

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 703 – BUILDINGS**

#### **Health – Hospitals**

#### **81MM – Redevelopment of Kwai Chung Hospital**

### **HEAD 708 – CAPITAL SUBVENTIONS AND MAJOR SYSTEMS AND EQUIPMENT**

#### **Medical Subventions**

#### **13MD – Redevelopment of Kwong Wah Hospital**

#### **3ML – Expansion of Haven of Hope Hospital**

Members are invited to recommend to the Finance Committee the upgrading of part of **81MM**, part of **13MD** and **3ML** to Category A at estimated costs of \$750.8 million, \$654.8 million and \$2,073.0 million in money-of-the-day prices respectively.

### **PROBLEM**

We need to redevelop and expand the Kwai Chung Hospital (KCH), Kwong Wah Hospital (KWH) and Haven of Hope Hospital (HHH) 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 part of **81MM** to Category A at an estimated cost of \$750.8 million in money-of-the-day (MOD) prices for phase 1 of the redevelopment of KCH.

3. The Secretary for Food and Health proposes to upgrade the following projects to Category A –

- (a) part of **13MD** at an estimated cost of \$654.8 million in MOD prices to carry out the proposed demolition and substructure works for phase 1 of the redevelopment of KWH; and
- (b) **3ML** at an estimated cost of \$2,073.0 million in MOD prices for the expansion of HHH<sup>1</sup>.

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

5. On 16 March 2016, we invited Members to recommend to the Finance Committee (FC) the upgrading of **81MM** to Category A vide PWSC(2015-16)63. The paper had not been discussed at the meeting. This paper supersedes PWSC(2015-16)63. The details of **81MM** are at Enclosure 1 to this paper.

6. We consulted the Legislative Council Panel on Health Services on **81MM** on 21 July 2014, **13MD** on 15 February 2016 and **3ML** on 21 March 2016. Members supported the submission of the projects to the Public Works Subcommittee of FC for consideration.

**Food and Health Bureau**  
**April 2016**

---

<sup>1</sup> The total project cost is \$2,116.0 million. Of the \$2,116.0 million, \$2,073.0 million will be met by government commitment and the remaining \$43.0 million by the Haven of Hope Christian Service, the parent organisation of the hospital.

## Redevelopment of Kwai Chung Hospital

### PROJECT SCOPE AND NATURE

The part of **81MM** which we propose to upgrade to Category A (i.e. phase 1 of redevelopment of Kwai Chung Hospital (KCH)) comprises -

- (a) construction of a decantation building at the existing car park area of Princess Margaret Hospital (PMH); and
- (b) 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.

2. Site and location plans, layout plans, a sectional plan and artist's impression of the proposed decantation building are at Annexes 1 to 9 to Enclosure 1.

3. Subject to funding approval of the Finance Committee (FC), we plan to commence the construction works in mid-2016 for completion in mid-2018. To meet the programme, the Architectural Services Department and the Hospital Authority (HA) have invited tender in March 2015 and November 2015 for the construction of decantation building (paragraph 1(a)) and the renovation works (paragraph 1(b)) respectively. The contracts will only be awarded upon obtaining FC's funding approval.

4. We will retain the remainder of **81MM** in Category B, which involves the redevelopment, comprising demolition of all but Block J of KCH and the construction of a new hospital with inpatient wards and rehabilitation facilities for the delivery of a full range of psychiatric services. We will provide 1 000 beds at KCH upon the completion of the redevelopment project and an additional annual capacity of 254 500 psychiatric specialist outpatient clinic attendances at the KCH. Funding for the subsequent phase of works will be sought separately.

/JUSTIFICATION.....

**JUSTIFICATION**

5. At present, HA organises its services for patients with mental illness based on seven geographical hospital clusters for the provision of inpatient, outpatient and community services. KCH is the psychiatric hospital located in the Kowloon West Cluster (KWC) providing psychiatric services mainly for Mongkok, Sham Shui Po, Wong Tai Sin, Kwai Tsing, Tsuen Wan and Lantau Island districts. There were 920 psychiatric beds in KCH, which account for about a quarter of the HA's total psychiatric bed capacity. In 2014-15, there were around 4 200 psychiatric inpatient and day inpatient discharges and deaths, and around 216 100 psychiatric specialist outpatient clinical attendances at the KCH, which account for 24% and 27% respectively of that for all HA hospitals.

6. The total population of KWC was 1 941 700 in 2014. According to Planning Department's projection, the same will reach 2 012 900 in 2024. The percentage of elderly population (aged 65 or above) is anticipated to increase from 16% in 2014 to 23% in 2024. The general population growth will increase psychiatric service need in the KWC. Specifically, the increase in elderly population will further increase service demand due to the prevalence of age-related psychiatric disorders such as dementia.

*Outdated design and unsatisfactory building conditions*

7. The KCH was established in 1981. After over three decades of heavy utilisation, the physical condition of the hospital is dilapidated and requires significant improvement. Besides, when the hospital was established, the principles and models of psychiatric care focussed heavily on institutional custody of the mentally-ill. The hospital was so designed primarily for adult patients.

8. The emphasis of psychiatric services of KCH has now shifted to early detection of the mentally-ill and provision of appropriate treatment and rehabilitation services in the community. The hospital has developed various psychiatric specialty services, including child and adolescent psychiatric services, psychogeriatric services, a substance abuse assessment unit, and a psychiatric unit for learning disabilities. Community-based psychiatric services including outreach services and telephone advisory programmes, consultation liaison psychiatry, as well as child and adolescent mental health support programmes have also become important components of KCH's service. The outdated design and unsatisfactory building conditions are however not conducive to the provision of these modern day's psychiatric services.

*/Proposed.....*

*Proposed model of psychiatric services at KCH*

9. KCH will continue to serve KWC upon redevelopment. Our vision is to provide high quality person-centred care based on effective treatment and recovery of individual patients at KCH. We will put in place an integrated patient-centred service model with a balance of in-patient service, ambulatory care, community outreach services and collaboration with partner organisations at the redeveloped KCH. Such integrated service will facilitate rehabilitation and community integration of patients, and allow early detection on mental illness. In-patient care will remain an important service component upon redevelopment. We nonetheless expect that hospitalisation would be needed only for individuals with severe mental illness who require highly specialised acute inpatient environment and services for recovery and rehabilitation.

10. To achieve the above vision, a hybrid model consisting of the redeveloped KCH and four district-level community mental health centres serving Wong Tai Sin, Sham Shui Po and Mongkok, Kwai Tsing, and Tsuen Wan and Lantau Island is proposed. Under the model, the new KCH will form a hub to provide, support and co-ordinate a full range of psychiatric services in collaboration with allied health professionals and partner organisations. The community mental health centres under the new KCH will provide extensive mental health services at the district level and bring a range of clinics, clinical specialties, allied health professionals and multidisciplinary teams together in a flexible setting to meet the holistic needs of patients.

11. An ambulatory centre will be developed at the new KCH to accommodate clinical specialties and multi-disciplinary teams to provide a wide range of mental health services. It will also replicate the daily life setting with a view to helping patients to integrate into the community. The ambulatory centre will serve as a major link between the hospital and the patients, their families and carers, and the community.

12. Optimising the developmental potential of children and adolescents is another important objective of the new KCH. The redeveloped project will seek to provide a safe and quality environment for young people with mental disorders. The transformed KCH child and adolescent psychiatric services will be supported by age and developmentally appropriate inpatient, outpatient, ambulatory, and community space organised within a dedicated purpose-built facility.

13. To expedite project implementation and to achieve cost effectiveness, we plan to entrust the renovation works mentioned in paragraph 1(b) above to HA. The KCH and PMH will remain functional at all times during the works. We will provide 145 numbers of carparking spaces in the decantation block under this project.

## FINANCIAL IMPLICATIONS

14. We estimate the capital cost of the project to be \$750.8 million in money-of-the-day (MOD) prices, broken down as follows –

		\$ million
(a)	Site works	8.9
(b)	Foundation	6.9
(c)	Building <sup>1</sup>	207.2
(d)	Building services	79.2
(e)	Drainage	3.9
(f)	External works	10.2
(g)	Additional energy conservation and green features	3.7
(h)	Furniture and equipment (F&E) <sup>2</sup>	12.0
(i)	Consultants' fees	21.1
	(i) contract administration	18.8
	(ii) risk management	0.9
	(iii) management of resident site staff (RSS)	1.4
(j)	Remuneration of RSS	14.6

/\$ million.....

---

<sup>1</sup> Building works comprise construction of substructure and superstructure of the building.

<sup>2</sup> Based on an indicative list of F&E item at Annex 11 to Enclosure 1 and its estimated price.

		<b>\$ million</b>
(k)	Renovation works to existing buildings and associated works	202.1
(l)	Investigations, services diversion and tree felling for the main works	12.8
(m)	Contingencies	58.2
	Sub-total	<u>640.8</u> (in September 2015 prices)
(n)	Provision for price adjustment	110.0
	Total	<u>750.8</u> (in MOD prices)

15. We propose to engage consultants to undertake contract administration, risk management and site supervision for the proposed works. A detailed breakdown of the estimate for consultants' fees and resident site staff costs by man-months is at Annex 10 to Enclosure 1. The construction floor area (CFA) of the decantation building and the existing buildings for renovation is about 9 347 square metres (m<sup>2</sup>) and 19 000 m<sup>2</sup> respectively. The estimated construction unit cost, represented by the building and building services costs, is \$30,641 per m<sup>2</sup> and \$9,860 per m<sup>2</sup> of CFA for the decantation building and renovation works respectively in September 2015 prices. We consider the unit costs reasonable as compared with that of similar hospital projects.

