For discussion
on 22 May 2019

PWSC(2019-20)7

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Health – Hospitals
81MM – Redevelopment of Kwai Chung Hospital, phases 2 and 3
75MM – Redevelopment of Prince of Wales Hospital, phase 2 (stage 1)
3MI – Expansion of North District Hospital
114MH – Expansion of Lai King Building in Princess Margaret Hospital

Members are invited to recommend to the Finance Committee (FC) –

(a) the upgrading of **81MM** to Category A at an estimated cost of $7,452.1 million in money-of-the-day (MOD) prices;

(b) the upgrading of part of **75MM**, entitled "Redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – demolition and foundation works", to Category A at an estimated cost of $2,781.3 million in MOD prices;

(c) the upgrading of part of **3MI**, entitled "Expansion of North District Hospital – preparatory works", to Category A at an estimated cost of $573.8 million in MOD prices; and

/(d)…..

(d) the upgrading of part of **114MH**, entitled "Expansion of Lai King Building in Princess Margaret Hospital – preparatory works", to Category A at an estimated cost of $104.0 million in MOD prices.

PROBLEM

We need to redevelop Kwai Chung Hospital (KCH) and Prince of Wales Hospital (PWH) and to expand North District Hospital (NDH) and Lai King Building in Princess Margaret Hospital (PMH) to enhance service capacity and services in order to cope with the rising demand of the increasing and ageing population.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Food and Health, proposes to upgrade the following projects under the First Ten-year Hospital Development Plan (hereafter referred to as the HDP) to Category A –

(a) **81MM** at an estimated cost of $7,452.1 million in MOD prices to carry out phases 2 and 3 of the redevelopment of KCH;

(b) part of **75MM** at an estimated cost of $2,781.3 million in MOD prices to carry out the proposed demolition and foundation works for phase 2 (stage 1) of the redevelopment of PWH;

(c) part of **3MI** at an estimated cost of $573.8 million in MOD prices to carry out the preparatory works for the expansion of NDH; and

(d) part of **114MH** at an estimated cost of $104.0 million in MOD prices to carry out the preparatory works for the expansion of Lai King Building in PMH.

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The total commitment sought is $10,911.2 million. Details of the four hospital projects are at Enclosures 1 to 4.

BACKGROUND

3. In the 2016 Policy Address, the Government announced that $200 billion would be set aside for the Hospital Authority to implement the HDP. The HDP covers the redevelopment and expansion of 11 hospitals, the construction of a new acute hospital, three community health centres and one supporting services centre. Upon completion of all the projects under the HDP, it will provide more than 5 000 additional bed spaces, 94 additional operating theatres and increased capacity of specialist outpatient clinics and general outpatient clinics.

4. To date, the following projects (involving nine hospitals) under the HDP have been upgraded to Category A –

(a) three projects in full –
  (i) the extension of Operating Theatre Block for Tuen Mun Hospital;
  (ii) the expansion of Haven of Hope Hospital; and
  (iii) the redevelopment of Queen Mary Hospital, phase 1 – main works; and

(b) eight projects in part –
  (i) the redevelopment of Kwai Chung Hospital, phase 1;
  (ii) the redevelopment of Kwong Wah Hospital, phase 1 – demolition and substructure works;
  (iii) the redevelopment of Kwong Wah Hospital, phase 1 – superstructure and associated works;
  (iv) New Acute Hospital at Kai Tak Development Area – preparatory works;
  (v) New Acute Hospital at Kai Tak Development Area – foundation, excavation and lateral support, and basement excavation works;
  (vi) the redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – preparatory works;

/(vii)…..

(vii) the redevelopment of Our Lady of Maryknoll Hospital – preparatory works; and

(viii) the redevelopment of Grantham Hospital, phase 1 – preparatory works.

5. The total commitment approved for the items in paragraph 4(a) is $18,525.9 million and that for paragraph 4(b) is $19,431.6 million, totalling $37,957.5 million or 19.0% of the $200 billion. If the proposals in this submission are approved by the FC, the cumulative commitment approved would amount to $48,868.7 million or 24.4% of the package.

6. We consulted the Legislative Council Panel on Health Services on **81MM**, **75MM**, **3MI** and **114MH** on 18 March 2019. Members supported the submission of the funding proposals to the Public Works Subcommittee of the FC for consideration.

Food and Health Bureau
May 2019

81MM - Redevelopment of Kwai Chung Hospital, phases 2 and 3

PROJECT SCOPE AND NATURE

The project site for the phases 2 and 3 works of the redevelopment of Kwai Chung Hospital (KCH) (the Project) is within the existing compound of KCH and Princess Margaret Hospital (PMH). The scope of the Project comprises -

Phase 2

(a) demolition of all existing buildings of KCH except Blocks L/M and J;

(b) construction of a new Main Block and Child Block which will be interconnected by a two-storey half-basement structure at the bottom;

(c) construction of a lift tower on Lai King Hill Road with a link bridge to connect the Main Block of the redeveloped KCH;

(d) alteration and addition works to areas in PMH affected by the proposed redevelopment works of KCH;

Phase 3

(e) demolition of Block L/M; and

(f) construction of a therapeutic/rehabilitation garden.

2. The site and location plan, floor plans, sectional drawing and artist's impression for the Project are at Annexes 1 to 7 to Enclosure 1. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed phase 2 redevelopment works in the third quarter of 2019 for completion in the second quarter of 2023. Subject to the subsequent decanting arrangement, we aim to commence the proposed phase 3 redevelopment works in the third quarter of 2023 for completion in 2024 tentatively.

/**JUSTIFICATION**…..

JUSTIFICATION

3. Established in 1981, KCH is a psychiatric hospital located in the Kowloon West Cluster (KWC) of the Hospital Authority (HA), providing psychiatric care to those with mental health problems in Sham Shui Po, Kwai Tsing, Tsuen Wan, Lantau Island as well as Mong Kok and Wong Tai Sin areas or districts. With 920 hospital beds as at 31 March 2018, the hospital accounts for about a quarter of the HA's total psychiatric bed capacity. In 2017-18, there were around 4 500 psychiatric in-patient and day in-patient discharges and deaths, and around 233 400 psychiatric specialist out-patient clinical attendances at KCH and clinics under its management, which constitute about 26% and 27% respectively of that for all HA hospitals.

4. KCH was designed primarily for institutional custody of patients with mental illness. The hospital's main activity is general adult psychiatry, with both acute and chronic services. Over the years, the health service delivery model at KCH has transformed to align with the evolving global trend in treatment and management of mentally ill patients, with emphasis being placed on safe psychiatric care from early detection to treatment and rehabilitation into the community. Subsequently, psychiatric specialty services and community-based services have been developed as integral components of the current KCH's approach to psychiatric service delivery.

5. The need for mental health services, especially age-related psychiatric disorders such as dementia, from the population of KWC is ever increasing. According to the Planning Department, the population in Sham Shui Po, Kwai Tsing, Tsuen Wan and Lantau Island is anticipated to increase from 1 369 600 in 2017 to 1 455 100 in 2026 (representing a slight increase of about 6%), whereas the population aged 65 or above is projected to increase from 222 900 in 2017 to about 335 700 in 2026, representing an increase of around 51%.

/6. …..

6. The HA formulated the Clinical Services Plan (CSP) for the redevelopment of KCH in 2012. The CSP outlines the model of service delivery, based on effective person-centred care, which is holistic and promotes recovery of the individuals. Redevelopment of KCH will facilitate its modernised model of psychiatric care by offering a campus with upgraded facilities and support. According to the CSP, KCH will continue to be a psychiatric hospital in the HA within its existing repertoire of services. The hospital will elicit the existing model of "whole-person" care, with the strengthening of community-based psychiatric care, reduction in avoidable hospital stay, provision of a less restrictive, more relaxed and homely environment for patients as well as a progressive shift towards co-ordinated and personalised treatment, recovery and community integration.

7. To achieve the above vision, the HA proposes to adopt a hybrid model consisting of the redeveloped KCH and community mental health centres. In collaboration with allied health professionals and partner organisations, the new KCH campus will form a hub to provide, support and co-ordinate a full range of psychiatric services spanning from hospital to community care. Community mental health centres under the new KCH will provide extensive mental health services at district level.

8. In line with the transformation from an institutional to a therapeutic model, an ambulatory centre will be developed at the new KCH for clinical specialties and multi-disciplinary teams to provide a wide range of mental health services as well as replicating the daily life setting for different patient groups. The ambulatory centre will serve as a major link between the hospital and patients, their families and carers, and the community.

9. Furthermore, the redeveloped KCH will seek to provide a safe and quality therapeutic environment for young people with mental disorders by the provision of age and developmentally appropriate in-patient, out-patient, ambulatory and community zones organised within a dedicated purpose-built facility.

10. Through the integrated services, patients will receive co-ordinated treatment beneficial to rehabilitation and community integration. The model will also allow early detection of mental illness and hospitalisation would be needed only for individuals with severe mental illness who require highly specialised acute in-patient environment and services for recovery and rehabilitation.

/FINANCIAL …..

FINANCIAL IMPLICATIONS

11. We estimate the capital cost of the Project to be $7,452.1 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)
(a)	Site works	16.6
(b)	Demolition[1]	134.9
(c)	Geotechnical works	90.5
(d)	Foundation[2]	178.9
(e)	Basement[3]	363.0
(f)	Building[4]	2,747.8
(g)	Building services[5]	2,456.8
(h)	Drainage	35.5
(i)	External works[6]	150.3
(j)	Additional energy conservation, green and recycled features	97.6

/$ million …..

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[1] Demolition works cover demolition of all existing buildings of KCH except Block J.

[2] Foundation works cover construction of foundation and all related tests and monitoring.

[3] Basement works cover construction of basement enclosure, waterproofing and excavation works.

[4] Building works comprise construction of substructure and superstructure of the building.

[5] Building services works cover electrical installations, ventilation and air-conditioning installations, fire services installations, lift installations and other specialist installations.

[6] External works cover external paving, hard and soft landscape.

			$ million (in MOD prices)
(k)	Furniture and equipment (F&E)[7]		366.3
(l)	Consultants' fees for		44.4
	(i) design, preparation of tender documents, assessment of tenders and contract administration	42.0	
	(ii) management of resident site staff (RSS)	2.4	
(m)	Remuneration of RSS		92.0
(n)	Contingencies		677.5
	Total		7,452.1

12. We propose to engage consultants to undertake contract administration and site supervision for the Project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 8 to Enclosure 1. The construction floor area (CFA) of the Project is about 134 000 m^2. The estimated construction unit cost, represented by the building and building services costs, is $38,840 per m^2 of CFA in MOD prices. We consider this unit cost reasonable as compared with that of similar projects.

13. Subject to funding approval, we plan to phase the expenditure as follows –

/Year …..

[7] Based on an indicative list of F&E items and their estimated prices. An indicative list of the major F&E items is at Annex 9 to Enclosure 1.

