65 years old or above will rise from 587 700 in 2015 to 829 000 in 2024 (representing an increase of 41%). To meet the long-term rising demand for healthcare services and facilities in Kowloon arising from the growing and ageing population, the Government has reserved sites in the KTDA for hospital development.

6. The Kai Tak Development is a major development project covering the ex-airport site, together with adjoining districts of Kowloon City, Wong Tai Sin and Kwun Tong. The KTDA will have a mix of housing, community, business, tourism and infrastructural uses. With the Government's plan to strive for increasing the development intensity in the Kai Tak Development, the population of KTDA is envisaged to be increased to about 134 000 upon completion of the planned developments in the KTDA.

7. In the 2013 Policy Address, the Government announced its policy intent to revisit the demand for medical facilities in the Kowloon region and if it was necessary to expedite the development of the reserved hospital sites at the KTDA, which is geographically located in the Kowloon Central Cluster[2] (KCC) of the HA. In this connection, HA conducted a strategic review of the development of a new public acute hospital and formulated a Clinical Services Plan (CSP) for KCC. The CSP maps out the future service development in KCC and delineates the role of the NAH in the whole KCC healthcare network. The recommendations in the CSP guide the development of the NAH at the KTDA as well as to align the future service developments of other hospitals in KCC. In the 2015 Policy Address, the Government confirmed its commitment to pursue the construction of an acute hospital in the KTDA. Subsequently, the NAH has been included as one of the projects under the HDP which the Government has earmarked a total provision of $200 billion for its implementation.

/**Need** …..

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[1] The Kowloon region refers to the catchment districts of three hospital clusters in the HA, namely Kowloon Central, Kowloon East and Kowloon West Clusters, which include Yau Tsim Mong, Kowloon City, Wong Tai Sin, Kwun Tong, Sai Kung, Sham Shui Po, Kwai Tsing, Tsuen Wan and Lantau Island.

[2] The KCC straddles across the Yaumatei, Tsim Sha Tsui, Mongkok, Wong Tai Sin and Kowloon City areas.

Need for the NAH

8. In the capacity planning of NAH, the projected demands are not only from the population in the KTDA, but also nearby districts such as Wong Tai Sin, Kowloon City, Kwun Tong and Yau Tsim Mong. Factors covered in the demand projection and capacity planning include the pace of population growth and ageing in the surrounding areas, cross-cluster utilisation of services, changes in service model, advancement in medical technology, and the roles of various hospitals and how their services could complement one another. For example, in the case of hospital beds, the projected number of acute and extended care bed requirement of hospitals in the Kowloon region is 14 200 by 2031. Taking into account the additional beds to be provided under a number of hospital projects committed in the HDP for the Kowloon region[3] and other capital works projects as well as future service organisation stipulated in the CSP, the number of hospital beds in the Kowloon region will be increased from 10 537 as at end March 2015 to around 13 200 in 2031[4]. The proposed provision at the NAH aims to address the healthcare needs of the local residents in the long run. Through the provisioning of the new NAH at KTDA, together with other hospitals and healthcare facilities in KCC, we aim to comprehensively and adequately meet the long-term healthcare needs of local residents.

9. As per the CSP and taking into account the roles of various hospitals in the Kowloon region, the NAH at KTDA will be established as an acute hospital delivering a comprehensive range of acute secondary and tertiary hospital services, with modern service models, and incorporating advanced technology and facilities. NAH will be a designated trauma centre. It will also provide Accident and Emergency, in-patient, out-patient, ambulatory and rehabilitation services.

/10. …..

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[3] These projects include expansion of Haven of Hope Hospital with 160 additional beds, expansion of United Christian Hospital with 560 additional beds, redevelopment of Kwong Wah Hospital with 350 additional beds, redevelopment of Our Lady of Maryknoll Hospital with 16 additional beds and expansion of Lai King Building in Princess Margaret Hospital with 400 additional beds.

[4] The estimation has included the planned capacity of the NAH. The capacity of the vacated site of QEH will be subject to detailed planning at a later stage.

10. There are currently eight hospitals or institutions in KCC, namely Queen Elizabeth Hospital (QEH), Kowloon Hospital, Hong Kong Buddhist Hospital, Hong Kong Eye Hospital, Kwong Wah Hospital, Wong Tai Sin Hospital, Our Lady of Maryknoll Hospital and Hong Kong Red Cross Blood Transfusion Service Headquarters. Since KCC is centrally located in the Kowloon region, there is a relatively high level of service demand for KCC by patients from districts of other neighbouring clusters. There is a pressing need for strengthening provision of public hospital services by building an acute hospital accessible to the population of the Kowloon region, in particular the future population within the KTDA. Upon completion of the NAH, most of the services of QEH will be relocated to the new hospital in the current plan. This will provide an opportunity for redevelopment of the vacated site of QEH at King's Park area. Having regard to the scheduled completion of the NAH at KTDA, the detailed planning of the vacated site of QEH will commence when the latest service demand projection is available.

11. Taking into account future medical needs, a neuroscience centre will also be set up under the NAH providing tertiary and quaternary services to KCC and the neighbouring clusters. Currently, neuroscience services in Hong Kong are being provided by different hospitals causing manpower and resources of neurological, neurosurgical and neuro-radiological services being fragmented and scattered. The establishment of a neuroscience centre in NAH will maximise synergy through multi-specialty cooperation and shared use of high technology facilities. In addition, this purpose-built facility has the potential to offer research and education to facilitate service development to improve the quality of care. Service provided by the NAH, including radiotherapy and laboratory services, will be complementary to that of the adjacent HKCH.