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

<b>Year</b>	<b>\$ million (Sept 2015)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2016 – 17	80.0	1.05775	84.6
2017 – 18	230.0	1.12122	257.9
2018 – 19	200.0	1.18849	237.7
2019 – 20	80.0	1.25980	100.8

/Year.....

Year	\$ million (Sept 2015)	Price adjustment factor	\$ million (MOD)
2020 – 21	30.0	1.33539	40.1
2021 – 22	15.0	1.40549	21.1
2022 – 23	5.8	1.47577	8.6
	<hr/> 640.8 <hr/>		<hr/> 750.8 <hr/>

17. 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 2016 to 2023. The decantation building will be delivered through a design-and-build contract. We intend to award the contract on a lump-sum basis because we can clearly define the scope of the works in advance. The contract will provide for price adjustments. Renovation works to existing buildings and services diversion will be carried out by HA.

18. HA has assessed the requirements for F&E for the project, and estimates the F&E costs to be \$12.0 million. The proposed F&E provision represents 4% of the total construction cost, represented by the building, building services, drainage and external works costs, of the project. Information on the only major F&E item (costing \$1 million or above per item) proposed to be procured for the project is at Annex 11 to Enclosure 1.

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

## **PUBLIC CONSULTATION**

20. We consulted the Kwai Tsing District Council (K&TDC) on 24 June 2014. Members of K&TDC supported the project and its proposed scope.

21. We consulted the Legislative Council Panel on Health Services on 21 July 2014. Members of the Panel supported the project.

**/ENVIRONMENTAL.....**

**ENVIRONMENTAL IMPLICATIONS**

22. 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 2015. The PER concluded that the project would not cause long-term environmental impact. We have included in the project estimate the cost of the environmental mitigation measures.

23. 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, acoustic lining or shields, and the building of barrier wall for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.

24. 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<sup>3</sup>. We will encourage the contractor to maximise the use of recycled and recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

25. At the construction stage, we will also 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 monitor the day-to-day operations on site for compliance 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 monitor the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

/26.....

---

<sup>3</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

26. We estimate that the project will generate in total 8 330 tonnes of construction waste. Of these, we will reuse 1 020 tonnes (12%) of inert construction waste on site and deliver about 5 780 tonnes (70%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 1 530 tonnes (18%) 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 \$347,000 for this project (based on an unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne for disposal at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

### **HERITAGE IMPLICATIONS**

27. 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**

28. This project does not require any land acquisition.

### **ENERGY CONSERVATION AND GREEN FEATURES**

29. This project will adopt various forms of energy efficient features, including heat energy reclaim of exhaust air and lift power regeneration.

30. For greening features, we will provide greening at the pedestrian zone, roof and vertical greening at building facade for environmental and amenity benefits.

31. The total estimated additional cost for adoption of the above features is around \$3.7 million (including \$1.3 million for energy efficient features), which has been included in the cost estimate of this project. The features will achieve 5.2% energy savings in the annual energy consumption with a payback period of about 5.8 years.

## BACKGROUND INFORMATION

32. We upgraded part of **81MM** (i.e. phase 1 of the redevelopment of KCH) to Category B in September 2012. We engaged consultants to undertake various services, including traffic impact assessment, utility mapping, preliminary environmental review, topographical and tree survey, asbestos survey, geotechnical assessment and minor site investigations including drainage impact assessment, sewage impact assessment, air ventilation assessment, ground investigation works and preparation of tender document. The total cost of these services is about \$2.5 million. We have charged this amount to block allocation **Subhead 8100MX** “Hospital Authority – improvement works, feasibility studies, investigation and pre-contract consultancy services for building projects” and **8083MM** “One-off grant to the Hospital Authority for minor works projects”.

33. Of the 12 trees within the proposed decantation building site boundary, three trees will be preserved. The proposed works will involve removal of nine trees including seven trees to be felled and two trees to be transplanted within KCH compound subject to final design. All trees to be felled are not important trees<sup>4</sup>. Compensatory planting of seven trees and around 12 000 shrubs and groundcovers will be included as part of the project.

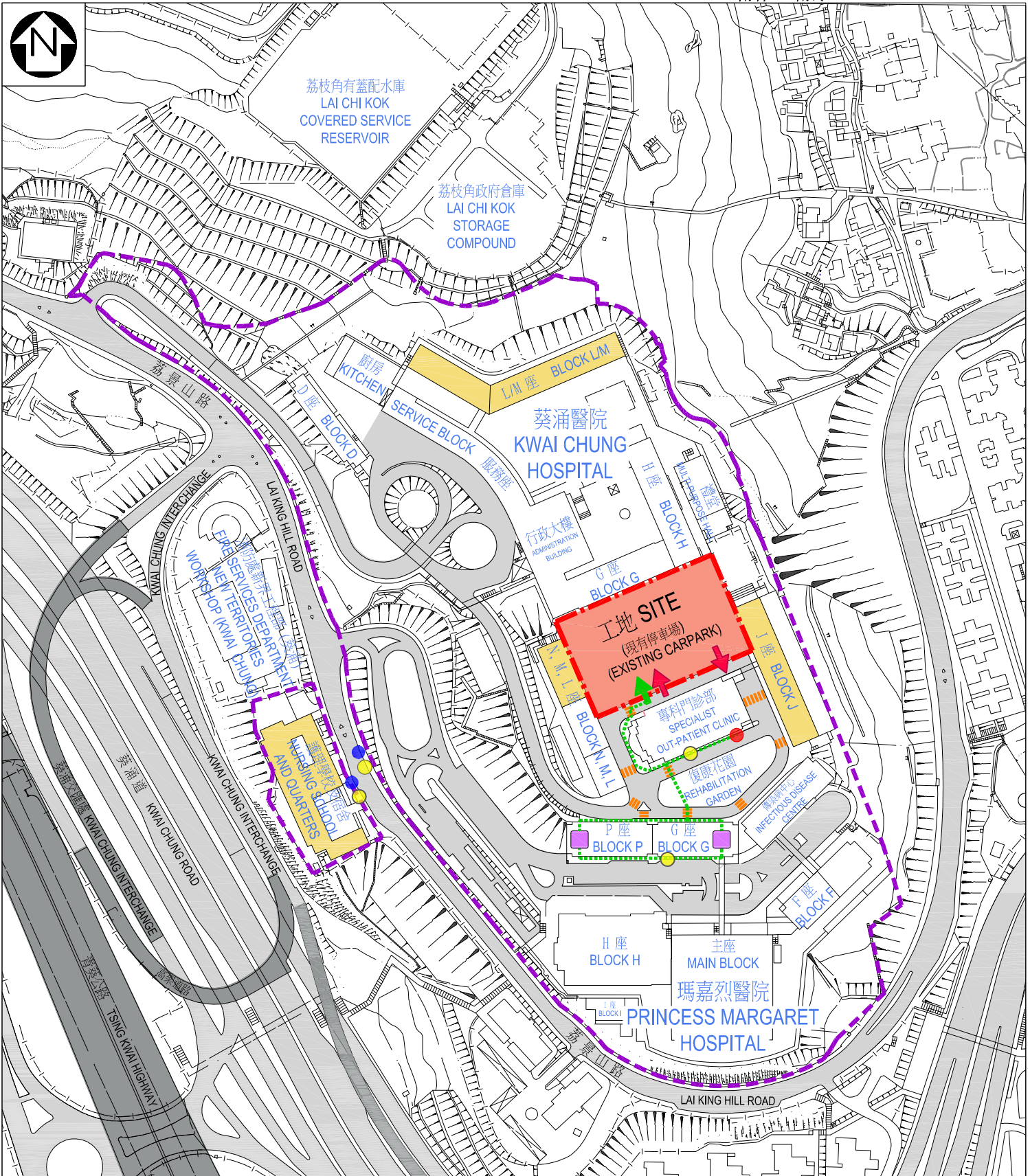
34. We estimate that the proposed works will create about 450 jobs (400 for labourers and 50 for professional or technical staff) providing a total employment of 7 500 man-months.