Year	$ million (in MOD prices)
2019 – 2020	84.8
2020 – 2021	709.4
2021 – 2022	1,211.5
2022 – 2023	1,388.4
2023 – 2024	1,534.3
2024 – 2025	864.6
2025 – 2026	829.7
2026 – 2027	552.8
2027 – 2028	276.6
	7,452.1

14. 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 2019 to 2028. The Project will be outsourced to and delivered through a design-and-build contract. We intend to award the contract on a lump-sum basis as the scope of the works can be clearly defined in advance. The contract will provide for price adjustment.

15. The HA has assessed the requirements for F&E for the Project, and estimates the F&E costs to be $366.3 million. The proposed F&E provision represents 6.8% of the total construction cost of the Project[8]. An indicative list of major F&E items (costing $1 million or above per item) to be procured for the Project is at Annex 9 to Enclosure 1.

/16. …..

[8] Represented by building, building services, drainage and external works costs.

16. We estimate the annual recurrent expenditure arising from the Project to be $567.9 million.

PUBLIC CONSULTATION

17. The HA consulted the Community Affairs Committee (CAC) of Kwai Tsing District Council (KwTDC) on 12 February 2019 in respect of phases 2 and 3 of the redevelopment of KCH. Members of the CAC of KwTDC supported the proposed project.

18. We consulted the Legislative Council Panel on Health Services on 18 March 2019. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

19. The Project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed a Preliminary Environmental Review (PER) for the project in April 2018. The PER has concluded and the Director of Environmental Protection agreed that with the implementation of mitigation measures recommended in the PER, the Project would not have any long-term adverse environmental impacts.

20. We have also completed an Asbestos Investigation Report (AIR) for the existing buildings of the site. As the AIR has identified some asbestos containing materials (ACM) inside the existing buildings, we will remove and dispose of the ACM in accordance with the Asbestos Abatement Plan and the requirements under the Air Pollution Control Ordinance and Waste Disposal Ordinance, prior to the demolition of the existing buildings.

21. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, hammer brackets and building of temporary noise barriers for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities. We have included in the Project estimates the cost to implement suitable mitigation measures to control short-term environmental impacts.

/22. …..

22. At the planning and design stages, we have 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[9]. We will encourage the contractor to maximise the use of recycled/recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

23. 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.

24. We estimate that the Project will generate in total about 205 210 tonnes of construction waste. Of these, we will reuse about 11 340 tonnes (5.5%) of inert construction waste on site and deliver 170 120 tonnes (82.9%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 23 750 tonnes (11.6%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be $16.8 million for the 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 …..

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9 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.

HERITAGE IMPLICATIONS

25. The 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

26. The Project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

27. The Project will adopt various forms of energy efficient features and renewable energy technologies, in particular –

(a) variable speed drive for chillers;

(b) demand control of supply air;

(c) heat energy reclaim of exhaust air;

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

(e) building energy management system;

(f) photovoltaic system; and

(g) solar hot water system.

28. For greening features, we will provide green roof, vertical greening as well as planting areas for environmental and amenity benefits.

29. For recycled features, we will adopt rainwater harvesting system for irrigation purpose.

/30. …..

30. The total estimated additional cost for adoption of the above energy conservation measures, greening features and recycled features is around $97.6 million in MOD prices (including $29.5 million in MOD prices for energy efficient features), which has been included in the cost estimate of the Project. The energy efficient features will achieve 5.5% energy savings in the annual energy consumption with a payback period of about eight years.

BACKGROUND INFORMATION

31. The redevelopment of KCH (**81MM**) is one of the projects covered by the First Ten-year Hospital Development Plan (HDP). In April 2016, the FC approved upgrading part of **81MM** as **89MM** "Redevelopment of Kwai Chung Hospital - phase 1" to Category A at an estimated cost of $750.8 million in MOD prices for preparatory works including the construction of a decantation building at the existing car park area of PMH and renovation works at Blocks L/M and J of KCH, as well as Block N and the Nursing School and Quarters of PMH and associated works for decanting purposes. Phase 1 of the project commenced in June 2016 and was substantially completed in July 2018.

32. We upgraded the remainder (phases 2 and 3 works) of **81MM** to Category B in February 2018 under HDP. We engaged consultants and term contractors to undertake various services and investigation works, including technical studies for town planning application, ground investigation works, geotechnical assessment, asbestos survey, and quantity surveying services to prepare tender document at a total cost of about $8.1 million. The consultancy services and investigation works were funded under block allocation **Subhead 8083MM** "One-off grant to the Hospital Authority for minor works projects" and the project vote of **89MM**. All the above consultancy services and investigation works have been completed.

/33. …..

33. Of the 924 trees within the project boundary, 665 trees will be preserved and 259 trees will be felled. All trees to be felled are not important trees[10]. We will incorporate planting proposals as part of the Project, including the planting of about 259 trees, 132 000 shrubs and groundcovers within the Project boundary.

34. We estimate that the proposed works will create about 2 050 jobs (1 900 for labourers and 150 for professional or technical staff) providing a total employment of 68 200 man-months.

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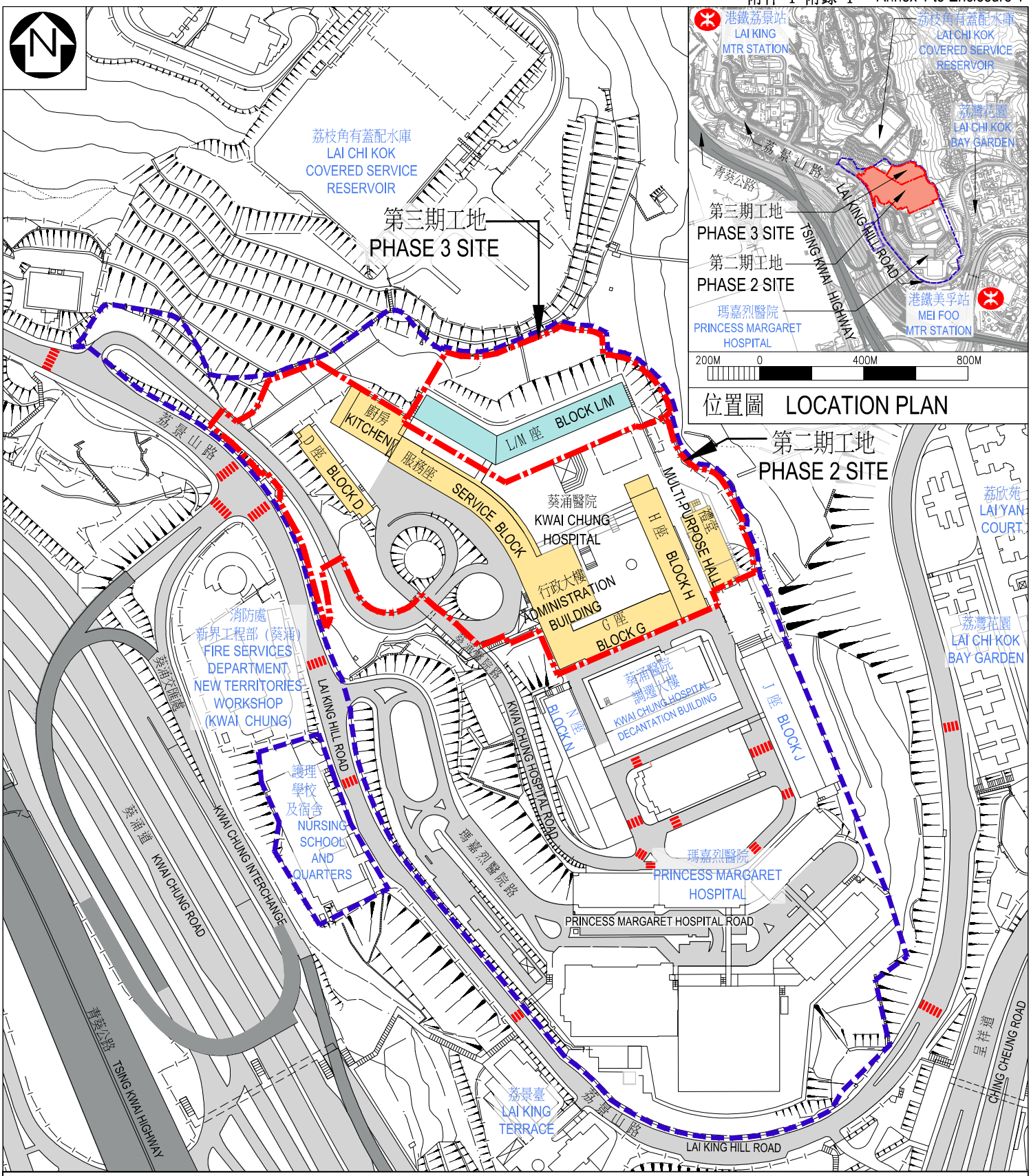
[10] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(a) trees of 100 years old or above;
(b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree 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 or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