12. There are three sites reserved for hospital development in the South Apron of KTDA, whereas two sites are for the NAH and the remaining site is for the HKCH. HKCH is currently under construction and is located adjacent to the NAH. As a whole, the HKCH and the NAH will be developed as a healthcare campus at KTDA to meet the growing service demand of the Kowloon region.

13. In view of the substantial and extensive coordination works with all departments of the hospital required to formulate the planning and logistic arrangement of hospital services, we plan to entrust the preparatory works stipulated in paragraph 1 above to HA in order to expedite project implementation and achieve cost effectiveness by capitalising on the HA's experience and organisational capabilities.

/FINANCIAL …..

FINANCIAL IMPLICATIONS

14. We estimate the cost of the proposed preparatory works to be $1,150.0 million in money-of-the-day (MOD) prices (please see paragraph 15 below), broken down as follows –

		$ million	
(a)	Site investigation works and minor studies	24.0	
(b)	Consultants' fees for design, preparation of tender documents and assessment of tenders	865.8	
(c)	Contingencies	80.1	
	Sub-total	969.9	(in September 2016 prices)
(d)	Provision for price adjustment	180.1	
	Total	1,150.0	(in MOD prices)

A breakdown by man-months of the estimated consultancy fees for carrying out services detailed in paragraph 14(b) above is at Annex 2 to Enclosure 2.

15. Subject to approval, we will phase the expenditure of the project as follows –

Year	**$ million (Sept 2016)**	**Price adjustment factor**	**$ million (MOD)**
2017 – 2018	66.0	1.05750	69.8
2018 – 2019	250.0	1.12095	280.2
2019 – 2020	335.0	1.18821	398.1
2020 – 2021	315.0	1.25950	396.7
2021 – 2022	3.9	1.32562	5.2
	969.9		1,150.0

/16. …..

16. We have derived the MOD estimates on the basis of the Government's latest forecast of the trend rate of change in the prices of public sector building and construction output for the period from 2017 to 2022. Subject to funding approval, HA will engage consultants to undertake the proposed consultancy services on a lump-sum basis based on pre-defined scope of the services with appropriate provision for the price adjustment for the duration of the consultancy concerned. HA will also award the contracts on a lump-sum basis for site surveys, investigations and minor studies. The contracts will provide for price adjustments.

17. The proposed preparatory works will not give rise to any additional recurrent expenditure.

PUBLIC CONSULTATION

18. HA consulted the Kwun Tong District Council (DC), Kowloon City DC and Wong Tai Sin DC on 22 November 2016, 15 December 2016 and 3 January 2017 respectively. HA also briefed and consulted Yau Tsim Mong (YTM) DC on 24 November 2016 and 14 March 2017 respectively. HA updated YTMDC on the current status of the project on 30 March 2017. Members of these four DCs supported the proposed construction of NAH at KTDA.

19. We consulted the Legislative Council Panel on Health Services on 15 May 2017. Members of the Panel supported the project.

ENVIRONMENTAL IMPLICATIONS

20. The proposed preparatory works which cover site investigations and consultancy services are not a designated project under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) and will not cause any adverse environmental impact. We will implement suitable mitigation measures to control short-term environment impacts arising from the site investigation works. We will engage consultants to carry out a Preliminary Environmental Review (PER) for the proposed NAH project at the design stage and agree the findings with the Director of Environmental Protection. We will also take note of any EIAO implications arising from the proposed NAH project as identified in the PER and meet the EIAO requirements, if required.

/21. …..

21. The proposed preparatory works will only generate very little construction waste. We will require the consultants to fully consider measures to minimise the generation of construction waste and to reuse or recycle construction waste as much as possible in the future implementation of the construction project.