-----

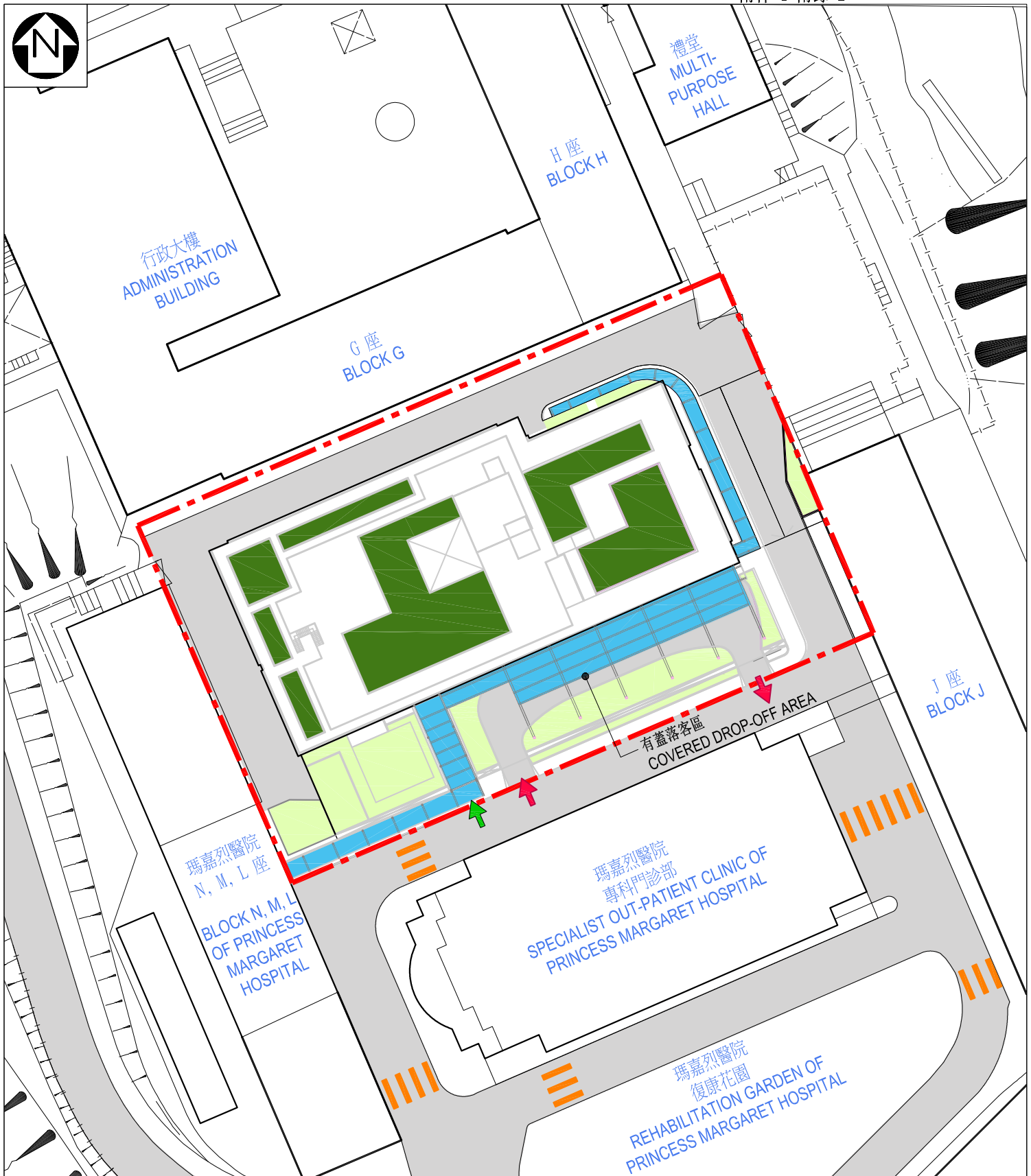
---

<sup>4</sup> “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance, e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of 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 curtail 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 or exceeding 25 m.



圖例 LEGEND			
調遷大樓工地範圍 SITE BOUNDARY FOR DECONTAMINATION BUILDING	無障礙通道 BARRIER-FREE ACCESS	● 現有巴士站 EXISTING BUS STOP	↑ 車輛出入口 VEHICULAR INGRESS / EGRESS
醫院範圍 HOSPITAL BOUNDARY	路面行人過路處 AT-GRADE PEDESTRIAN CROSSING	● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
翻新工程位置 LOCATIONS FOR RENOVATION WORKS	● 現有巴士站 EXISTING BUS STOP	● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
		● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
		● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
		● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT
		● 現有巴士站 EXISTING BUS STOP	↑ 無障礙出入口 BARRIER-FREE ENTRANCE / EXIT



圖例 LEGEND

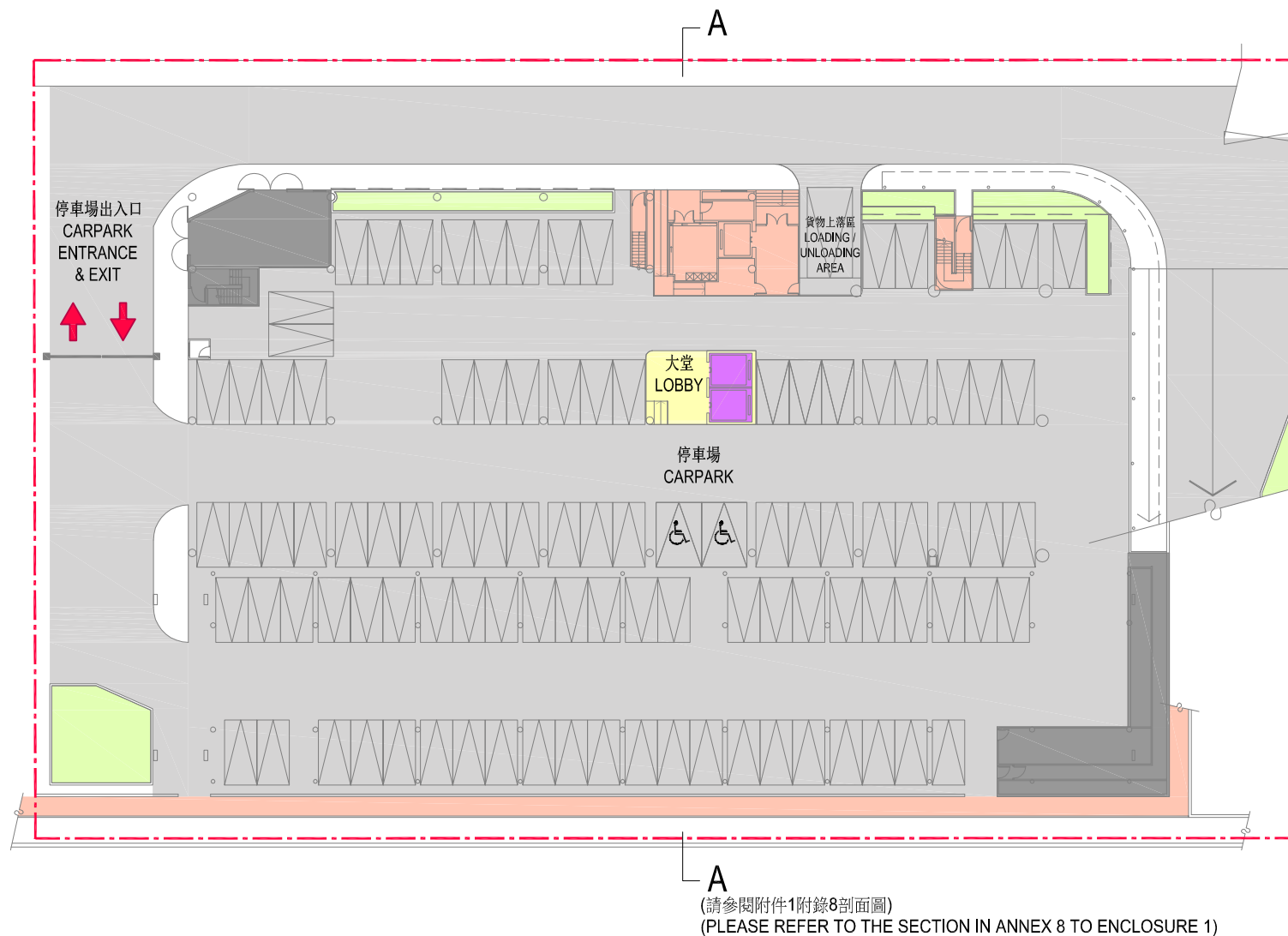
- |                                                       |                           |                                        |                           |
|-------------------------------------------------------|---------------------------|----------------------------------------|---------------------------|
| 調遷大樓工地範圍<br>SITE BOUNDARY<br>FOR DECANTATION BUILDING | 天台綠化<br>LANDSCAPED ROOF   | 車輛出入口<br>VEHICULAR INGRESS / EGRESS    | 有蓋行人通道<br>COVERED WALKWAY |
| 路面行人過路處<br>AT-GRADE PEDESTRIAN<br>CROSSING            | 地面綠化<br>AT-GRADE GREENING | 無障礙出入口<br>BARRIER-FREE ENTRANCE / EXIT |                           |