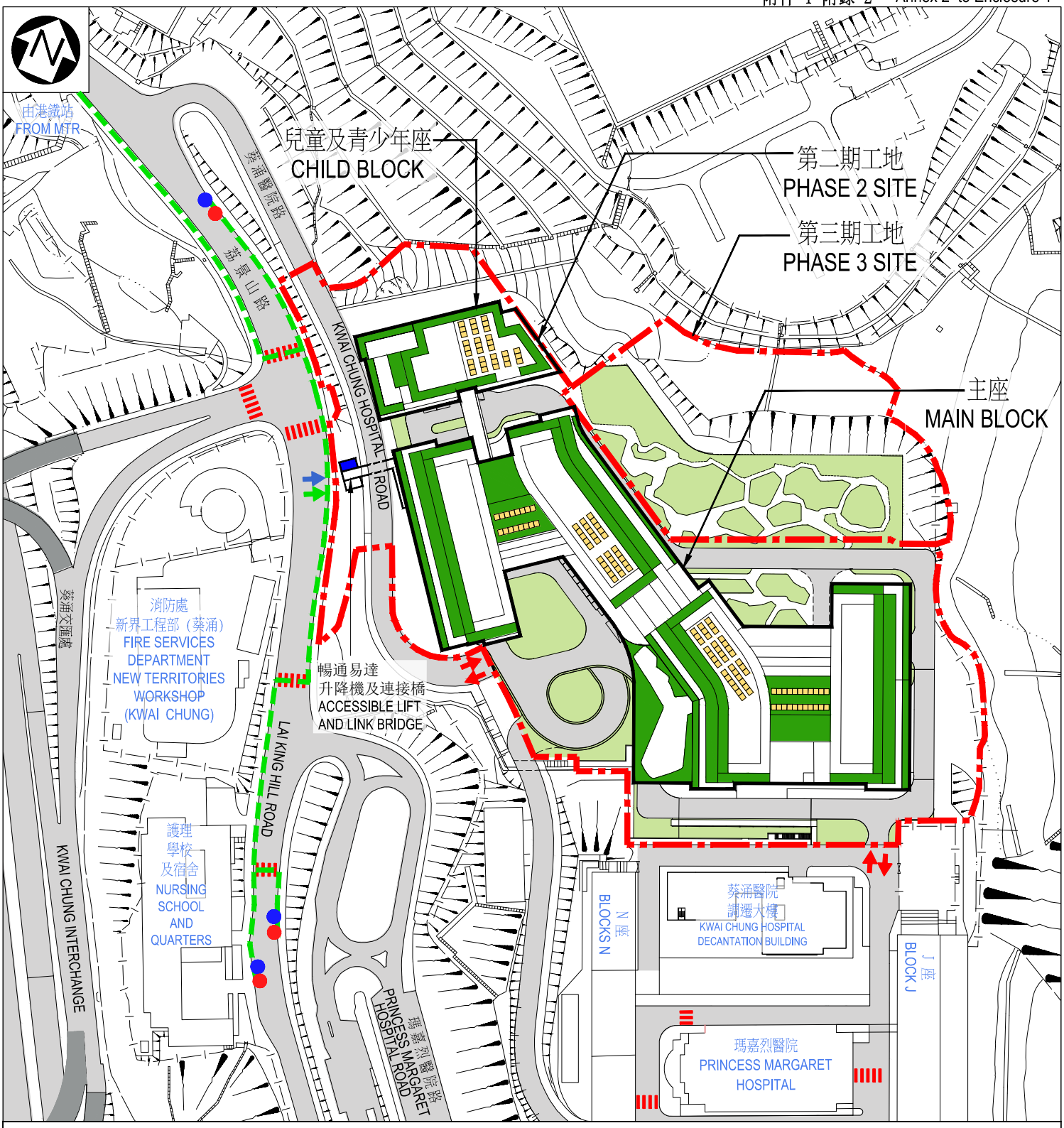


圖例 LEGEND

- 工地範圍 SITE BOUNDARY
- 醫院範圍 HOSPITAL BOUNDARY
- 第二期拆卸的樓宇 BUILDING TO BE DEMOLISHED (PHASE 2)
- 第三期拆卸的樓宇 BUILDING TO BE DEMOLISHED (PHASE 3)
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 現有港鐵站 EXISTING MTR STATION

30M 0 60M 150M

工地平面圖 SITE PLAN	81MM 葵涌醫院重建工程第2及3期 REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3	ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

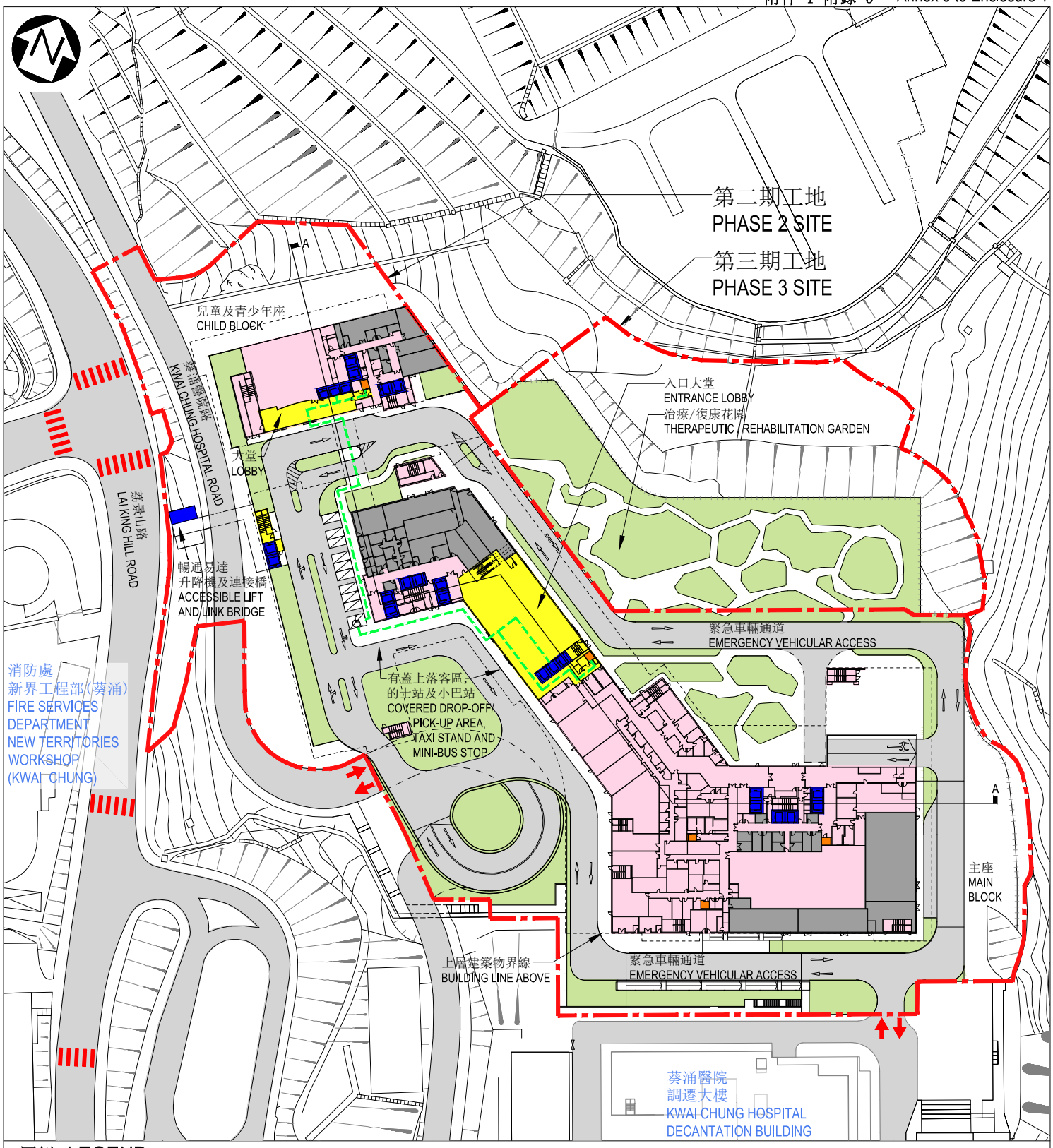
- 工地範圍 SITE BOUNDARY
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 無障礙通道 BARRIER-FREE ACCESS
- 行人出入口 (經暢通易達升降機及連接橋) PEDESTRIAN ENTRANCE / EXIT (VIA ACCESSIBLE LIFT AND LINK BRIDGE)
- 無障礙出入口 (經暢通易達升降機及連接橋) BARRIER-FREE ENTRANCE / EXIT (VIA ACCESSIBLE LIFT AND LINK BRIDGE)
- 現有巴士站 EXISTING BUS STOP
- 現有小巴站 EXISTING MINI-BUS STOP
- 暢通易達升降機 ACCESSIBLE LIFT
- 地面綠化 AT-GRADE GREENING
- 天台綠化 LANDSCAPED ROOF
- 太陽能光伏板 / 太陽能熱水管 PHOTOVOLTAIC PANEL / SOLAR HOT WATER PANEL COLLECTOR

20M 0 40M 100M

天台平面圖
ROOF PLAN

81MM
葵涌醫院重建工程第2及3期
REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3

ARCHITECTURAL SERVICES DEPARTMENT 建築署

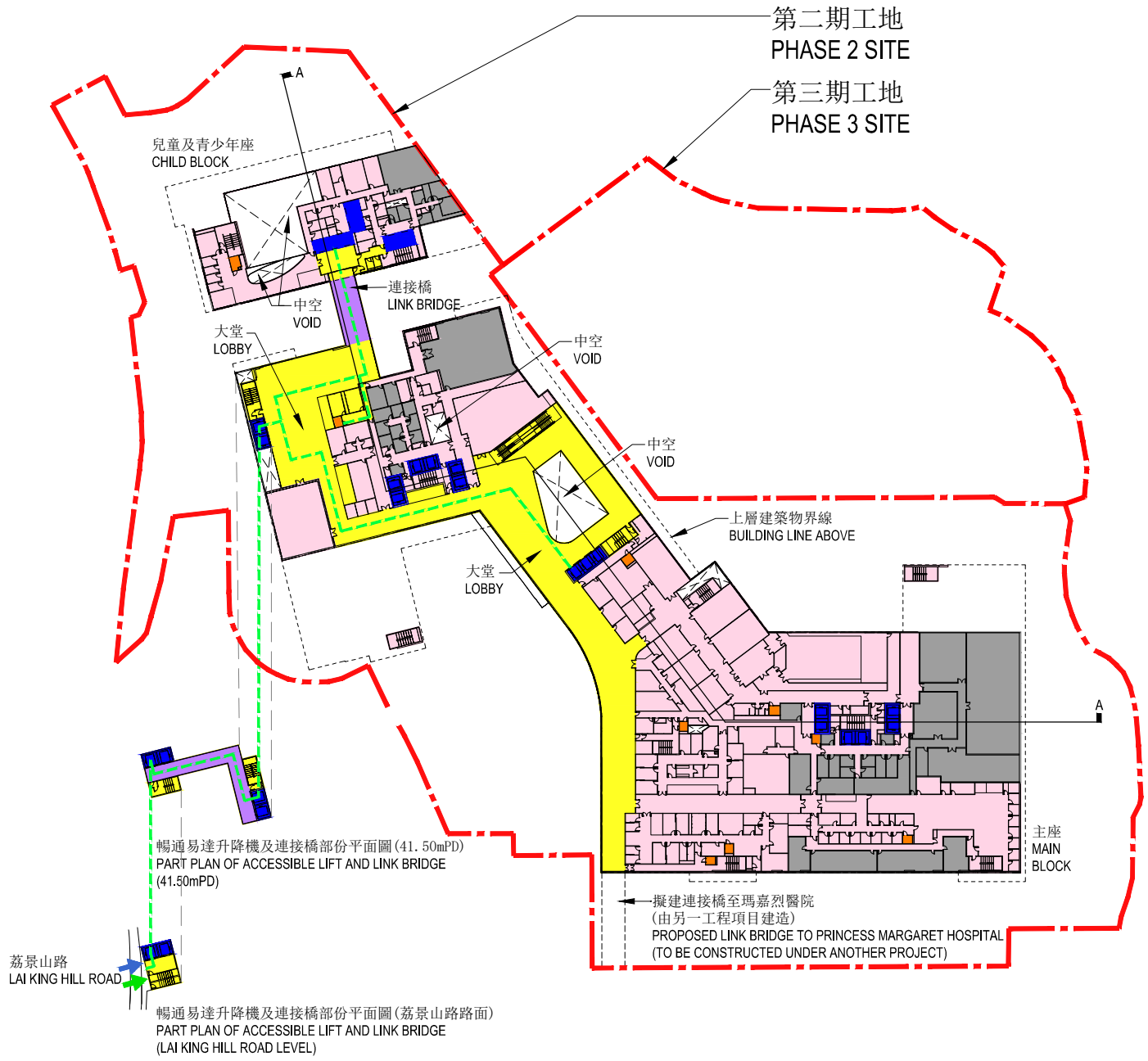


圖例 LEGEND

- 工地界線 SITE BOUNDARY
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 暢通易達停車位 ACCESSIBLE PARKING
- 無障礙通道 BARRIER-FREE ACCESS
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 公眾區域 PUBLIC AREA
- 員工及醫療區域 STAFF AND CLINICAL AREA
- 車輛區域 VEHICULAR AREA
- 機電房 PLANT ROOM
- 地面綠化 AT-GRADE GREENING
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