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

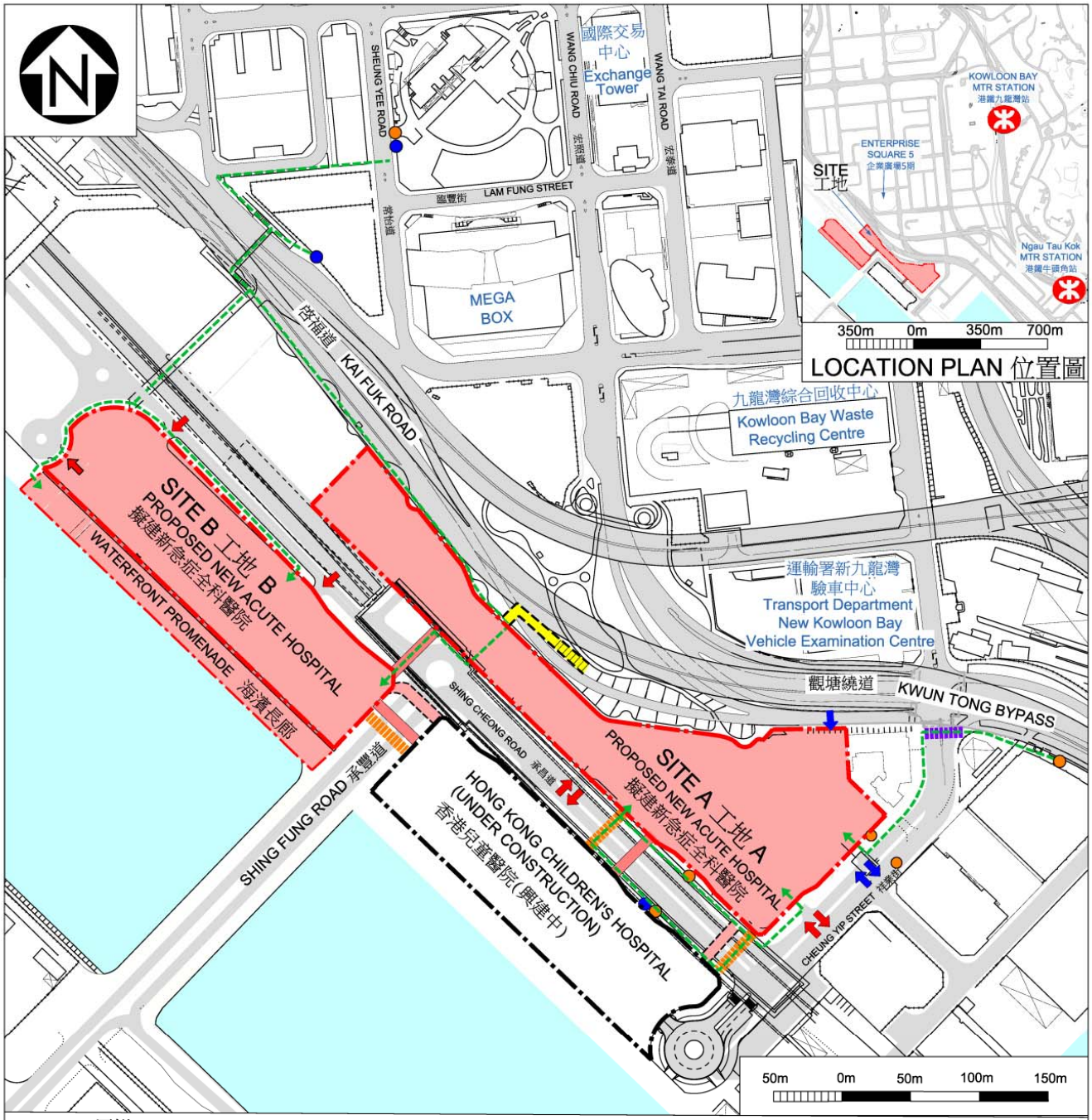
23. The proposed works do not require any land acquisition.

BACKGROUND INFORMATION

24. The development of the NAH at KTDA is one of the projects covered by the HDP. We upgraded part of **87MM** (i.e. preparatory works for the construction of NAH at KTDA) to Category B in May 2017.

25. The proposed preparatory works will not involve any tree removal or planting works.

26. We estimate that the proposed preparatory works will create 95 jobs (5 for labourers and 90 for professional or technical staff), providing a total employment of 4 500 man-months.



LEGENDS 圖例:

- SITE BOUNDARY 工地範圍
- HONG KONG CHILDREN'S HOSPITAL BOUNDARY 香港兒童醫院範圍
- PROPOSED HOSPITAL LINK BRIDGE 擬建醫院連接橋
- LOCATION FOR UNDERGROUND SERVICES SUBWAY 地下隧道位置
- PROPOSED PUBLIC LINK BRIDGE 擬建公共連接橋
- EXISTING PEDESTRIAN CROSSING 現有行人過路處
- PROPOSED PEDESTRIAN CROSSING 擬新增行人過路處
- EXISTING BUS STOP 現有巴士站
- EXISTING MINI-BUS STOP 現有小巴站
- PROPOSED VEHICULAR INGRESS / EGRESS 擬新增車輛出入口
- PROPOSED AMBULANCE INGRESS / EGRESS 擬新增救護車出入口
- PEDESTRIAN / BARRIER FREE ACCESS 行人/ 無障礙通道
- EXISTING MTR STATION 現有港鐵站

SITE PLAN 工地平面圖	3087MM NEW ACUTE HOSPITAL AT KAI TAK DEVELOPMENT AREA 在啓德發展區興建新急症全科醫院

87MM (part) – New Acute Hospital at Kai Tak Development Area – preparatory works

Breakdown of the estimates for consultants' fees (in September 2016 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for design, preparation of tender documents and assessment of tenders(Note 2)	Professional	3 125	38	2.0	483.3
		Technical	7 163	14	2.0	382.5
					Total	**865.8**

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff cost including the consultants' overheads and profit for staff employed in the consultants' offices (as at now, MPS salary point 38 = $77,320 per month and MPS salary point 14 = $26,700 per month).

2. The actual man-months and actual fees will only be known after completion of the preparatory works.

Redevelopment of Prince of Wales Hospital, phase 2 (stage 1)

PROJECT SCOPE AND NATURE

The part of **75MM** that we propose to upgrade to Category A (i.e. preparatory works for the redevelopment of Prince of Wales Hospital (PWH), phase 2 (stage 1)) comprises –

(a) initial surveys and site investigations, including ground and geotechnical investigation, condition survey, asbestos survey and asbestos removal in existing buildings, topographic survey, tree survey and survey on existing utilities and underground services;

(b) demolition works of Staff Quarters Blocks C and E, and Lecture Theatre Building and associated services diversion;

(c) construction of an off-site decanting building at Shatin Hospital;

(d) on-site alteration and addition works/refurbishment to the existing Main Clinical Block and Trauma Centre (MCBTC), and Staff Quarters Block B for decanting purpose; and

(e) consultancy services for outline sketch design, detailed design, preparation of tender documentation, tender assessment for the whole phase 2 (stage 1) project as well as contract administration for demolition and decanting works, management of Resident Site Staff (RSS) and remuneration of RSS for demolition and decanting works.