工地平面圖  
SITE PLAN

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署



圖例 LEGEND

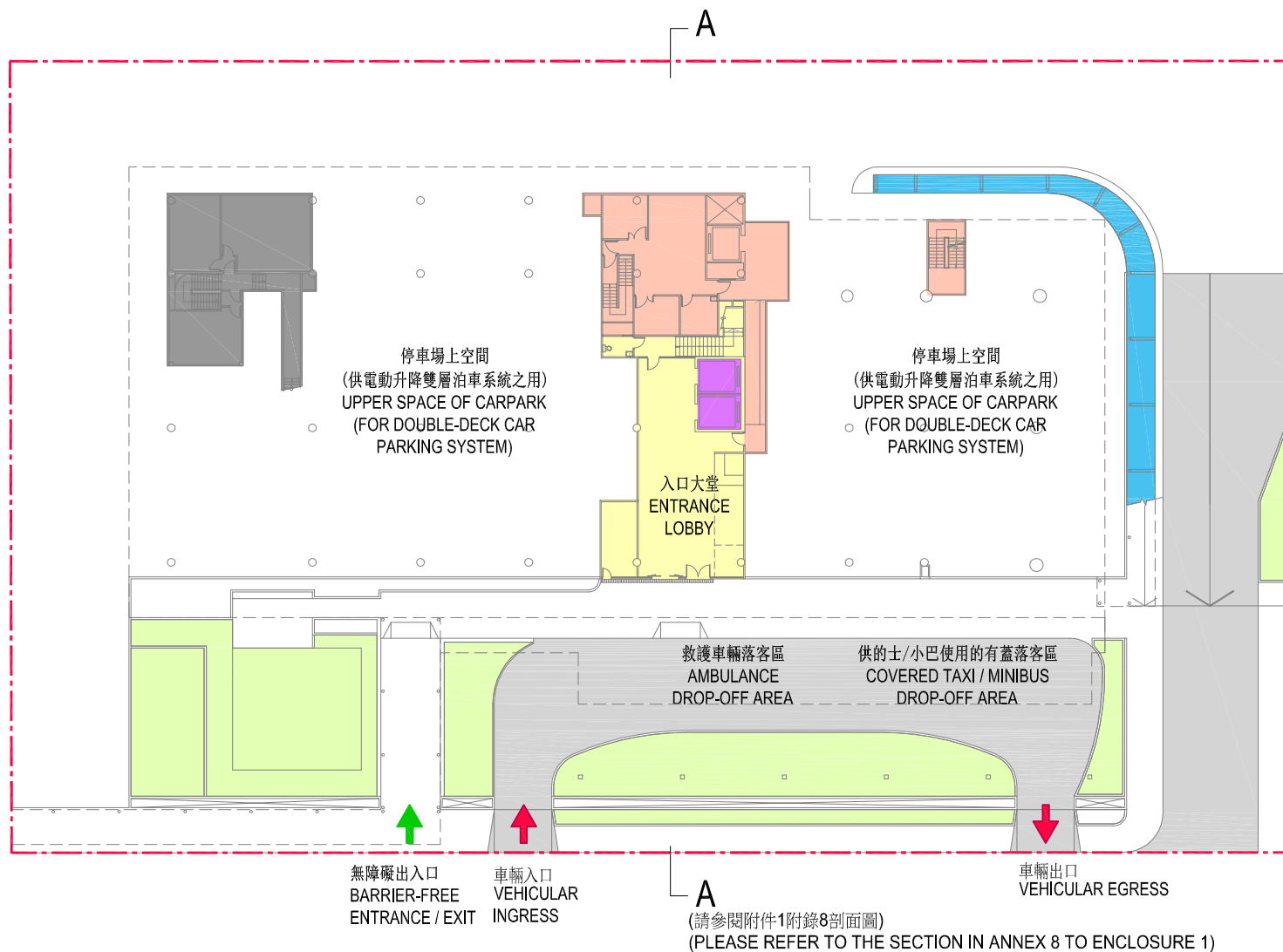
- |  |                                                       |  |                                        |  |                        |  |                       |  |                            |  |                      |  |                               |  |                                  |
|--|-------------------------------------------------------|--|----------------------------------------|--|------------------------|--|-----------------------|--|----------------------------|--|----------------------|--|-------------------------------|--|----------------------------------|
|  | 調遷大樓工地範圍<br>SITE BOUNDARY FOR<br>DECANTATION BUILDING |  | 車輛出入口<br>VEHICULAR<br>INGRESS / EGRESS |  | 公眾區域<br>PUBLIC<br>AREA |  | 員工區域<br>STAFF<br>AREA |  | 綠化範圍<br>LANDSCAPED<br>AREA |  | 機電房<br>PLANT<br>ROOM |  | 暢通易達升降機<br>ACCESSIBLE<br>LIFT |  | 暢通易達停車位<br>ACCESSIBLE<br>PARKING |
|--|-------------------------------------------------------|--|----------------------------------------|--|------------------------|--|-----------------------|--|----------------------------|--|----------------------|--|-------------------------------|--|----------------------------------|

調遷大樓地面平面圖  
FLOOR PLAN -  
DECANTATION BUILDING LEVEL 0

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署



圖例 LEGEND

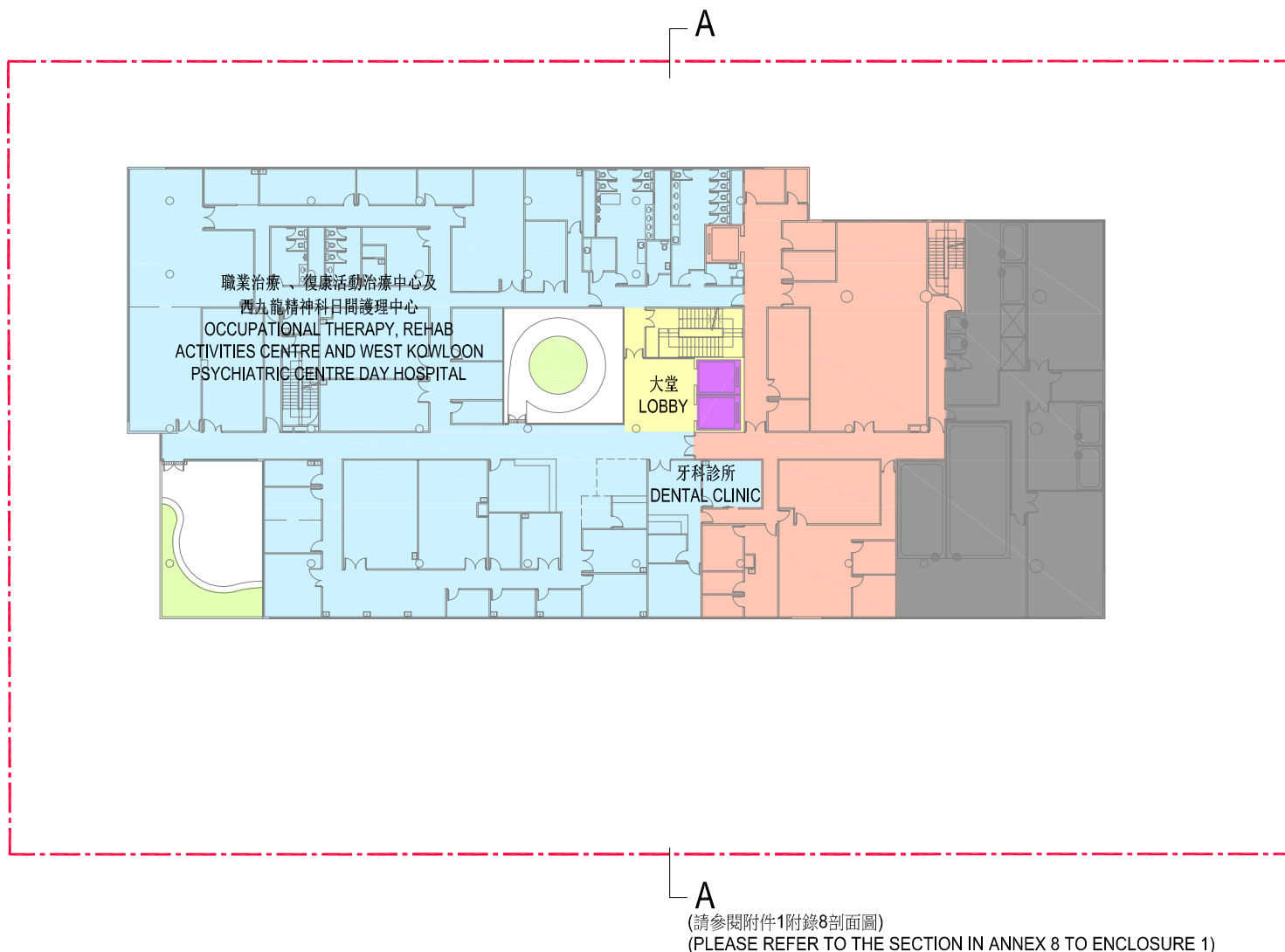
- |  |                                                       |  |                                           |  |                                        |  |                        |  |                       |  |                            |  |                      |  |                               |  |                              |
|--|-------------------------------------------------------|--|-------------------------------------------|--|----------------------------------------|--|------------------------|--|-----------------------|--|----------------------------|--|----------------------|--|-------------------------------|--|------------------------------|
|  | 調遷大樓工地範圍<br>SITE BOUNDARY FOR<br>DECANTATION BUILDING |  | 無障礙出入口<br>BARRIER-FREE<br>ENTRANCE / EXIT |  | 車輛出入口<br>VEHICULAR<br>INGRESS / EGRESS |  | 公眾區域<br>PUBLIC<br>AREA |  | 員工區域<br>STAFF<br>AREA |  | 綠化範圍<br>LANDSCAPED<br>AREA |  | 機電房<br>PLANT<br>ROOM |  | 暢通易達升降機<br>ACCESSIBLE<br>LIFT |  | 有蓋行人通道<br>COVERED<br>WALKWAY |
|--|-------------------------------------------------------|--|-------------------------------------------|--|----------------------------------------|--|------------------------|--|-----------------------|--|----------------------------|--|----------------------|--|-------------------------------|--|------------------------------|