15m 0 30m 75m

地下平面圖 GROUND FLOOR PLAN	81MM 葵涌醫院重建工程第2及3期 REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3	ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

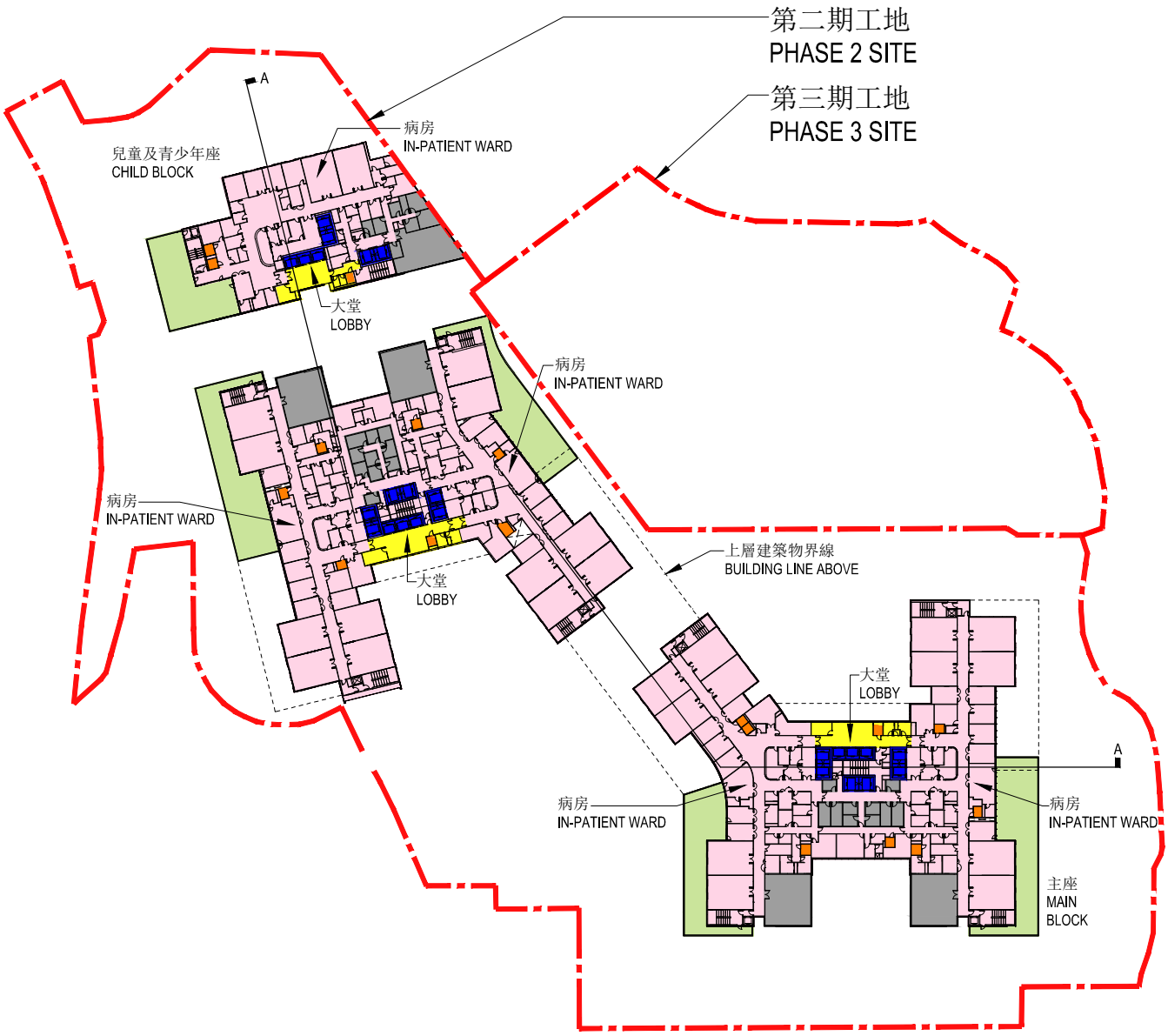
- 工地界線 SITE BOUNDARY
- 無障礙通道 BARRIER-FREE ACCESS
- 行人出入口 PEDESTRIAN INGRESS / EGRESS
- 無障礙出入口 BARRIER-FREE INGRESS / EGRESS
- 公眾區域 PUBLIC AREA
- 公眾區域(連接橋) PUBLIC AREA (LINK BRIDGE)
- 員工及醫療區域 STAFF AND CLINICAL AREA
- 機電房 PLANT ROOM
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

15m 0 30m 75m

一樓平面圖
FIRST FLOOR PLAN

□1MM
葵涌醫院重建工程第2及3期
REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3

ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

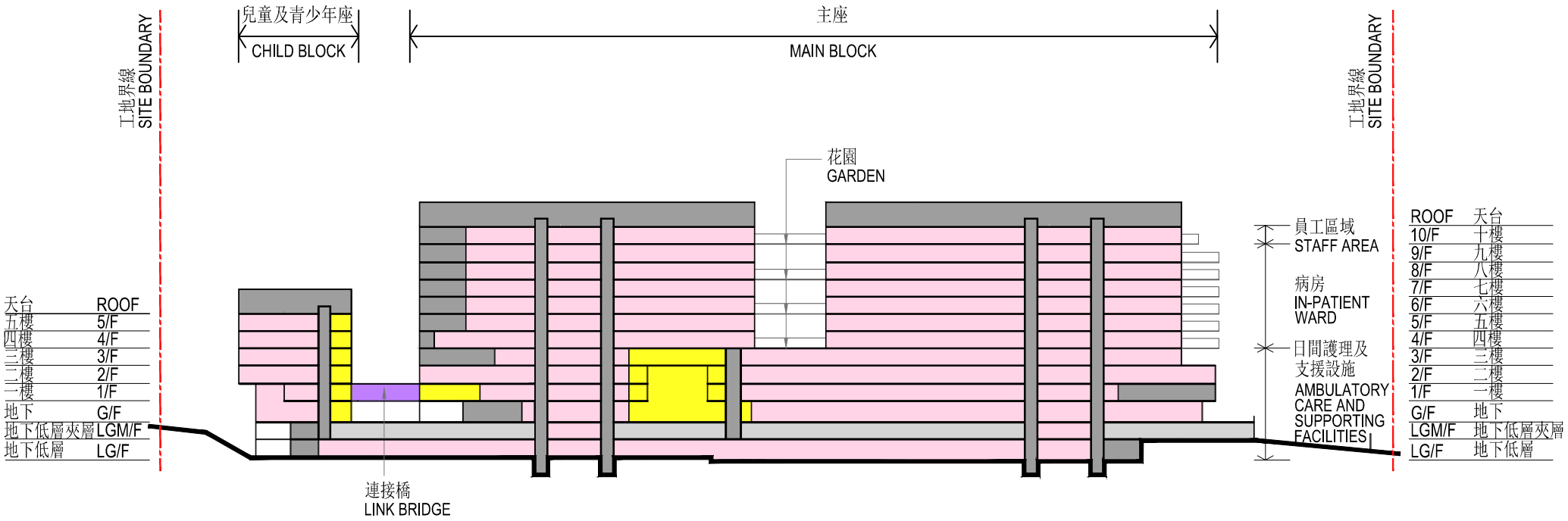
- 工地界線 SITE BOUNDARY
- 公眾區域 PUBLIC AREA
- 員工及醫療區域 STAFF AND CLINICAL AREA
- 花園 GARDEN
- 機電房 PLANT ROOM
- 暢通易達升降機 ACCESSIBLE LIFT
- 暢通易達洗手間 ACCESSIBLE TOILET

15m 0 30m 75m

五樓平面圖
FIFTH FLOOR PLAN

□1MM
葵涌醫院重建工程第2及3期
REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3

ARCHITECTURAL SERVICES DEPARTMENT 建築署



圖例 LEGEND

- 公眾區域 PUBLIC AREA
- 員工及醫療區域 STAFF AND CLINICAL AREA
- 連接橋 LINK BRIDGE
- 停車場 CAR PARKING AREA
- 機電房及升降機槽 PLANT ROOM & LIFT SHAFT

15m 0 30m 75m

剖面圖 A-A
SECTION A-A

81MM
葵涌醫院重建工程第2及3期
REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3

ARCHITECTURAL SERVICES DEPARTMENT 建築署

從西南面望向醫院的透視圖
PERSPECTIVE VIEW OF HOSPITAL FROM SOUTHWEST DIRECTION

構思圖 ARTIST'S IMPRESSION	81MM 葵涌醫院重建工程第2及3期 REDEVELOPMENT OF KWAI CHUNG HOSPITAL, PHASES 2 AND 3	ARCHITECTURAL SERVICES DEPARTMENT 建築署

81MM – Redevelopment of Kwai Chung Hospital, phases 2 and 3

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2018 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for design, preparation of tender documents, assessment of tenders and contract administration (Note 2)	Professional	119	38	2.0	19.5
		Technical	248	14	2.0	14.2
					Sub-total	33.7 #
(b)	Resident site staff (RSS) costs (Note 2)	Professional	195	38	1.6	25.6
		Technical	1 090	14	1.6	50.1
					Sub-total	75.7
	Comprising -					
	(i) consultants' fees for management of RSS			1.9#		
	(ii) remuneration of RSS			73.8#		
					Total	**109.4**

* 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 supplied by the consultants (as at now, MPS salary point 38 = $81,975 per month and MPS salary point 14 = $28,725 per month).

2. The consultants' fees and RSS cost for site supervision are based on the estimate prepared by the Director of Architectural Services. We will only know the actual man-months and actual costs after completion of the construction works.

Remarks

The cost figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 11 of Enclosure 1.

81MM – Redevelopment of Kwai Chung Hospital, phases 2 and 3

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

Item description	Quantity	Unit cost ($ million)	Total cost ($ million)
Access Control System	1	30.000	30.000
Audio-visual System	1	3.727	3.727
Closed Circuit Television (CCTV) System	1	3.300	3.300
Counting and Packaging System, Drugs	1	1.590	1.590
Dishwashing Machine, Commercial	1	1.500	1.500
Washer, Utensil	1	1.600	1.600
Display System, Electronic Queuing	1	1.665	1.665
Kitchen Exhaust Hood	1	6.000	6.000
Mobile Storage System	1	4.410	4.410
Public Address and Intercom Systems	1	6.000	6.000
Table, Sink, Kitchen	1	1.450	1.450
Telephone System, Private Automatic Branch Exchange (PABX) with Uninterruptible Power Supply (UPS)	1	16.779	16.779
Waste Pulping System	1	1.500	1.500

75MM - Redevelopment of Prince of Wales Hospital, phase 2 (stage 1)

PROJECT SCOPE AND NATURE

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

(a) foundation works, excavation and lateral support works, basement excavation works, pile cap construction works and base slab works for the new In-patient Extension Block (IPEB);

(b) foundation works, excavation and lateral support works and pile cap construction works for the link bridges for connecting the new IPEB to the Main Clinical Block and Trauma Centre (MCBTC);

(c) demolition works of Staff Quarters Blocks A and D, underground service tunnels and associated structures in PWH;

(d) associated utilities diversion and minor alteration works in PWH;

(e) related access and road works in PWH, including demolition of existing ramp and reprovisioning of a replacement ramp to serve the surrounding hospital blocks; and

(f) consultancy services for contract administration for the demolition and foundation works, management of resident site staff (RSS) and remuneration of RSS for the demolition and foundation works.