2. Site and location plans showing the existing layout of PWH and the proposed redevelopment are at Annexes 1 and 2 to Enclosure 3 respectively. The site and location plan showing the proposed decanting building at Shatin Hospital is at Annex 3 to Enclosure 3. The location plan showing both locations of the decanting building at Shatin Hospital and the proposed new buildings at PWH is at Annex 4 to Enclosure 3.

/3. …..

3. We plan to commence the preparatory works for the redevelopment of PWH, phase 2 (stage 1) by end-2017 after obtaining funding approval of the Finance Committee (FC) with a view to completing stage 1 of the phase 2 redevelopment of PWH in 2027. To meet the programme, HA invited tender in May 2017 for consultancy services relating to design, tendering and supervision of construction of decanting facilities. The contracts will only be awarded upon obtaining FC's funding approval.

4. We will retain the remaining part of **75MM** in the Ten-year Hospital Development Plan (HDP), which involves the demolition of Staff Quarters Blocks A and D, construction of a new In-patient Extension Block, as well as alteration and addition works and major refurbishment to the existing MCBTC for connecting services of the MCBTC and the proposed new In-patient Extension Block. Upon completion of the redevelopment of PWH, phase 2 (stage 1), 450 additional beds and 16 additional operating theatres will be provided. Separate funding from FC for the remaining part of the stage 1 redevelopment will be sought later to dovetail with the implementation programme.

JUSTIFICATION

5. PWH is a major acute hospital with 1 650 beds (as at 31 March 2016) in the New Territories East Cluster (NTEC) of HA. Currently, it provides a comprehensive range of secondary and tertiary services for the residents in NTEC as well as highly specialised quaternary services[1] for patients from other clusters in HA. It is also the teaching hospital for the Faculty of Medicine, the Chinese University of Hong Kong.

6. PWH, which was designed and built in the 1970s, commenced operation in 1984. Notwithstanding the completion of MCBTC in 2010 in the phase 1 redevelopment of PWH, which aimed at presenting the hospital with the opportunities to overcome the severe constraints on its ability to meet service and teaching demand at that time, many clinical services in PWH remain scattered in the old buildings under suboptimal conditions. Against such background, HA formulated a Clinical Services Plan (CSP) for the NTEC in 2015. The CSP maps out the cluster's clinical strategies and future service directions for meeting the long-term needs of the community and to facilitate and guide the redevelopment of PWH.

/Need …..

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[1] Quaternary services refer to medical services that are highly complex in nature with respect to skills, technology and expertise. Service networks are set up to support patients from different HA clusters by designated centres. Typical examples of such services are transplant services and cardiothoracic surgery.

Need for Redevelopment of PWH

Increasing service demand

7. The population of Sha Tin District has grown considerably over the years. According to the population projection of the Planning Department, the population in Sha Tin District was 664 700 in 2015 and is projected to reach 721 100 in 2024, representing a projected increase of 8%. In addition, the elderly population aged 65 years or above is projected to increase from 92 700 in 2015 to 154 200 in 2024, representing a significant increase of around 66%. The growing and ageing population in the district gives rise to increasing demand for both ambulatory and in-patient services. The existing facilities at PWH become inadequate in terms of space, capacity and design to cope with the rising service demand, the present day service standard and future service requirement.

Outdated design and facilities

8. As the hospital was built in the 1970s, the building design becomes a limiting factor for PWH to meet the demand of a modern teaching hospital. In particular, there is a lack of sufficient headroom for installation of information technology (IT) and communications infrastructure for modern medical technology and mode of service delivery. Some floors can hardly allow the installation of additional trunking for IT infrastructure and pipes for fire sprinkler system. Incremental growth and piecemeal developments over the years have resulted in a lack of proper services zoning for easy co-location and patient-centred orientation. Related or even same services are scattered over different locations, leading to poorly aligned functional relationship amongst departments and lengthening travelling time for both staff and patients. Also, the existing capacity of medical gas supply system is insufficient to cope with the increasing demand for additional number of gas outlets supporting various clinical activities. Furthermore, the existing hospital has only one access route and vehicular ramp, which is always occupied by a high volume of vehicles, making the repair and maintenance of the only vehicular access of the hospital blocks very difficult. It is proposed to provide additional access routes and vehicular ramps to meet the needs for hospital operations as well as public access.

/9. …..

9. After several decades of heavy utilisation[2], the physical condition and facilities of PWH have become dilapidated and cannot meet the service requirement of a modern tertiary acute hospital. Physical constraints of the buildings hinder the upgrading of building services systems which have reached their full capacity.

The PWH Redevelopment

10. It is imperative to carry out the proposed phase 2 redevelopment of PWH in order to overcome the constraints of its existing infrastructure and facilities to meet the rising demand for services. Based on the CSP for the NTEC, a Concept Plan for the redevelopment of PWH has been developed, which aims to position the hospital as a major acute hospital and a hub for the NTEC academic health sciences network. The phase 2 redevelopment will provide additional space to meet operational needs and service developments, and promote integrated research, teaching and education. In this redevelopment, PWH will adopt a patient-oriented design, with well aligned and integrated services, as well as better accessibility for more efficient and cost-effective medical care to meet the long-term needs of the population of NTEC.