調遷大樓一樓平面圖  
FLOOR PLAN -  
DECANTATION BUILDING LEVEL 1

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署



圖例 LEGEND

	調遷大樓工地範圍 SITE BOUNDARY FOR DECANTATION BUILDING		公眾區域 PUBLIC AREA		醫療區域 CLINICAL AREA		員工區域 STAFF AREA		綠化範圍 LANDSCAPED AREA		機電房 PLANT ROOM		暢通易達升降機 ACCESSIBLE LIFT
--	-------------------------------------------------------	--	---------------------	--	-----------------------	--	--------------------	--	-------------------------	--	-------------------	--	----------------------------

調遷大樓二樓平面圖

FLOOR PLAN -

DECANTATION BUILDING LEVEL 2

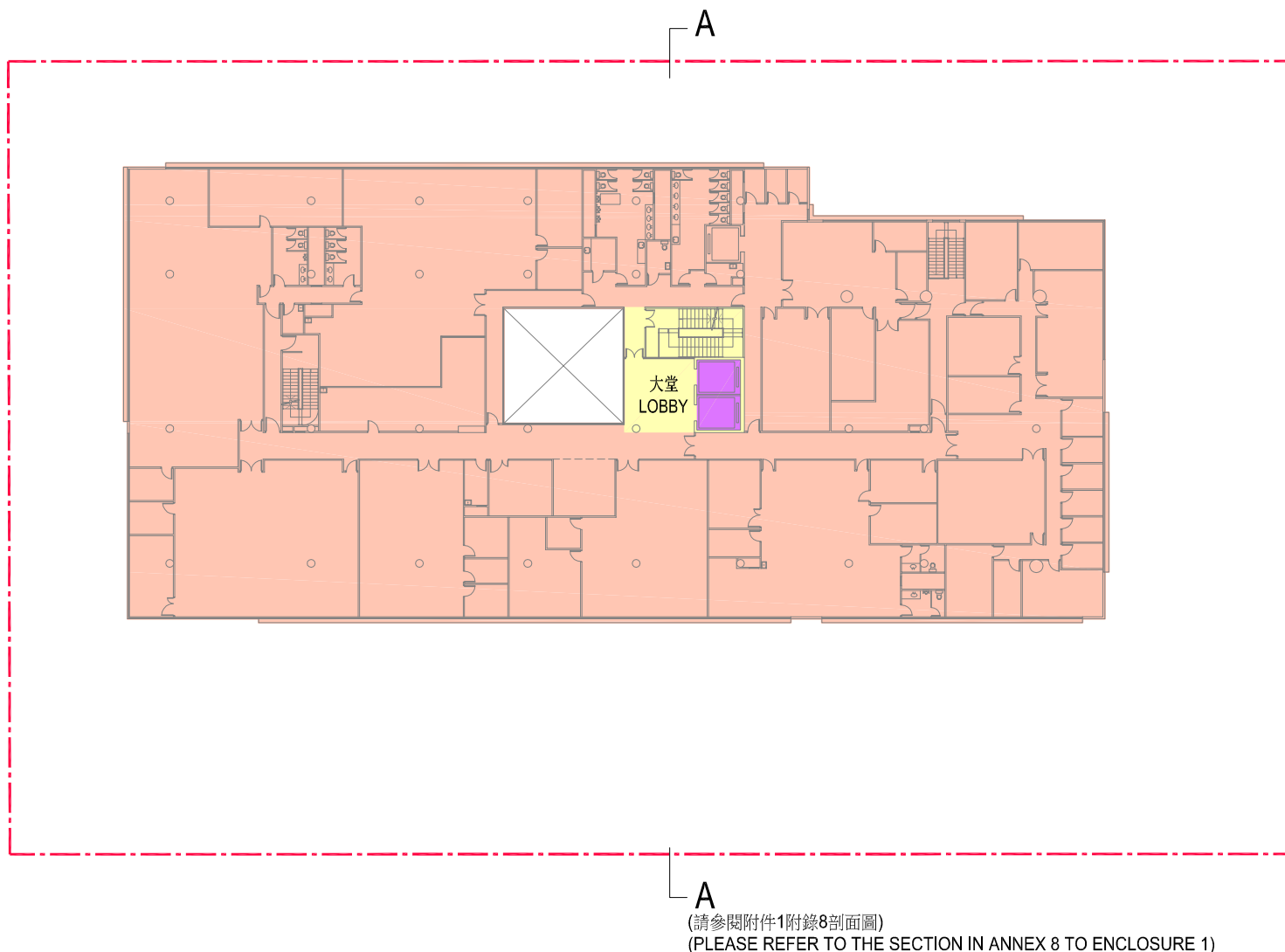
81MM

葵涌醫院重建工程

REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署



5m 0 10m

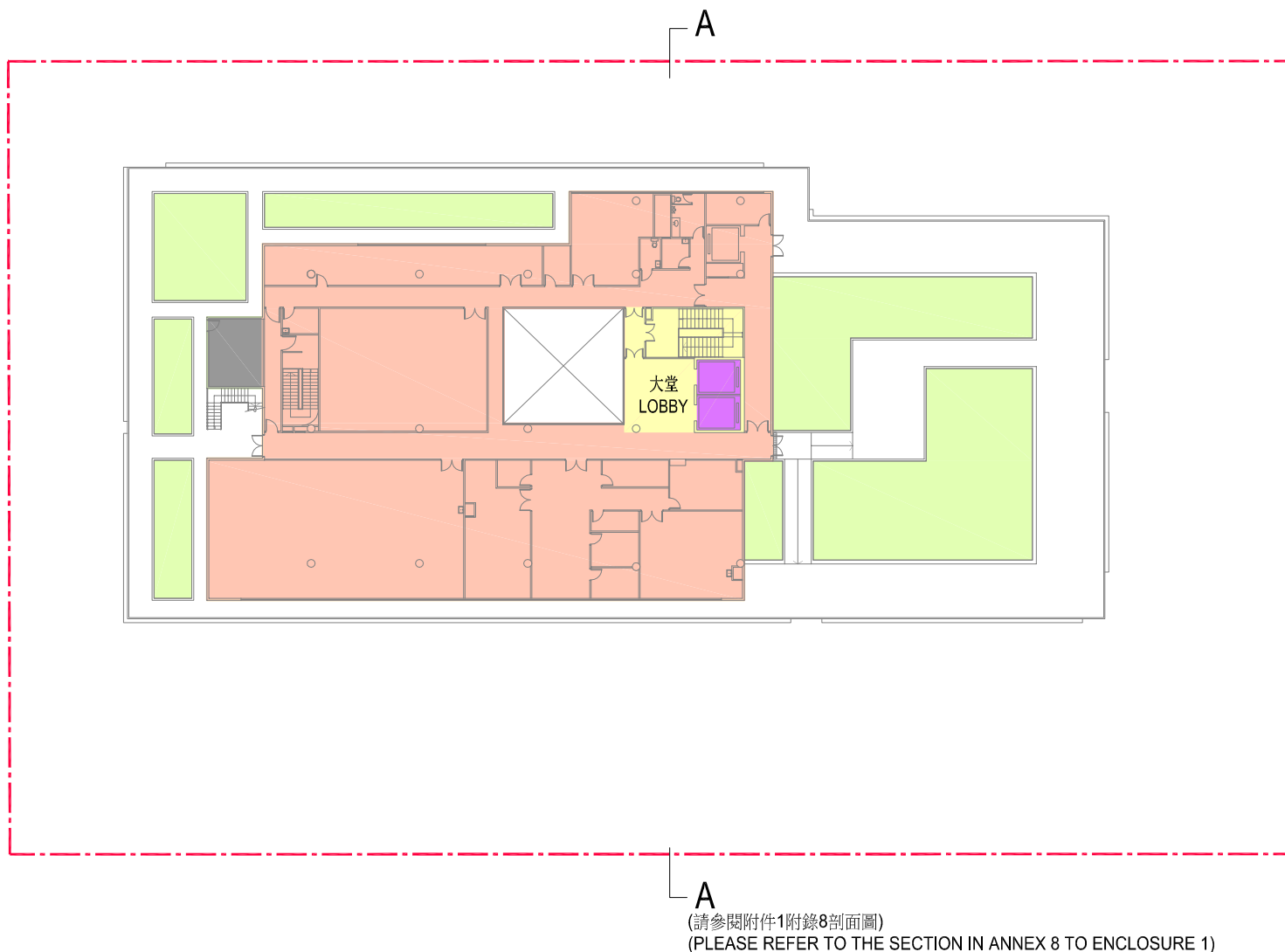
圖例 LEGEND	
	調遷大樓工地範圍 SITE BOUNDARY FOR DECANTATION BUILDING
	公眾區域 PUBLIC AREA
	員工區域 STAFF AREA
	暢通易達升降機 ACCESSIBLE LIFT

調遷大樓三樓平面圖  
FLOOR PLAN -  
DECANTATION BUILDING LEVEL 3

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL




ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署



圖例

LEGEND

- |                                                                                    |                                                       |                                                                                     |                     |                                                                                     |                    |                                                                                      |                         |                                                                                       |                   |                                                                                       |                            |
|------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|----------------------------|
|  | 調遷大樓工地範圍<br>SITE BOUNDARY FOR<br>DECANTATION BUILDING |  | 公眾區域<br>PUBLIC AREA |  | 員工區域<br>STAFF AREA |  | 綠化範圍<br>LANDSCAPED AREA |  | 機電房<br>PLANT ROOM |  | 暢通易達升降機<br>ACCESSIBLE LIFT |
|------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|----------------------------|