2. A site plan showing the location of the proposed demolition and foundation works is at Annex 1 to Enclosure 2.

3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed demolition and foundation works in the third quarter of 2019 with a view to completing the entire stage 1 of phase 2 works in 2027. To meet the programme, the Hospital Authority (HA) invited tenders for the proposed demolition and foundation works in February 2019. The contract will only be awarded upon obtaining funding approval from the FC. PWH will remain functional at all times during the works period and any disruption of services, if unavoidable, will be kept to a minimum.

/4. …..

4. We will retain the remaining part of **75MM** in the First Ten-year Hospital Development Plan (HDP), which mainly covers the construction of a new IPEB, refurbishment and renovation to the existing MCBTC, as well as construction of link bridges and service tunnels to connect the new IPEB with other hospital buildings. Separate funding approval from the FC for the remaining part of the stage 1 redevelopment will be sought later to dovetail with the implementation programme.

JUSTIFICATION

5. Established in 1984, PWH is a major acute hospital in the New Territories East Cluster (NTEC) of the HA. PWH was designed and built in the 1970s. 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 of the HA. It is also the teaching hospital for the Faculty of Medicine, the Chinese University of Hong Kong.

6. After several decades of heavy utilisation, the physical condition and facilities of PWH have become dilapidated and can no longer meet the service requirement of a modern tertiary acute hospital. 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. Notwithstanding the completion of MCBTC in 2010 in phase 1 of the redevelopment of PWH[2], 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.

/7. …..

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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.

[2] Phase 1 of the redevelopment of PWH covers the construction, at the existing helipad and tennis court of PWH, of a new block of around 800 in-patient beds for the provision of all essential services for the acute, emergency and critical care of adult patients.

7. According to the latest population projection by the Planning Department, the population in Sha Tin District is projected to increase from 682 100 in 2017 to 708 600 in 2026 (representing a slight increase of about 4%), whereas the elderly population aged 65 years or above is projected to increase from 112 800 in 2017 to 167 600 in 2026, representing a significant increase of about 49%. The growing and ageing population in the district gives rise to increasing demand for both ambulatory and in-patient services.

8. The 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. 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 improve the quality of services and standard of care by integrating clinical services, research and training. In this redevelopment, PWH will adopt a patient-oriented design with well aligned and integrated services, as well as better accessibility for more efficient medical care to meet the long-term healthcare needs of the population of the NTEC.

9. We propose to carry out the phase 2 redevelopment of PWH in two stages. Stage 1 involves renovation works at existing buildings and construction of an off-site decanting building at Shatin Hospital for decanting the facilities in the existing buildings of PWH to be demolished; demolition of Staff Quarters Blocks A, C, D and E and the Lecture Theatre Building for the construction of a new IPEB; and refurbishment and renovation to the existing MCBTC. Stage 2 mainly covers demolition of the Hospital Old Buildings Group including the Day Treatment Block, Special Block, Clinical Sciences Building, Podium Block, Eye Centre and Li Ka Shing Specialist Clinics (North Wing), and the construction of a new Ambulatory Care Centre and a new Cancer Centre. Both stages 1 and 2 works involve the construction of link bridges and service tunnels to connect the new buildings with other hospital buildings for easy access by staff, patients and the public.

10. Stage 1 is being implemented in three packages, namely preparatory works, demolition and foundation works, and main works. Upon completion of stage 1 project, we will provide 450 additional beds and 16 additional operating theatres.

/11. …..

11. 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, preparatory works of this project were entrusted to the HA. We plan to entrust the demolition and foundation works as stipulated in paragraph 1 above to the HA in order to expedite project implementation and achieve cost effectiveness by capitalising on the HA's experience and organisational capabilities.

FINANCIAL IMPLICATIONS

12. We estimate the capital cost of the proposed demolition and foundation works to be $2,781.3 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)
(a)	Site works[3]	197.7
(b)	Demolition	60.8
(c)	Piling[4]	760.0
(d)	Excavation and lateral support[5]	919.0
(e)	Pile caps, basement slab and associated builder's works[6]	334.8

/**$ million** …..

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3 Site works comprise demolition of existing ramp and reprovisioning of a replacement car ramp and other general site works.

4 Piling works cover construction of piled foundation for the new IPEB and link bridges.

5 Excavation and lateral support works cover basement excavation works with lateral support and other associated works.

6 Pile caps, basement slab and associated builder's works cover pile caps, tie beam, basement slab and other associated builder's works for the new IPEB.

			$ million (in MOD prices)
(f)	Drainage		14.1
(g)	External works[7]		187.0
(h)	Consultants' fees for		22.4
	(i) contract administration	21.7	
	(ii) management of resident site staff (RSS)	0.7	
(i)	Remuneration of RSS		32.7
(j)	Contingencies		252.8
	Total		2,781.3

13. The HA will engage consultants to undertake contract administration and directly employ RSS for the supervision of the proposed demolition and foundation works. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 2 to Enclosure 2.

14. Subject to funding approval, we plan to phase the expenditure of the project as follows –

/Year …..

[7] External works comprise new run-in/out along existing Staff Quarters Block B, ramp widening works, road re-surfacing works, temporary pedestrian walkway for connection the existing Old Block and Staff Quarters Block B and other general external works.

Year	$ million (MOD)
2019 – 2020	205.3
2020 – 2021	977.8
2021 – 2022	870.8
2022 – 2023	363.8
2023 – 2024	272.5
2024 – 2025	91.1
	2,781.3

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 2019 to 2025. Subject to funding approval, the 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.

16. The proposed demolition and foundation 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 10 January 2019 in respect of the proposed stage 1 of phase 2 works. The HEC of the STDC supported the proposed demolition and foundation works and urged HA to provide more comprehensive information on the proposed PWH redevelopment project when consulting HEC in the future.

18. We consulted the Legislative Council Panel on Health Services on 18 March 2019. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

/ENVIRONMENTAL …..

ENVIRONMENTAL IMPLICATIONS

19. The redevelopment of PWH, Phase 2 is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). A Preliminary Environmental Review (PER) for the proposed works under the current scope of Phase 2 (Stage 1) in paragraph 1 was completed by the appointed consultant and agreed by the Director of Environmental Protection in April 2019. The HA will implement suitable mitigation measures to control short term environmental impacts arising from the proposed works.

20. The HA will incorporate into the works contract mitigation measures recommended in the PER in order to ensure that the environmental impacts arising from the demolition, foundation and construction works are within the established standards and guidelines. These include the use of quiet powered mechanical equipment, temporary noise barriers for noisy substructure works, site drainage to control runoff, covering of stockpiles material and watering of the site. The HA has included in the project estimates the cost for the implementation of the environmental mitigation measures.

21. The HA has completed an Asbestos Investigation Report (AIR) for Staff Quarters Blocks A and D of the site. As the AIR has identified some asbestos containing materials (ACM) inside Staff Quarters Blocks A and D, we will remove and dispose of the ACM in accordance with the Asbestos Abatement Plan and the requirements under the Air Pollution Control Ordinance and Waste Disposal Ordinance, prior to the demolition of Staff Quarters Blocks A and D. The removed ACM will be disposed of at designated landfills. All demolition and refurbishment works would be carried out after the completion of asbestos investigations and/or asbestos abatement works of all concerned building structures at the site.

/22. …..

22. At the planning and design stages, the 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, the HA 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[8]. The 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.

23. At the construction stage, the 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. The HA will ensure that the day-to-day operations on site comply with the approved plan. The HA will require the contractor to separate the inert portion from non-inert construction waste on site for disposal of at appropriate facilities. The 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.

24. The HA estimates that the project will generate in total 585 554 tonnes of construction waste. Of these, the HA will reuse 96 449 tonnes (16.5%) of inert construction waste on site and deliver 248 257 tonnes (42.4%) of inert construction waste to public fill reception facilities for subsequent reuse. The HA will dispose of the remaining 240 848 tonnes (41.1%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be $65.8 million for this project (based on a unit charge rate of $71 per tonne for disposal of 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 …..

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[8] 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.

HERITAGE IMPLICATIONS

25. 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

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

BACKGROUND INFORMATION

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

28. In July 2017, the FC approved upgrading part of the **75MM** as **93MM** "Redevelopment of Prince of Wales Hospital, phase 2 (stage 1) – preparatory works" at an estimated cost of $1,231.1 million in MOD prices for preparatory works including initial surveys and site investigations; demolition works of Staff Quarters Blocks C and E, and Lecture Theatre Building and associated services diversion; construction of an off-site decanting building at Shatin Hospital; on-site alteration and addition works/refurbishment to the existing buildings for decanting purpose; and consultancy services for outline sketch design, detailed design, preparation of tender documents, tender assessment for the entire stage 1 project, as well as contract administration for demolition and decanting works, management of RSS, and remuneration of RSS for demolition and decanting works. The preparatory works commenced in September 2017 and are in progress.

/29. …..

29. The proposed demolition and foundation works will involve felling of 430 trees inside the building lot within the project site. All trees to be removed are not important trees[9]. The HA will incorporate planting proposal as part of the whole redevelopment project.

30. We estimate that the proposed demolition and foundation works will create about 1 110 jobs (1 000 for labourers and 110 for professional or technical staff) providing a total employment of around 25 200 man-months.