11. We propose to carry out the phase 2 redevelopment of PWH in two stages. The current submission is the preparatory works for stage 1 of the proposed redevelopment of PWH, which will involve the demolition of Staff Quarters Blocks C and E, and Lecture Theatre Building in order to make way for the construction of the new In-patient Extension Block under the remaining works for stage 1. To facilitate the decanting arrangement of the buildings proposed for demolition, i.e. Staff Quarters Blocks C and E**,** and Lecture Theatre Building, an off-site decanting building will be built at Shatin Hospital under the preparatory works. Non-clinical services, mainly offices, stores and some educational facilities, will be relocated to the decanting building, while the remaining Staff Quarters Block B will be refurbished to house call rooms and overnight rooms of medical, nursing and supporting staff for the provision of 24-hour service. The existing MCBTC will also be refurbished under the preparatory works for decanting offices and stores. Stage 2 of the proposed redevelopment of PWH will be implemented in due course taking into account latest service demand.

/12. …..

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[2] In 2015-16, the in-patient bed occupancy rate for medicine specialty in PWH was 109%. This severe overcrowding became worse during winter surge period, in which the in-patient bed occupancy rate for medicine specialty in PWH from January to March 2016 and from October to December 2016 were 113% and 117% respectively.

12. In view of the substantial and extensive coordination work with all departments of the hospital required to formulate the planning and logistic arrangement of hospital services, we plan to entrust the preparatory works as stipulated in paragraph 1 above to HA in order to expedite project implementation and achieve cost effectiveness by capitalising on the HA's experience and organisational capabilities.

FINANCIAL IMPLICATIONS

13. We estimate the capital cost of the proposed stage 1 preparatory works to be $1,377.6 million in MOD prices (please see paragraph 14 below), broken down as follows –

		$ million	
(a)	Consultants' fees for		509.9
	(i) design, preparation of tender documents and assessment of tenders[3]	497.6	
	(ii) contract administration for demolition and decanting works	12.0	
	(iii) management of RSS	0.3	
(b)	Off-site decanting building[4]		240.3
(c)	Renovation works to existing buildings (MCBTC and Staff Quarters Block B) and associated works[5]		180.1

/**$ million**…..

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[3] Consultants' fees for design, preparation of tender documents and assessment of tenders cover consultancy services for outline sketch design, detailed design, preparation of tender documentation, tender assessment for the whole phase 2 (stage 1) project.

[4] The off-site decanting building covers site works, foundation works, building works, building services works, drainage works, external works, additional energy conservation, green and recycled features.

[5] Renovation works to existing buildings (MCBTC and Staff Quarters Block B) and associated works cover repartitioning, fitting out and building services installations of the existing buildings.

		$ million	
(d)	Demolitions to existing Staff Quarters Blocks C and E, and Lecture Theatre Building	51.5	
(e)	Site investigations works and minor studies and services diversion works	46.0	
(f)	Remuneration of RSS for demolition and decanting works	3.9	
(g)	Contingencies	103.2	
	Sub-total	1,134.9	(in September 2016 prices)
(h)	Provision for price adjustment	242.7	
	Total	1,377.6	(in MOD prices)

We propose to engage professional consultants to carry out the stage 1 preparatory works for the proposed project. A detailed breakdown of the estimate for consultants' fees for contract administration and RSS costs by man-months is at Annex 5 to Enclosure 3.

14. Subject to funding approval, we will phase the expenditure as follows –

Year	$ million (Sept 2016)	Price adjustment factor	$ million (MOD)
2017 – 18	90.0	1.05750	95.2
2018 – 19	320.0	1.12095	358.7
2019 – 20	280.0	1.18821	332.7
2020 – 21	200.0	1.25950	251.9
2021 – 22	110.0	1.32562	145.8
2022 – 23	80.0	1.39190	111.4
2023 – 24	30.0	1.46150	43.8
2024 – 25	24.9	1.52909	38.1
	1,134.9		1,377.6

15. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period from 2017 to 2025. Subject to funding approval, HA will award the contracts on a lump-sum basis because the scope of the works can be clearly defined in advance. The contracts will provide for price adjustment.

16. The proposed preparatory works will not give rise to any additional recurrent expenditure.

PUBLIC CONSULTATION

17. HA consulted the Health and Environment Committee (HEC) of the Sha Tin District Council (STDC) on the proposed project on 9 March 2017. Members of the HEC of the STDC supported the project.

/18. …..

18. We consulted the Legislative Council Panel on Health Services on 15 May 2017. Members of the Panel supported the project.

ENVIRONMENTAL IMPLICATIONS

19. The redevelopment of PWH, phase 2 is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). HA will engage consultants to carry out a Preliminary Environmental Review (PER) for the proposed project at the design stage and will submit the findings to the Director of Environmental Protection for agreement.

20. HA will incorporate into the works contract mitigation measures in order to ensure that the environmental impacts arising from the preparatory works, including demolition works, are within established standards and guidelines. These include the use of temporary noise barriers for noisy works, frequent cleaning, and the watering of the site. HA has included in the project estimates the cost for the implementation of the environmental mitigation measures.

21. At the planning and design stages, HA has considered measures to reduce the generation of construction waste where possible (e.g. using metal site hoardings and signboards so that these materials can be recycled or reused in other projects). In addition, we will require the contractor to reuse inert construction waste (e.g. use of excavated materials for filling within the site) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities[6]. HA 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.

/22. …..

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[6] 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.

22. At the construction stage, HA 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. HA will ensure that the day-to-day operations on site comply with the approved plan. HA will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. HA will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

23. HA estimates that the project will generate in total 50 630 tonnes of construction waste. Of these, HA will reuse 10 220 tonnes (20.2%) of inert construction waste on site and deliver 38 940 tonnes (76.9%) of inert construction waste to public fill reception facilities for subsequent reuse. HA will dispose of the remaining 1 470 tonnes (2.9%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be $3.1 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

24. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interest and government historic sites identified by the Antiquities and Monuments Office.