調遷大樓四樓平面圖  
FLOOR PLAN -  
DECANTATION BUILDING LEVEL 4

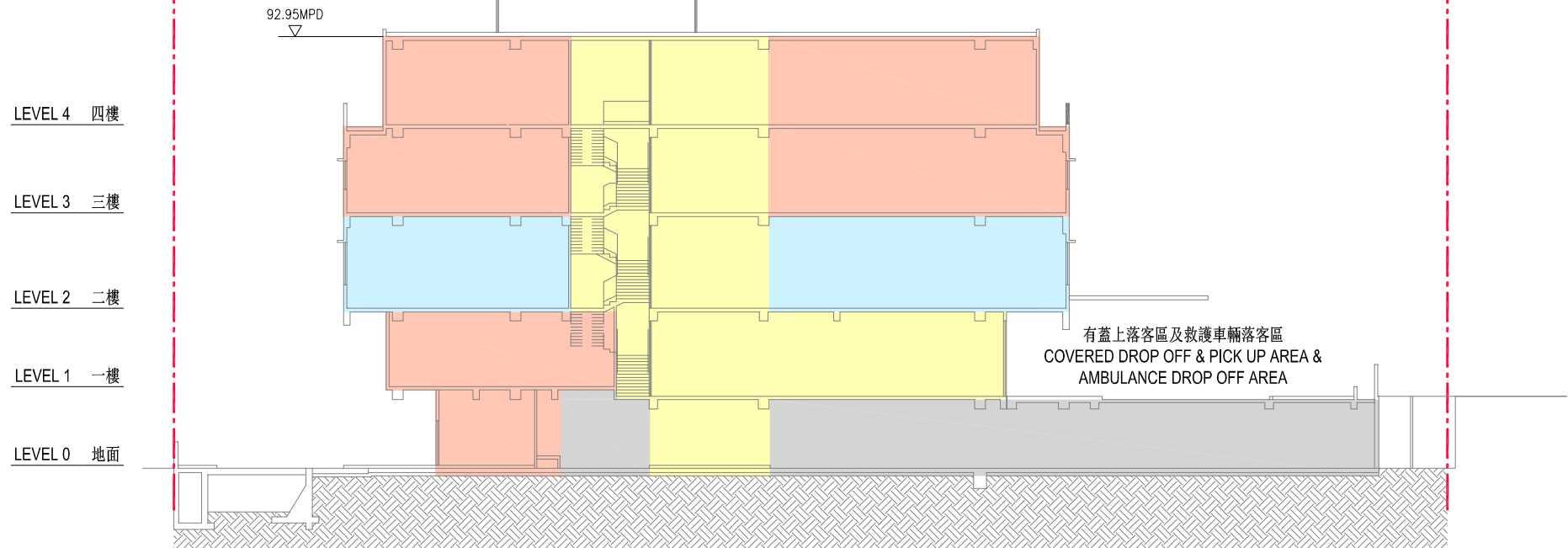
81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署

調遷大樓工地範圍  
SITE BOUNDARY FOR  
DECANTATION BUILDING

調遷大樓工地範圍  
SITE BOUNDARY FOR  
DECANTATION BUILDING



圖例 LEGEND	
調遷大樓工地範圍 SITE BOUNDARY FOR DECANTATION BUILDING	公眾區域 PUBLIC AREA
	醫療區域 CLINICAL AREA
	員工區域 STAFF AREA
	停車場 CARPARK

調遷大樓剖面圖 A-A  
DECANTATION BUILDING  
SECTION A-A

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



從南面望向調遷大樓的構思透視圖  
PERSPECTIVE VIEW FROM SOUTHERN  
DIRECTION (ARTIST'S IMPRESSION)

81MM  
葵涌醫院重建工程  
REDEVELOPMENT OF KWAI CHUNG HOSPITAL



ARCHITECTURAL  
SERVICES  
DEPARTMENT 建築署

## Annex 10 to Enclosure 1

### 81MM – Redevelopment of Kwai Chung Hospital

#### Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2015 prices)

			Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants' fee for					
	(i)	contract				
		administration <sup>(Note 2)</sup>	Professional –	–	–	9.4
			Technical –	–	–	9.4
					Sub-total	18.8
	(ii)	risk management	Professional 3	38	1.6	0.4
			Technical 12	14	1.6	0.5
					Sub-total	0.9
(b)	Resident site staff		Professional 14	38	1.6	1.7
	(RSS) costs <sup>(Note 3)</sup>		Technical 350	14	1.6	14.3
					Sub-total	16.0
Comprising –						
	(i)	Consultants' fees for management of RSS			1.4	
	(ii)	Remuneration of RSS			14.6	
<b>Total</b>						<b>35.7</b>

\* 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 supplied by the consultants (as at now, MPS salary point 38 = \$74,210 per month and MPS salary point 14 = \$25,505 per month).
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for provision of quantity surveying services. The assignment will only be executed subject to Finance Committee's approval to upgrade the project to Category A.
3. The actual man-months and actual costs will only be known after completion of the construction works.

**81MM – Redevelopment of Kwai Chung Hospital**

**Indicative list of furniture and equipment item  
with unit cost of \$1 million or above**

<b>Item description</b>	<b>Quantity</b>	<b>Unit cost (\$ million)</b>	<b>Total cost (\$ million)</b>
Double-deck Car Parking System <sup>1</sup>	1	7.9	7.9

---

<sup>1</sup> The double-deck car parking system comprises a total of 54 double-deck car parking units, providing a total of 108 car parking spaces.

## Redevelopment of Kwong Wah Hospital

### PROJECT SCOPE AND NATURE

The part of **13MD** that we propose to upgrade to Category A (i.e. demolition and substructure works for phase 1 redevelopment of Kwong Wah Hospital (KWH)) comprises –

- (a) demolition of four existing buildings, namely, South Wing of Main Hospital Building, Nurses Quarters, Administration Building and Chinese Medicine Clinical Research and Services Centre;
- (b) foundation works for the construction of phase 1 of the new hospital complex;
- (c) excavation and lateral support works for the construction of phase 1 of the new hospital complex;
- (d) other associated site works such as tree felling and utilities diversion works; and
- (e) consultancy services for contract administration and site supervision of the demolition and substructure works.

2. Site location plans showing the existing layout of KWH and the proposed demolition and substructure works for phase 1 of the redevelopment project are at Annexes 1 and 2 to Enclosure 2 respectively.

3. We plan to commence the demolition and substructure works for phase 1 of the redevelopment of KWH immediately after obtaining funding approval of the Finance Committee (FC) with a view to completing this part of the main works in late 2018. To meet the programme, the Hospital Authority (HA) invited tender in February 2016. The contract will only be awarded upon obtaining FC's funding approval.

4. We will retain the remaining part of **13MD** in Category B, which mainly covers –

- (a) construction of phase 1 of the new hospital complex;
- (b) demolition of the East and North Wings of the existing Main Hospital Building, Tung Wah Group of Hospitals (TWGHs) Yu Chun Keung Memorial Medical Centre and Staff Barracks for phase 2 of the redevelopment project;
- (c) foundation, excavation and lateral support works for the construction of phase 2 of the new hospital complex;
- (d) construction of phase 2 of the new hospital complex;
- (e) alteration and addition works to TWGHs Tsui Tsin Tong Out-patient Building (TTT OPB); and
- (f) landscaping and road works.

5. Funding for the remaining part of the redevelopment project will be sought later to dovetail with the implementation programme. Subject to subsequent funding approval of the FC, we aim to complete the whole redevelopment project in 2025 tentatively.

## JUSTIFICATION

6. At present, the HA provides public hospital services to the Kowloon West cluster (KWC) (covering Sham Shui Po, Mongkok, Wong Tai Sin, Kwai Tsing, Tsuen Wan and Lantau Island districts) through eight hospitals including the KWH. According to the latest projection of the Planning Department, the population covered by KWC would increase from 1 941 700 in 2014 to 2 012 900 in 2024, representing an increase of 4%. The percentage of population aged 65 or above will increase from 16% in 2014 to 23% in 2024. The population growth, specifically the increase in elderly population, will increase healthcare services need in the KWC.

7. KWH was established in 1911. It is one of the five major acute hospitals in KWC with 114 000 square metres (m<sup>2</sup>) in construction floor area (CFA) providing 1 200 in-patient beds and offering a comprehensive range of acute, ambulatory, extended care and community medical services. The majority of the KWH buildings were built over 50 years ago, with outdated building services installations, deteriorating structural conditions and inadequate space provision for meeting nowadays' services demand. Located in a densely populated area, KWH is one of the busiest hospitals in HA. In 2014-15, there were around 98 000 inpatient and day inpatient discharges and deaths, and around 361 000 specialist outpatient clinical attendances at the KWH, accounting for 6% and 5% respectively of that for all HA hospitals. The extremely heavy utilisation has accelerated the deterioration of its facilities. HA proposes to conduct a comprehensive redevelopment of KWH to cope with the anticipated growth in medical service demand meeting today's standards. Upon completion of phases 1 and 2 of the redevelopment, the redeveloped KWH will be around 270 000 m<sup>2</sup>, i.e. 137% higher than the existing CFA.