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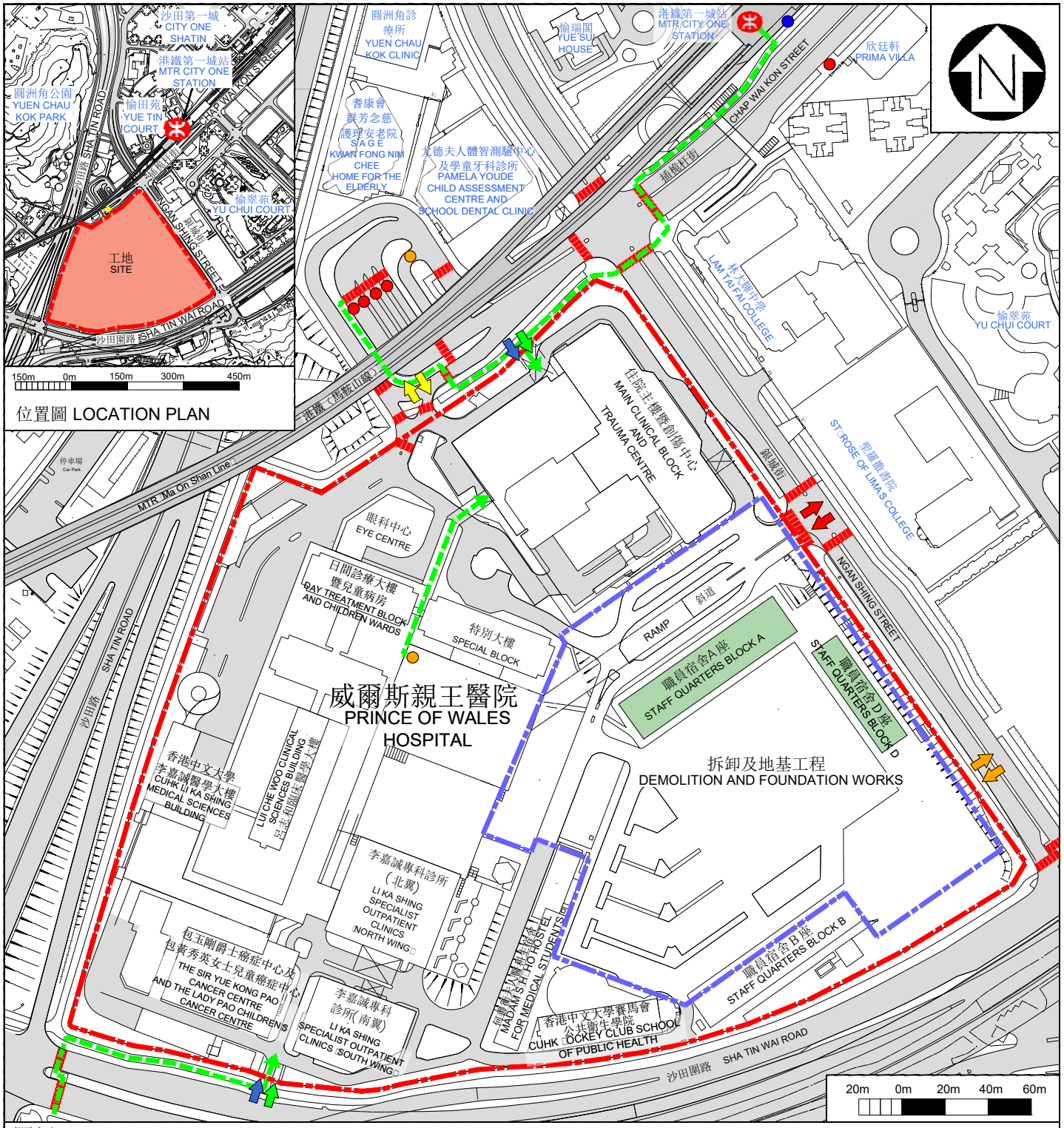
[9] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(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 the 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 a trunk of diameter equal to or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with a height or canopy spread equal to or exceeding 25 m.



圖例 LEGEND:

- 醫院及工地界線 HOSPITAL AND SITE BOUNDARY [1]
- 拆卸及地基工程工地界線 SITE BOUNDARY OF DEMOLITION AND FOUNDATION WORKS
- 擬拆卸的樓宇 BUILDINGS TO BE DEMOLISHED
- 無障礙通道 BARRIER-FREE ACCESS
- 現有巴士站 EXISTING BUS STOP
- 現有小巴站 EXISTING MINI-BUS STOP
- 現有的士站 EXISTING TAXI STOP
- 現有港鐵站 EXISTING MTR STATION
- 車輛及救護車出入口 VEHICULAR AND AMBULANCE INGRESS / EGRESS
- 車輛出入口 A [2] VEHICULAR INGRESS / EGRESS A [2]
- 擬建車輛出入口 B [2] PROPOSED VEHICULAR INGRESS / EGRESS B [2]
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙出入口 [3] BARRIER-FREE ENTRANCE / EXIT [3]
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING

[1] 相關工程包括公用設施改道、通道及道路工程以及拆卸及地基工程
Works involved include utilities diversion access and road works and demolition and foundation works

[2] 在工程首階段通往醫院的車輛出入口將維持在連接現有斜路的車輛出入口A。在完成重置另一條斜路後，醫院的車輛將不經出入口A而改由出入口B進出
Vehicular ingress/egress A to the existing ramp will be maintained as the vehicular access to the existing hospital campus at initial stage of the works The existing vehicular traffic to the hospital campus at A will be diverted to B upon the completion of the replacement ramp

[3] 在工程設計階段將考慮加設無障礙出入口及通道，方便市民進出新醫院大樓
Addition of new barrier-free entrance/exit and access will be considered at design stage to enhance the overall accessibility of the new hospital

工地平面圖 SITE PLAN

5MM

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

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

Breakdown of the estimates for consultants' fees and resident site staff (RSS) costs (in September 2018 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a) Consultants' fees for contract administration (Note 2)	Professional	-	-	-	15.1
	Technical	-	-	-	3.8
				Sub-total	18.9#
(b) Resident site staff (RSS) costs (Note 3)	Professional	33	38	1.6	4.3
	Technical	539	14	1.6	24.8
				Sub-total	29.1
Comprising –					
(i) consultants' fees for management of RSS				0.6#	
(ii) remuneration of RSS				28.5#	
				Total	**48.0**

* 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 = $81,975 per month and MPS salary point 14 = $28,725 per month).

2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for preparatory works of **93MM**. The construction phase of the assignment will only be executed subject to the Finance Committee's approval to upgrade part of **75MM** to Category A.

3. The RSS cost for site supervision is based on the estimate prepared by the Hospital Authority. We will only know the actual man-months and actual cost after completion of the construction works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 12 of Enclosure 2.

3MI - Expansion of North District Hospital

PROJECT SCOPE AND NATURE

The part of **3MI** which we propose to upgrade to Category A (i.e. preparatory works for expansion of North District Hospital (NDH)) comprises –

(a) site investigations and minor studies;

(b) demolition, reprovision and associated minor alteration works of existing buildings and facilities in NDH; and

(c) consultancy services for outline sketch design, detailed design, tender documentation and assessment for the whole project as well as contract administration, management of Resident Site Staff (RSS) and remuneration of RSS for demolition and reprovisioning works.

2. A site plan showing the location of the proposed expansion of NDH is at Annex 1 to Enclosure 3.

3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed preparatory works in the third quarter of 2019 with a view to completing the construction works of the whole project in 2027. To meet the programme, the Hospital Authority (HA) invited tenders for the proposed preparatory works in March 2019. The contract will only be awarded upon obtaining funding approval from the FC. NDH will remain functional at all times during the works period and any disruption of services, if unavoidable, will be kept to a minimum.

/4. …..

4. We will retain the remaining part of **3MI** in the First Ten-year Hospital Development Plan (HDP), which mainly covers the construction of a new hospital block, renovation and alterations of existing hospital building, and the provision of associated internal roadworks as well as external and landscaping works. Separate funding approval from the FC for the remaining part of the NDH expansion will be sought later to dovetail with the implementation programme.

JUSTIFICATION

5. Established in 1998, NDH is an acute hospital in the New Territories East Cluster (NTEC) of the HA, serving patients from Sha Tin, Tai Po and North districts with a planned capacity of 600 beds. It provides 24-hour accident and emergency (A&E) service and a wide range of secondary care services with emphasis on ambulatory care as well as community outreach services. According to the population estimates published by the Census and Statistics Department and the report of "Projections of Population Distribution 2018-2026" compiled by the Planning Department, the combined population in the three districts of Sha Tin, Tai Po and North District is expected to increase by about 12% from 1.31 million in 2017 to 1.47 million in 2026. In particular, the population in North District will increase by about 28% from 316 800 in 2017 to 405 800 in 2026. That aside, the elderly population in North District is also projected to increase by about 67% from 51 200 in 2017 to 85 400 in 2026.

6. Over the years, the existing facilities at NDH have become inadequate in terms of space, capacity and design to cope with the ever-increasing service demands, modern quality standards and developments in service delivery. Key challenges faced by NDH are as follows –

(a) A&E Department, being the frontline of care for the injured and the ill, was designed over 20 years ago. The increasing demand for emergency service has long outgrown the planned capacity of the A&E Department, with a perennial problem of overcrowding that poses risks to patient privacy, infection control and, most importantly, timeliness of care delivery;

(b) being at the forefront of the NTEC in handling port health issues particularly the management of cross-border infectious disease cases, there is a dire need to enhance the capability and capacity of NDH in the management of infectious and communicable diseases through increased provision of specially designed isolation rooms and infection control facilities;

/(c) …..

(c) diagnostic and treatment facilities at NDH, such as the endoscopy centre, cardiac interventional centre and renal dialysis centre, have all been operating at full capacity and will not be able to cope with the projected increase in demand. There is also an urgent need for upgrading the outdated facilities and equipment to the prevailing standards; and

(d) with a view to reducing avoidable patient transfers among cluster hospitals, the Clinical Services Plan (CSP) for the NTEC published in 2015 recommended that basic secondary care services should be available in each of the catchment districts in order to facilitate continuity of care and meet the healthcare needs of the local community. In this regard, it is noted that about 33% of the convalescent and rehabilitation patients discharged from Tai Po Hospital in 2017 came from and actually resided in North District, reflecting the existing limited provision of extended care facilities in NDH. In pursuance of the CSP recommendation, the development of convalescent and rehabilitation services in NDH is required.

7. It is necessary to expand NDH in order to meet the healthcare needs in North District in the long term. We plan to implement the expansion project in three packages, namely preparatory works, site formation and foundation works, and main works. Upon completion of the expansion project, NDH will provide around 1 500 additional beds.

8. 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 the HA in order to expedite project implementation and achieve cost effectiveness by capitalising on the HA's experience and organisational capabilities.

FINANCIAL IMPLICATIONS

9. We estimate the total capital cost of the proposed preparatory works to be $573.8 million in money-of-the-day (MOD) prices, broken down as follows –

/$ million …..

			$ million (in MOD prices)
(a)	Site investigations and minor studies		24.7
(b)	Demolition, re-provision, and associated minor alteration works of existing buildings and facilities		2.8
(c)	Consultants' fees for		490.0
	(i) design, preparation of tender documents and assessment of tenders[1]	477.9	
	(ii) contract administration	11.9	
	(iii) management of RSS	0.2	
(d)	Remuneration of RSS for demolition and re-provisioning works		4.1
(e)	Contingencies		52.2
	Total		573.8

10. The HA will engage consultants to undertake design, tender documentation and contract administration, and directly employ RSS for the supervision of the proposed preparatory works. A detailed breakdown of the estimated consultancy fees and RSS costs by man-months is at Annex 2 to Enclosure 3.

11. Subject to funding approval, we plan to phase the expenditure of the project as follows –

/**Year** …..

[1] 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 and tender assessment for the whole expansion project.

Year	$ million (MOD)
2019 – 2020	32.5
2020 – 2021	94.6
2021 – 2022	168.6
2022 – 2023	178.3
2023 – 2024	59.8
2024 – 2025	26.6
2025 – 2026	13.4
	573.8

12. 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 2019 to 2026. Subject to funding approval, the 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.

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

PUBLIC CONSULTATION

14. The HA consulted the North District Council (NDC) on 14 February 2019. Members of the NDC supported the proposed project.