LAND ACQUISITION

25. The proposed works do not require any land acquisition.

BACKGROUND INFORMATION

26. The redevelopment of PWH, phase 2 (stage 1) is one of the projects covered by the HDP. We upgraded part of **75MM** (i.e. preparatory works for the redevelopment of PWH, phase 2 (stage 1)) to Category B in May 2017.

/27. …..

27. The proposed preparatory works will involve felling of 106 trees. All trees to be felled are not important trees[7]. Compensatory planting will be provided under the preparatory works.

28. We estimate that the proposed works will create 750 jobs (450 for labourers and 300 for professional or technical staff), providing a total employment of 10 000 man-months.

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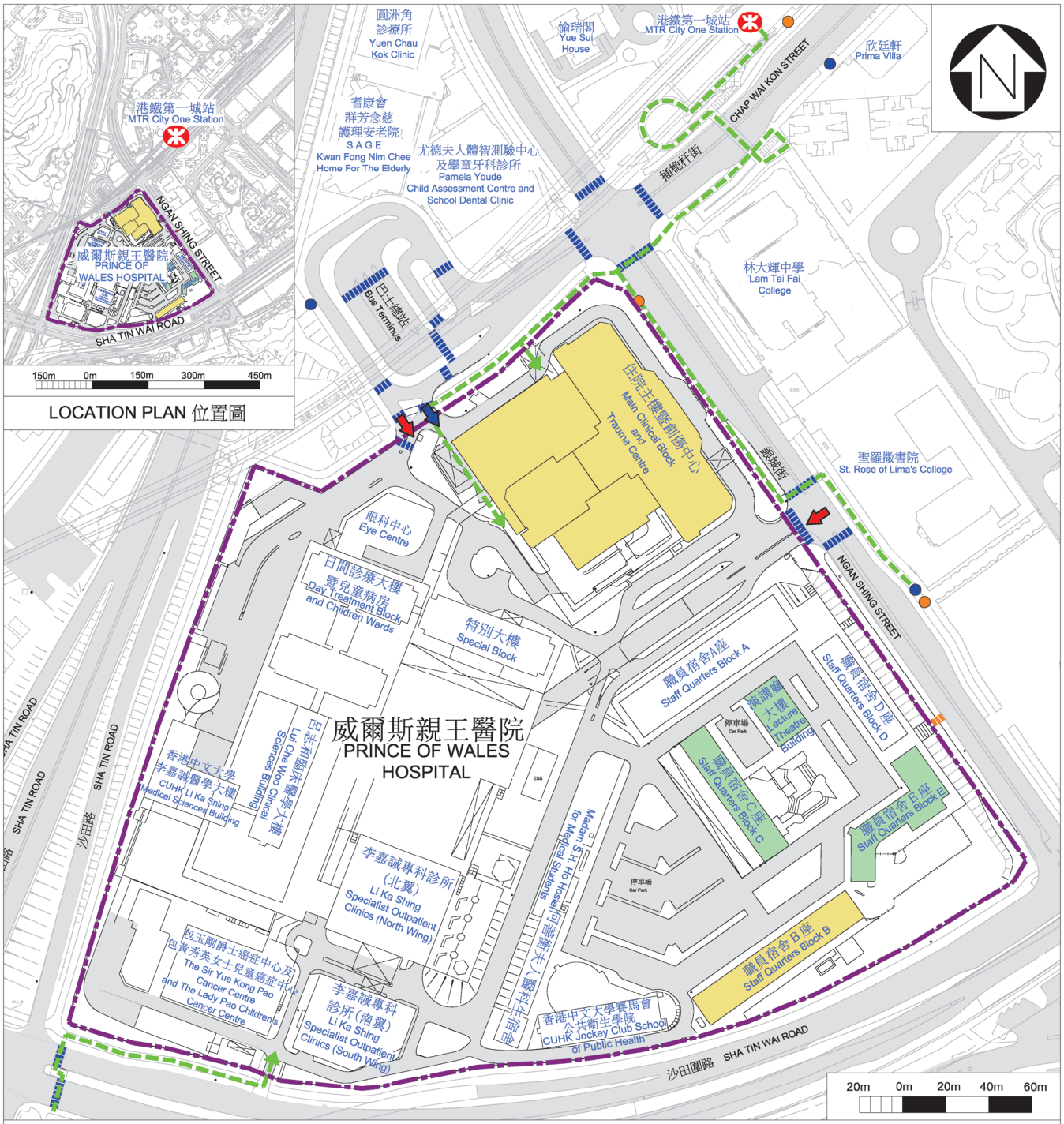
[7] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(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 an important person or event;
(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 or exceeding 25 m.