8. The proposed redevelopment of KWH can augment the role of KWH as a major acute hospital in KWC. The project involves demolition of existing hospital buildings and construction of a new complex. All existing hospital buildings of KWH, except the TWGHs TTT OPB which was built only in 1999 and the Tung Wah Museum which is a declared monument (DM), will be demolished. Apart from an expanded Accident and Emergency (A&E) department, the in-patient services of the redeveloped KWH will be considerably strengthened. Adequate isolation facilities will be provided, critical care services aligned and access to diagnostic and treatment facilities improved in the new hospital complex. Upon completion of both phases of the redevelopment, we aim to provide an additional 350 beds, 10 additional operating theatres and six haemodialysis day beds. The annual capacity of specialist outpatient clinic attendances will also be increased by 255 600 to around 600 000 upon redevelopment.

9. The KWH redevelopment project is planned to embrace the philosophy of ambulatory care as a new model of service delivery. Ambulatory care services will be delivered among different clinical specialities in a patient-oriented setting with a view to reducing the need for hospitalisation. New medical oncology services including front-line management, consultation services and chemotherapy programmes will be provided. Other services including clinical pathology, allied health, business support and staff facilities will also be enhanced and expanded. The redeveloped KWH will also accommodate the reprovisioned facilities of Chinese medicine services and preventive care services currently run by the TWGHs, including its integrated Chinese and western medicine in-patient accommodation with over 50 self-financed beds.

10. The preparatory works for phase 1 of the redevelopment project commenced in early 2013 have now been largely completed as scheduled. Particular efforts were made to review and enhance the preliminary design to incorporate detailed user requirements for meeting clinical needs and maximising site utilisation. The total CFA of the new hospital complex after review has therefore been increased from 200 000 m<sup>2</sup> in the preliminary design stage by 35% to around 270 000 m<sup>2</sup>. Details of the additional and enhanced patient services that HA can provide with an expanded complex is at Annex 3 to Enclosure 2.

11. KWH will remain functional at all times during the demolition and substructure works. Any disruption of services, if unavoidable, will be kept to a minimum. During demolition of the four blocks, the affected facilities and services will be temporarily relocated either to other existing hospital buildings or offsite<sup>1</sup>. The respective schedules for services that will be available at phases 1 and 2 of the new hospital complex of the redeveloped KWH are at Annex 4 to Enclosure 2.

## FINANCIAL IMPLICATIONS

12. HA, in consultation with the Director of Architectural Services, estimates the cost of the proposed demolition and substructure works for phase 1 of the redevelopment of KWH to be \$654.8 million in money-of-the-day (MOD) prices (please see paragraph 14 below), broken down as follows –

		<b>\$ million</b>
(a)	Demolition works	70.3
(b)	Piling and foundation works	62.7
(c)	Excavation and lateral support works	335.0
(d)	Associated site works including tree felling and utilities diversion works	25.2
		<b>/\$ million .....</b>

<sup>1</sup> Non-clinical facilities such as administration, supporting and storage are temporarily reprovisioned to a decanting building in Kowloon Hospital. Chinese medicine outpatient services will be relocated to nearby premises owned by TWGHs for continued services.

		<b>\$ million</b>	
(e)	Consultants' fees for	12.6	
	(i) contract administration	12.2	
	(ii) management of resident site staff (RSS)	0.4	
(f)	Remuneration of RSS	10.8	
(g)	Contingencies	50.0	
	Sub-total	566.6	(in September 2015 prices)
(h)	Provision for price adjustment	88.2	
	Total	654.8	(in MOD prices)

13. Due to insufficient in-house resources, we propose to engage consultants to undertake contract administration and construction supervision for the demolition and substructure works for phase 1 of the redevelopment of KWH. A detailed breakdown of the estimates for consultants' fees and resident site staff costs by man-months is at Annex 5 to Enclosure 2.

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

<b>Year</b>	<b>\$ million (Sept 2015)</b>	<b>Price adjustment factor</b>	<b>\$ million (MOD)</b>
2016 – 2017	80.0	1.05775	84.6
2017 – 2018	210.3	1.12122	235.8
2018 – 2019	216.2	1.18849	257.0
2019 – 2020	38.1	1.25980	48.0
2020 – 2021	22.0	1.33539	29.4
	566.6		654.8

15. HA has 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 2016 to 2021. Since the scope of works can be clearly defined in advance, HA will award the contract on a lump-sum basis. The contract will provide for price adjustment.

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

## **PUBLIC CONSULTATION**

17. We consulted the Yau Tsim Mong District Council (YTMDC) on the project on 12 January 2012 and updated YTMDC on the current status of the project on 25 June 2015. Members of the YTMDC supported the project.

18. We consulted the Legislative Council Panel on Health Services on 15 February 2016. While Members supported the project, they requested the Government to provide details on the enhanced patient services to be provided at the redeveloped KWH due to a 35% increase of its CFA from the preliminary design to the detailed design stage and also the respective schedule for services available at, phase one and phase two of the new hospital complex of the redeveloped KWH. The requested information is at Annexes 3 and 4 to Enclosure 2 respectively.

## **ENVIRONMENTAL IMPLICATIONS**

19. The KWH redevelopment project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). HA has completed the Preliminary Environmental Review (PER) for the project which covers the proposed demolition and substructure works as stated in paragraph 1, and the remaining construction works as stated in paragraph 4. 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.

20. For the proposed demolition and substructure works, HA will incorporate into the works contract the mitigation measures recommended in the PER in order to ensure that the environmental impacts arising from the demolition and substructure works are within established standards and guidelines. These measures include the use of silenced construction plants and temporary noise barriers for noisy demolition and construction activities, the use of scaffolding mounted acoustic mat to minimise noise impacts generated during building demolition, avoiding noisy demolition and construction activities during examination periods of the nearby educational institutions, frequent cleaning and watering of the site, and the provision of wheel-washing facilities, etc. Provisions will also be included in the contract to require the contractor to implement necessary measures to prevent causing disturbance and nuisance to the nearby sensitive receivers including educational institutions. 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<sup>2</sup>. 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. 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.....

---

<sup>2</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

23. HA estimates that the project will generate in total 305 800 tonnes of construction waste. Of these, HA will reuse 3 060 tonnes (1%) of inert construction waste on site and deliver 276 750 tonnes (90.5%) of inert construction waste to public fill reception facilities for subsequent reuse. HA will dispose of the remaining 25 990 tonnes (8.5%) 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 \$10.7 million for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

## HERITAGE IMPLICATIONS

24. The Tung Wah Museum is a Declared Monument (DM) which is near to the project site boundary. Pursuant to the Development Bureau Technical Circular (Works) No. 6/2009, this project is subject to a Heritage Impact Assessment (HIA). HA has carried out a HIA to assess the effect of the redevelopment project on the DM and devised measures to mitigate the impacts concerned. The HIA report was considered by the Antiquities and Monuments Office (AMO) of the Leisure and Cultural Services Department which raised no objection to the report. We then consulted the Antiquities Advisory Board (AAB) on the HIA report at its meeting on 4 June 2015 and members were generally supportive of the findings of the HIA. We will ensure that the construction works and future maintenance will comply with the mitigation measures, recommendations and requirements stipulated in the HIA report. In case of any amendments to the recommended mitigation measures, recommendations and requirements stipulated in the HIA report, we will further consult the AMO and the AAB as necessary to formulate additional mitigation measures to ensure that any possible impact on the heritage site is acceptable from the conservation perspective.

## LAND ACQUISITION

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

## BACKGROUND INFORMATION

26. We upgraded **13MD** to Category B in September 2010.

27. In February 2013, the FC approved upgrading part of **13MD** as **14MD** “Redevelopment of Kwong Wah Hospital – preparatory works” at an estimated cost of \$552.7 million in MOD prices for preparatory works including site surveys and investigations, decanting works and consultancy services for outline sketch plans, detailed design, as well as tender documentation and assessment for the main works. HA started preparatory works in March 2013 and completed the site surveys and investigations as well as decanting works in 2015 as scheduled. The detailed design and tender preparation for demolition and substructure works for phase 1 of the new hospital complex have been completed in November 2015 while detailed design for the remaining parts of the redevelopment project is underway.

28. The proposed works will involve removal of 58 trees including 44 trees to be felled and 14 trees to be transplanted elsewhere. All of the trees to be removed are not important trees<sup>3</sup>. We will incorporate planting proposals as part of the whole redevelopment project, including estimated quantities of 46 trees, 8 000 shrubs and 300 m<sup>2</sup> of grassed area.