15. We consulted the Legislative Council Panel on Health Services on 18 March 2019. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

/**ENVIRONMENTAL** …..

ENVIRONMENTAL IMPLICATIONS

16. The proposed expansion of NDH project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). The HA will carry out a Preliminary Environmental Review for the Project at the design stage and agree the findings with the Director of Environmental Protection. The HA shall implement suitable mitigation measures to control short-term environmental impact arising from the site investigation works, demolition, and reprovision works of existing buildings and facilities in NDH.

17. The HA undertakes to engage qualified consultants and contractors to properly carry out and complete all necessary steps, procedures and actions on asbestos containing materials (ACMs) investigation, and if found necessary, their removal and disposal according to the statutory requirements under Air Pollution Control Ordinance (APCO) and its subsidiary legislation before the start of any demolition work.

18. At the planning and design stages, the HA will consider 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, the HA 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[2]. The HA will encourage the contractor to maximise the use of recycled/recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

19. At the construction stage, the 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. The HA will ensure that the day-to-day operations on site comply with the approved plan. The HA will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. The 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.

/20. …..

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[2] 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.

20. The HA estimates that the proposed preparatory works will generate in total about 225 tonnes of construction waste. Of these, the HA will reuse about 160 tonnes (71.1%) of inert construction waste on site. The HA will dispose of the remaining 65 tonnes (28.9%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at landfill sites is estimated to be $13,000 for this project (based on a unit charge rate of $200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

21. 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

22. The proposed preparatory works do not require resumption of private land, but the proposed site investigations may require clearance of Government land. The estimated land clearance cost is about $0.1 million, which will be charged under Head 701 – Land Acquisition. A breakdown of the land clearance cost is at Annex 3 to Enclosure 3.

BACKGROUND INFORMATION

23. The expansion of NDH is one of the projects covered by the HDP. We upgraded the relevant part of **3MI** (i.e. preparatory works for expansion of NDH) to Category B in February 2019.

/24. …..

24. To facilitate the site investigation works, the proposed preparatory works will involve felling of about 15 trees within the project site. All the trees to be removed are not important trees[3]. The HA will incorporate planting proposal as part of the expansion of NDH project.

25. We estimate that the proposed preparatory works will create about 70 jobs (ten for labourers and 60 for professional or technical staff) providing a total employment of around 2 300 man-months.

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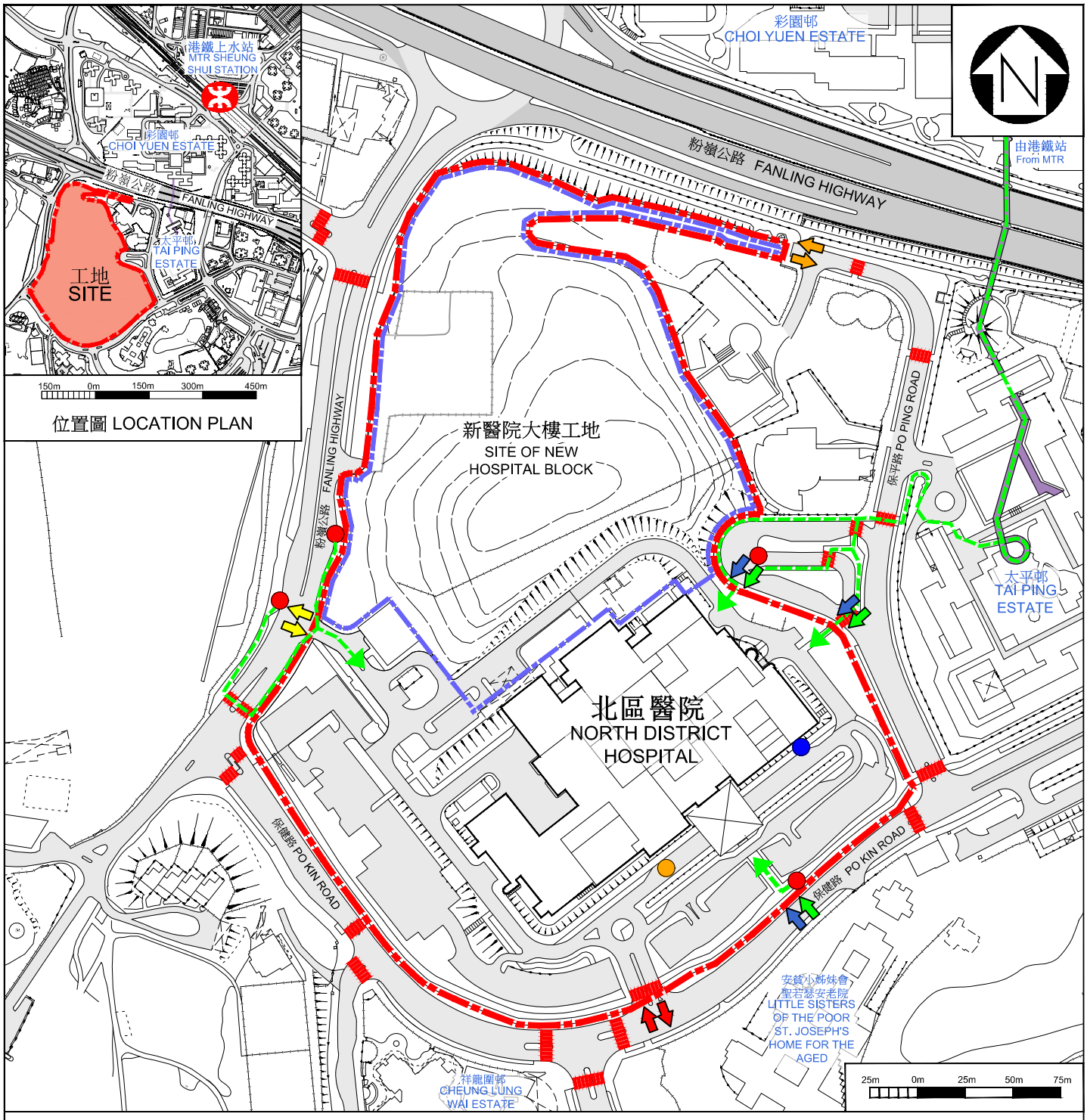
[3] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

(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 the 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:

- 醫院及工地界線 [1] HOSPITAL AND SITE BOUNDARY [1]
- 新醫院大樓工地界線 SITE BOUNDARY OF NEW HOSPITAL BLOCK
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 無障礙通道 BARRIER-FREE ACCESS
- 有蓋行人道 COVERED WALKWAY
- 現有巴士站 EXISTING BUS STOP
- 現有小巴站 EXISTING MINI-BUS STOP
- 現有的士站 EXISTING TAXI STAND
- 車輛出入口 VEHICULAR INGRESS / EGRESS
- 現有港鐵站 EXISTING MTR STATION
- 擬建車輛出入口 PROPOSED VEHICULAR INGRESS / EGRESS
- 救護車出入口 AMBULANCE INGRESS / EGRESS
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙出入口 [2] BARRIER-FREE ENTRANCE / EXIT [2]

[1] 相關工程包括工地勘測以及為隨後主要工程而進行之拆卸及翻新工程
Works involved include site investigations and the demolition and renovation of existing buildings and facilities for the main works

[2] 在工程設計階段將考慮加設無障礙出入口及通道，方便市民進出新醫院大樓
Addition of new barrier-free entrance/exit and access will be considered at design stage to enhance the overall accessibility of the new hospital

工地平面圖
SITE PLAN

3MI
北區醫院擴建計劃
EXPANSION OF NORTH DISTRICT HOSPITAL

3MI (part) – Expansion of North District Hospital – preparatory works

Breakdown of the estimates for consultants' fees and resident site staff costs (RSS) (in September 2018 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	1 574	38	2.0	258.1
		Technical	2 585	14	2.0	148.5
					Sub-total	406.6#
(b)	Consultants' fees for contract administration (Note 2)	Professional	42	38	2.0	6.9
		Technical	70	14	2.0	4.0
					Sub-total	10.9#
(c)	Resident site staff (RSS) costs (Note 2)	Professional	14	38	1.6	1.8
		Technical	44	14	1.6	2.0
					Sub-total	3.8

Comprising –

(i)	consultants' fees for management of RSS	0.2#
(ii)	remuneration of RSS	3.6#
	Total	**421.3**

* 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 = $81,975 per month and MPS salary point 14 = $28,725 per month).

2. The consultants' fees and RSS costs for site supervision are based on the estimate prepared by the Hospital Authority. We will only know the actual man-months and actual fees after completion of the proposed works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 9 of Enclosure 3.

3MI (part) - Expansion of North District Hospital - preparatory works

Breakdown of land clearance cost

		$ million	$ million
(I)	**Estimated cost for land clearance**		0.09
(a)	Ex-gratia allowances for agricultural undertakings	0.09	
(II)	**Interest and Contingency Payment**		0.01
(a)	Contingency on the estimated land clearance cost	0.01	
	Total		**0.10**

Note

The above estimated land clearance cost is based on the prevailing rates as at May 2019.

114MH - Expansion of Lai King Building in Princess Margaret Hospital

PROJECT SCOPE AND NATURE

The part of **114MH** which we propose to upgrade to Category A (i.e. preparatory works for expansion of Lai King Building (LKB) in Princess Margaret Hospital (PMH)) comprises –

(a) site investigations, minor studies and associated service diversion and minor alteration works in LKB; and

(b) consultancy services for outline sketch design and detailed design, as well as tender documentation and assessment for the whole project.

2. A site plan showing the location of the proposed expansion of LKB in PMH is at Annex 1 to Enclosure 4.

3. Subject to funding approval by the Finance Committee (FC), we plan to commence the proposed preparatory works in the third quarter of 2019 with a view to completing the construction works of the whole project by 2024. To meet the programme, the Hospital Authority (HA) invited tenders for the proposed preparatory works in March 2019. The contract will only be awarded upon obtaining funding approval from the FC. LKB will remain functional at all times during the works period and any disruption of services, if unavoidable, will be kept to a minimum.

4. We will retain the remaining part of **114MH** in the First Ten-year Hospital Development Plan (HDP), which mainly covers the demolition of the existing structure at the rehabilitation garden and the transformer room at LKB, construction of a new extension block, conversion/renovation of the existing building as well as construction of link bridges to connect the new extension block and the existing building. Separate funding approval from the FC for the remaining part of the LKB project will be sought later to dovetail with the implementation programme.

/5. …..

JUSTIFICATION

5. Established in 1975, PMH is a major acute hospital in the Kowloon West Cluster (KWC) of HA, serving patients from Kwai Tsing District and other districts in the KWC. It provides a comprehensive range of acute, specialist and ambulatory services, including 24-hour accident and emergency service. Besides being a tertiary referral centre for infectious diseases, nephrology and urology, PMH is also the cluster referral centre for oncology, trauma, renal transplant and dialysis, lithotripsy, pulmonary medicine and tuberculosis, high risk obstetrics care as well as paediatric and neonatal intensive care. LKB, established in 2001, is an off-site facility of PMH providing convalescent, rehabilitation and infirmary in-patient services.