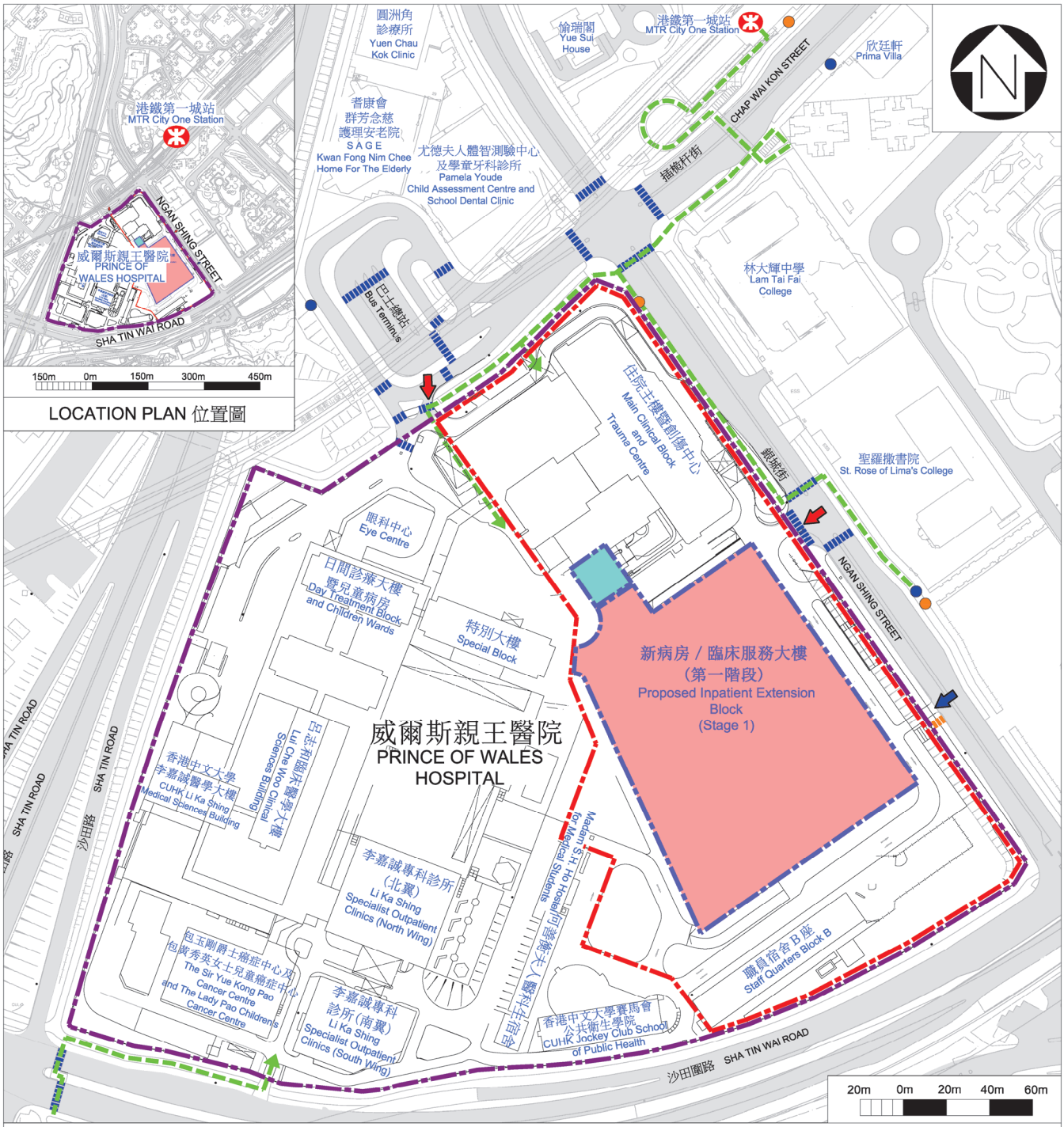


LEGENDS 圖例:

- HOSPITAL BOUNDARY 醫院範圍
- BUILDINGS TO BE DEMOLISHED (STAGE 1) (PREPARATORY WORKS) 即將拆卸的樓宇(第一階段)(籌備工作)
- ALTERATION AND ADDITION WORKS AREA 改建及加建範圍
- EXISTING PEDESTRIAN CROSSING 現有行人過路處
- PROPOSED PEDESTRIAN CROSSING 擬新增行人過路處
- EXISTING BUS STOP 現有巴士站
- EXISTING MINI-BUS STOP 現有小巴站
- VEHICULAR INGRESS / EGRESS 車輛出入口
- AMBULANCE INGRESS / EGRESS 救護車出入口
- PEDESTRIAN / BARRIER FREE ROUTE 行人 / 無障礙道路
- EXISTING MTR STATION 現有港鐵站

SITE PLAN (DEMOLITION , ALTERATION AND ADDITION)
工地平面圖
(拆卸和改建及加建工程)

3075MM
REDEVELOPMENT OF PRINCE OF WALES HOSPITAL, PHASE 2 (STAGE 1) — PREPARATORY WORKS
威爾斯親王醫院重建計劃第二期 (第一階段) — 籌備工作