6. Over the years, the population in the KWC has been growing considerably. According to the latest population projections by the Planning Department, the population in Sham Shui Po, Kwai Tsing, Tsuen Wan and Lantau Island areas or districts is projected to increase by about 6% from 1 369 600 in 2017 to 1 455 100 in 2026, whereas the elderly population aged 65 or above will surge from 222 900 in 2017 to 335 700 in 2026, representing a significant increase of about 51%. The aging population contributed to the increasing demand for comprehensive medical care, especially convalescent and infirmary support.

7. The utilisation of PMH's services has been consistently high. The bed occupancy rate in PMH was about 96% in 2017-18, as compared with the HA average of about 89%. The total number of in-patient and day in-patient discharges and deaths in PMH also escalated from 113 996 in 2009-10 to 156 556 in 2017-18, representing an increase of about 37% which outran the HA average of about 33%. The heavy service demand has aggravated the inadequacy in the existing capacity of PMH.

8. The design of PMH, which has a history of over 40 years, has become outdated and lagged behind the service requirements and workflow logistics of a modern tertiary acute hospital. The floor plates in clinical blocks are very small by current standards, rendering the advancement in medical technology difficult. In particular, the spacing between beds in wards is suboptimal from prevailing standard for quality patient care while nurse stations are provided at locations not convenient for close observation of patients. The physical conditions and structural capacity of the buildings are also exacerbated by heavy utilisation for decades, hindering the upgrading of building services systems to meet ever-increasing operational needs.

/9. …..

9. Apart from space limitations, the piecemeal developments in the past have resulted in the clinical blocks of PMH being scattered over the hospital site which impedes the provision of co-ordinated services and efficient workflow logistics conducive to good clinical outcomes. At present, the existing PMH compound is already packed with more than ten building blocks and there is no room for further expansion to meet the projected increase in service demands. The unsatisfactory geographical location and connectivity among the buildings have also undermined the development of PMH.

10. The HA has developed a concept plan for the redevelopment of PMH, which aims to renew the hospital in phases to modernise its facilities to cope with the growing clinical service demand. To make available the redevelopment site, additional space and floor areas are required for decanting the existing services and supporting accommodation. The expansion of LKB is planned to be part of the decanting arrangements for the redevelopment of PMH. In addition, the proposed expansion of LKB aims to enhance its ambulatory care services to reduce unnecessary hospitalisation and to ensure that its facilities comply with the infection control and service standards in modern health care settings.

11. The expansion of LKB in PMH will be implemented in three phases, namely preparatory works, site clearance and foundation works, and main works. Upon completion of the expansion project, LKB will provide 400 additional beds.

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 the 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 total capital cost of the proposed preparatory works to be $104.0 million in money-of-the-day (MOD) prices, broken down as follows –

		$ million (in MOD prices)
(a)	Site investigations, minor studies and associated service diversion and minor alteration works	8.3
(b)	Consultants' fees for contract administration of site investigation and associated works, design, preparation of tender documents and assessment of tenders	86.3
(c)	Contingencies	9.4
	Total	104.0

14. The HA will engage consultants to undertake contract administration of the proposed preparatory works, design and tender documentation. A detailed breakdown of the estimated consultants' fees by man-months is at Annex 2 to Enclosure 4.

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

Year	**$ million (MOD)**
2019 – 2020	13.5
2020 – 2021	64.6
2021 – 2022	25.9
	104.0

16. 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 2019 to 2022. Subject to funding approval, the 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.

/17. …..

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

PUBLIC CONSULTATION

18. The HA consulted the Community Affairs Committee (CAC) of the Kwai Tsing District Council (KwTDC) on 12 February 2019 on the LKB expansion project. While Members of the CAC of KwTDC had comments on the scale of expansion, they supported the proposed LKB expansion project in principle.

19. We consulted the Legislative Council Panel on Health Services on 18 March 2019. Members of the Panel supported the submission of the funding proposal to the Public Works Subcommittee for consideration.

ENVIRONMENTAL IMPLICATIONS

20. The proposed LKB expansion project is not a designated project under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499). The HA will implement suitable mitigation measures to control short-term environmental impacts arising from the preparatory works to within established standards and guidelines. The HA will engage consultants to carry out a Preliminary Environmental Review (PER) for the proposed expansion project at the design stage and agree the findings with the Director of Environmental Protection. The HA will also take note of any EIAO implications arising from the proposed expansion project as identified in the PER and meet the EIAO requirements, if required.

21. The proposed preparatory works will only generate very little construction waste. The HA 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 future implementation of the construction project.

/HERITAGE …..

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

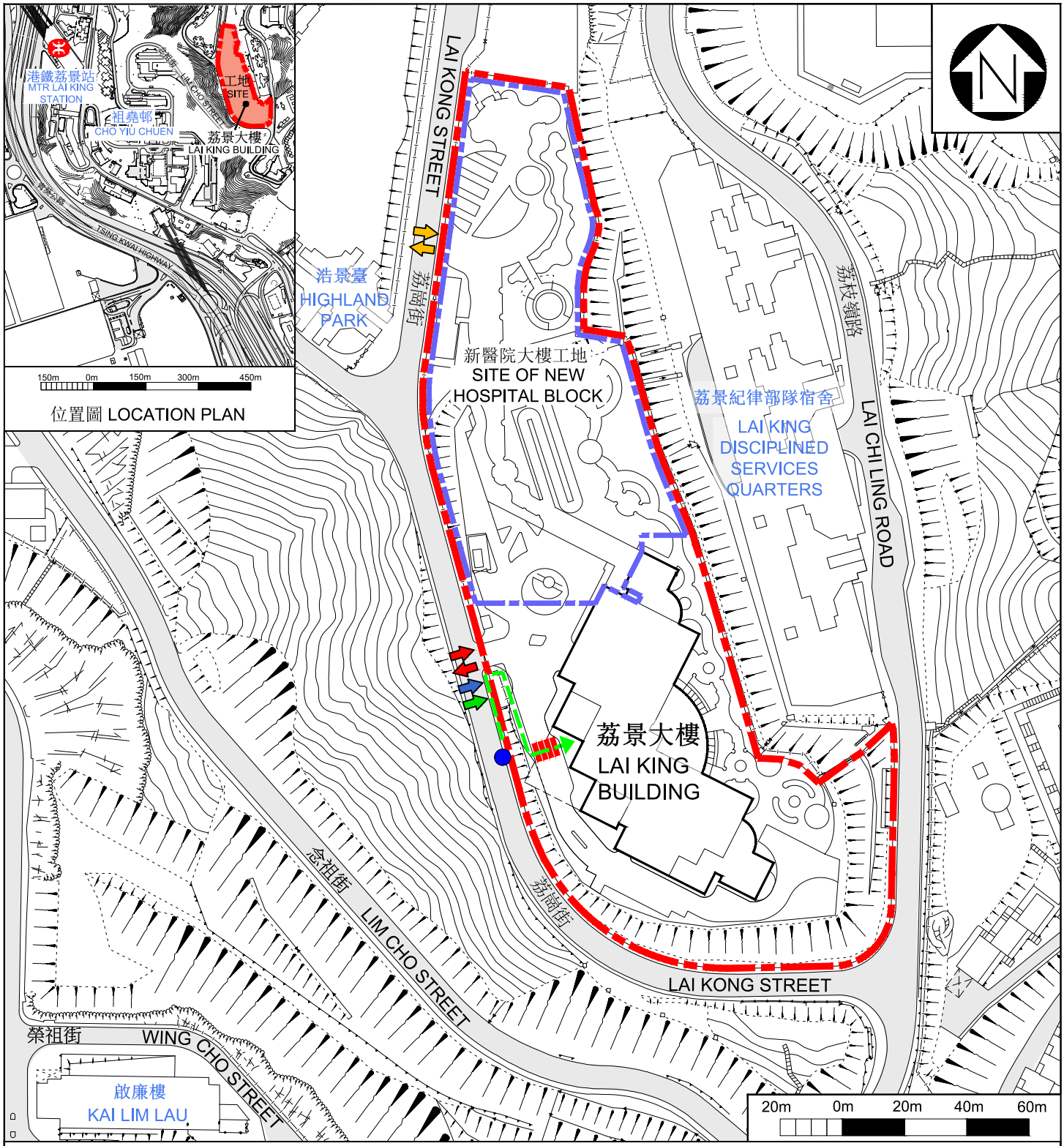
23. This project does not require any land acquisition.

BACKGROUND INFORMATION

24. The expansion of LKB in PMH is one of the projects covered by the HDP. We upgraded the relevant part of **114MH** (i.e. preparatory works for expansion of LKB in PMH) to Category B in February 2019.

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

26. We estimate that the proposed works will create about 35 jobs (five for labourers and 30 for professional or technical staff) providing a total employment of 650 man-months.



圖例 LEGEND:

- 醫院及工地界線[1] HOSPITAL AND SITE BOUNDARY[1]
- 新醫院大樓工地界線 SITE BOUNDARY OF NEW HOSPITAL BLOCK
- 現有行人過路處 EXISTING AT-GRADE PEDESTRIAN CROSSING
- 現有港鐵站 EXISTING MTR STATION
- 行人出入口 PEDESTRIAN ENTRANCE / EXIT
- 無障礙出入口[2] BARRIER-FREE ENTRANCE / EXIT[2]
- 無障礙通道[2] BARRIER-FREE ACCESS[2]
- 車輛及救護車出入口 VEHICULAR AND AMBULANCE INGRESS / EGRESS
- 擬建車輛出入口 PROPOSED VEHICULAR INGRESS / EGRESS
- 現有小巴站 EXISTING MINI-BUS STOP

[1] 相關工程包括工地勘測以及為隨後主要工程而進行之拆卸及翻新工程
Works involved include site investigations and the demolition and renovation of existing buildings and facilities for the main works

[2] 在工程設計階段將考慮加設無障礙出入口及通道，方便市民進出新醫院大樓
Addition of new barrier-free entrance/exit and access will be considered at design stage to enhance the overall accessibility of the new hospital

工地平面圖
SITE PLAN

114MH
瑪嘉烈醫院荔景大樓擴建計劃
EXPANSION OF LAI KING BUILDING IN PRINCESS MARGARET HOSPITAL

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114MH (part) – Expansion of Lai King Building in Princess Margaret Hospital – preparatory works

Breakdown of the estimates for consultants' fees (in September 2018 prices)

		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
Consultants' fees for contract administration of site investigation and associated works, design, preparation of tender documents and assessment of tenders (Note 2)	Professional	301	38	2.0	49.3
	Technical	496	14	2.0	28.5
				Total	**77.8#**

* 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 = $81,975 per month and MPS salary point 14 = $28,725 per month).

2. The consultants' fee is based on the estimate prepared by the Hospital Authority. We will only know the actual man-months and actual fees cost after completion of the preparatory works.

Remarks

The figures in this Annex are shown in constant prices to correlate with the MPS salary point of the same year. The figures marked with # are shown in money-of-the-day prices in paragraph 13 of Enclosure 4.