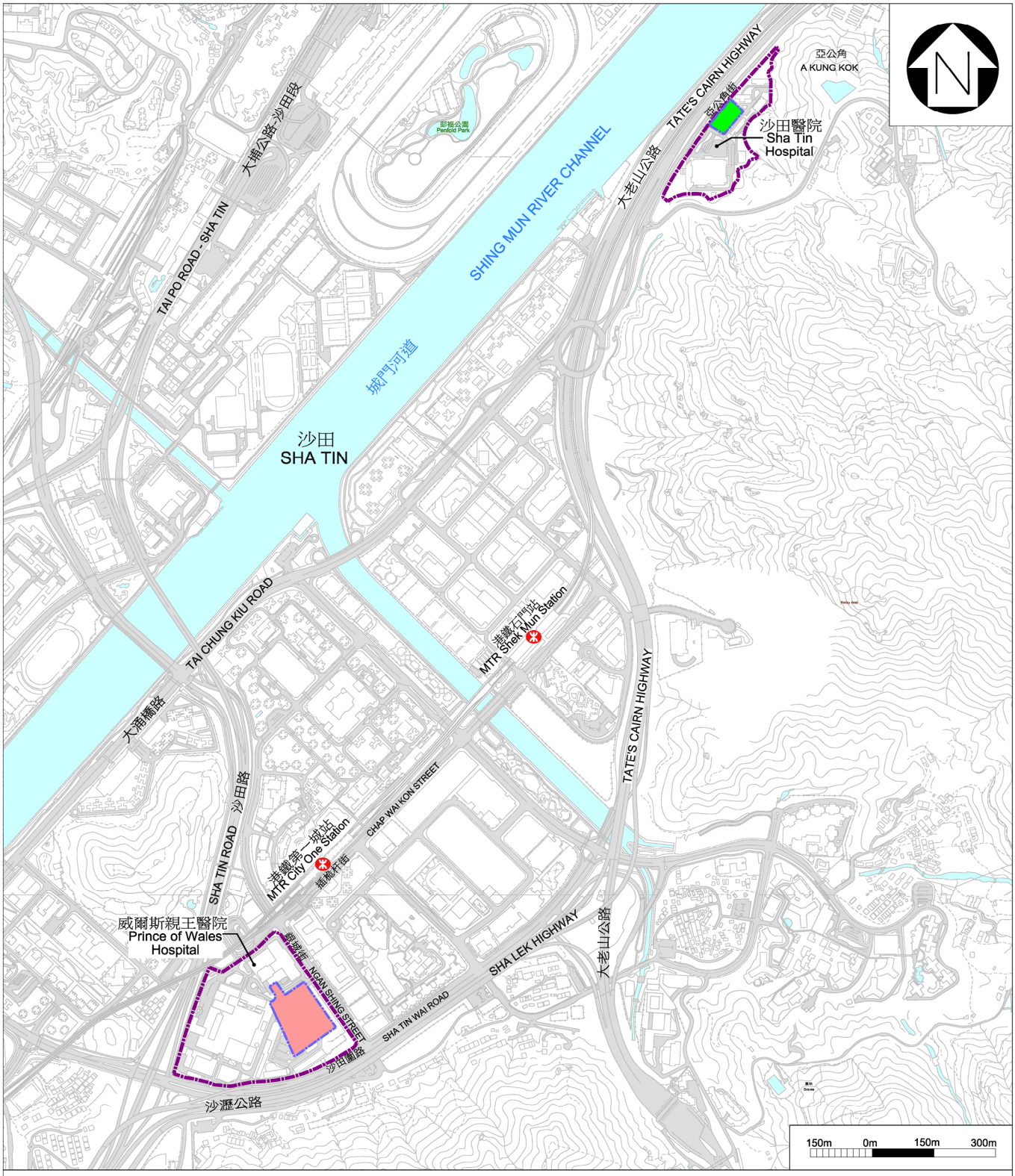
SITE PLAN (CONSTRUCTION)
工地平面圖(建造工程)

3075MM
REDEVELOPMENT OF PRINCE OF WALES HOSPITAL, PHASE 2 (STAGE 1) — REMAINING WORKS
威爾斯親王醫院重建計劃第二期（第一階段）— 餘下工程

LEGENDS 圖例:

- HOSPITAL BOUNDARY 醫院範圍
- PROPOSED DECANTING BUILDING 擬建調遷大樓
- EXISTING PEDESTRIAN CROSSING 現有行人過路處
- EXISTING BUS STOP 現有巴士站
- EXISTING MINI-BUS STOP 現有小巴站
- VEHICULAR INGRESS / EGRESS 車輛出入口
- AMBULANCE INGRESS / EGRESS 救護車出入口
- PEDESTRIAN / BARRIER FREE ROUTE 行人 / 無障礙道路

SITE LOCATION PLAN 工地平面圖	3075MM REDEVELOPMENT OF PRINCE OF WALES HOSPITAL, PHASE 2 (STAGE 1) DECANTING BUILDING AT SHATIN HOSPITAL 威爾斯親王醫院重建計劃第二期(第一階段)位於沙田醫院的調遷大樓



LEGENDS 圖例:

HOSPITAL BOUNDARY
醫院範圍

EXISTING MTR STATION
現有港鐵站

PROPOSED NEW BUILDINGS
擬建新大樓

PROPOSED DECANTING BUILDING
擬建調遷大樓

LOCATION PLAN
位置圖

3075MM
REDEVELOPMENT OF PRINCE OF WALES HOSPITAL, PHASE 2 (STAGE 1)
威爾斯親王醫院重建計劃第二期（第一階段）

75MM (part) – Redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – preparatory works

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2016 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultancy's fee for design, preparation of tender documents and assessment of tenders	Professional	2 042	38	2.0	315.8
		Technical	3 405	14	2.0	181.8
					Sub-total	497.6
(b)	Consultant's fees for contract administration for demolition and decanting works	Professional	49	38	2.0	7.6
		Technical	83	14	2.0	4.4
					Sub-total	12.0
(c)	Resident site staff (RSS) costs (Note 2)	Professional	16	38	1.6	2.0
		Technical	52	14	1.6	2.2
					Sub-total	4.2
	Comprising –					
	(i) Consultants' fees for management of RSS				0.3	
	(ii) Remuneration of RSS				3.9	
					Total	**513.8**

* MPS = Master Pay Scale

Notes

1. A multiplier of 2.0 is applied to the average MPS salary point to estimate the full staff cost including the consultants' overheads and profit for staff employed in the consultants' offices. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS (as at now, MPS salary point 38 = $77,320 per month and MPS salary point 14 = $26,700 per month).

2. The actual man-months and actual fees will only be known after completion of the preparatory works.