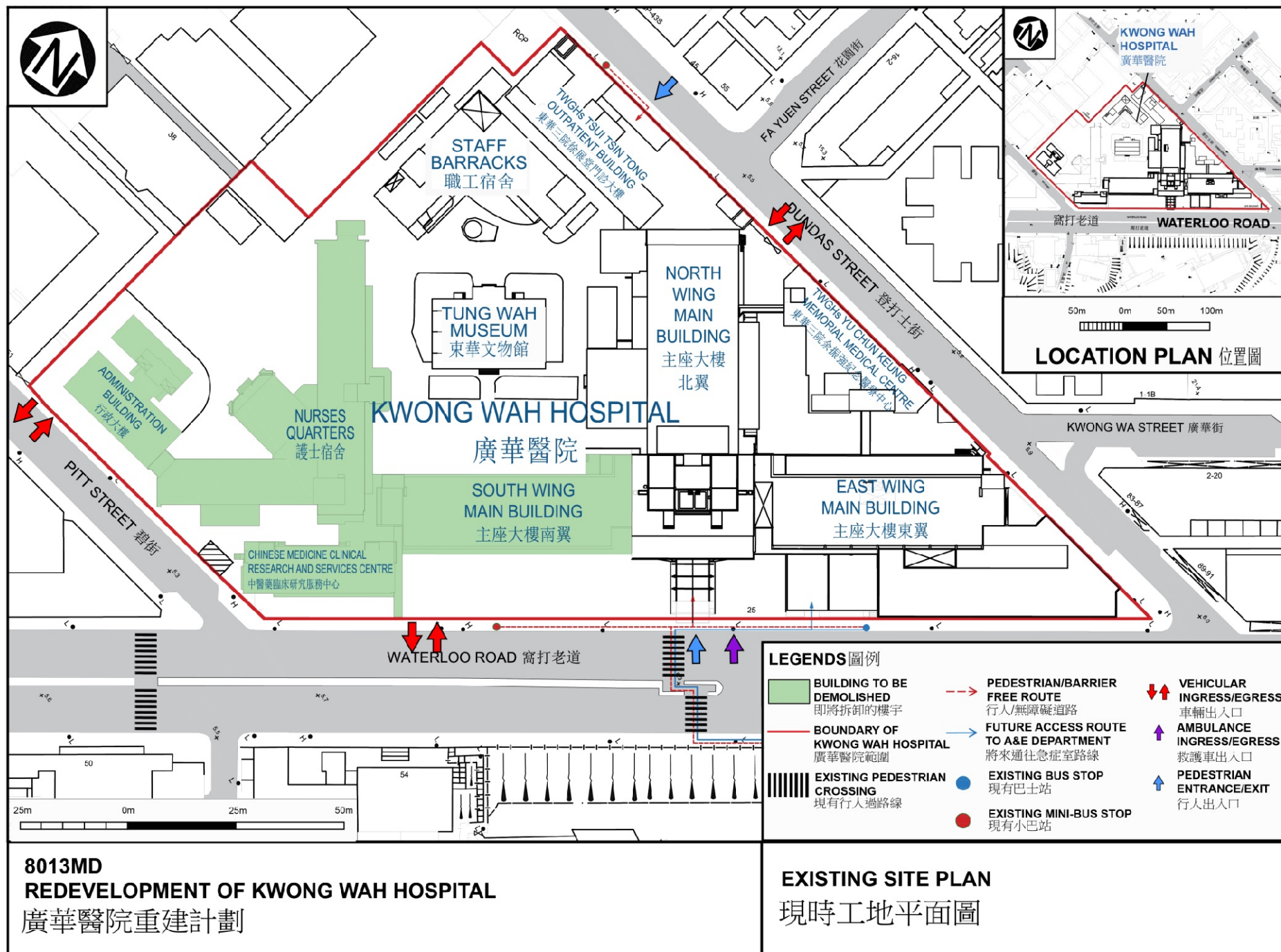
29. We estimate that the proposed demolition and substructure works will create 250 jobs (220 for labourers and another 30 for professional or technical staff) providing a total employment of around 3 800 man-months.

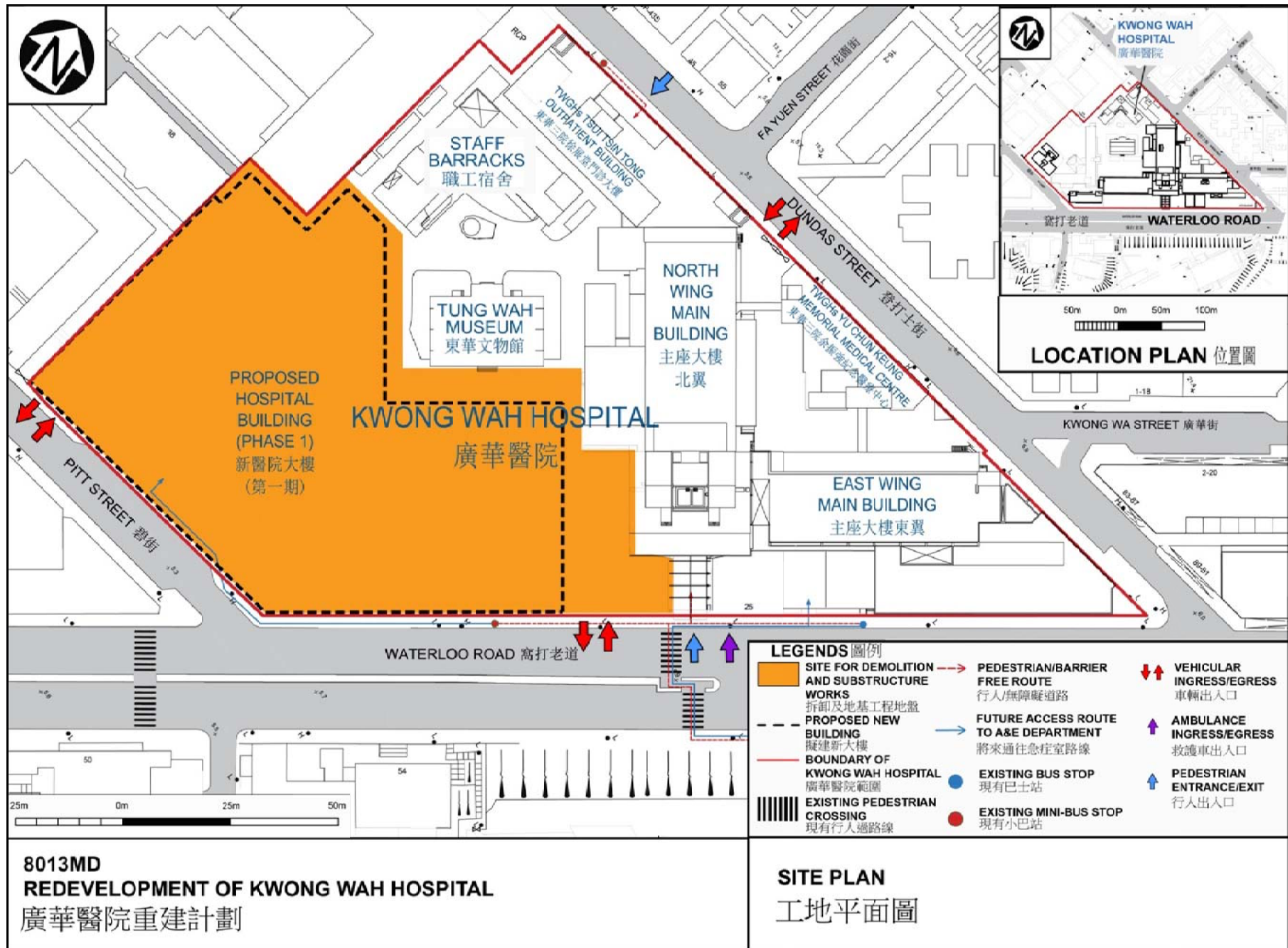
-----

---

<sup>3</sup> “Important trees” refers to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui trees, trees as landmark of monastery or heritage monument, and trees in memory of 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.





**13MD (Part) – Redevelopment of Kwong Wah Hospital**

**Additional and enhanced patient services to be provided  
in the expanded KWH complex**

- (a) In-patient accommodation will be further expanded from 6.5 m<sup>2</sup> per bed cubicle to 7.5 m<sup>2</sup> per bed cubicle to provide additional space provision for patient bed cubicles to ensure a safe and comfortable ward environment particularly for bed-side clinical care activities and infection control.
- (b) Ambulatory care centre will be further expanded to provide additional facilities including a total of 350 additional day beds.
- (c) Specialist out-patient department will be further expanded to increase patient throughput by 255 600 additional annual attendance to provide a total of around 600 000 annual attendance.
- (d) Area for diagnostic and radiology services will be further expanded to provide additional facilities including eight procedural rooms.
- (e) Operating theatres and associated supporting facilities will be further expanded to meet operational needs. A total of 10 additional operating theatres will be provided.

### 13MD (Part) – Redevelopment of Kwong Wah Hospital

#### Facilities to be provided upon completion of phase 1 and phase 2 construction tentatively planned for 2025

KWH new complex (upon completion of Phase 1)	KWH new complex (upon completion of Phase 2)
<ul style="list-style-type: none"> <li>• In-patient accommodation with around 1 000 patient beds including in-patient and day-patient service as well as an emergency medicine ward and isolation facilities</li> <li>• Accident and Emergency Department</li> <li>• Intensive Care Unit or High Dependency Unit for Critical care service</li> <li>• Ambulatory care centre to provide haemodialysis, day surgery, endoscopy, day obstetrics and gynaecology, and day paediatrics, etc.</li> <li>• Specialist Out-patient Department with 44 consultation rooms</li> <li>• Allied health services</li> <li>• Eight major operating theatres</li> <li>• Eight labour and delivery rooms</li> <li>• One cardiac catheterization procedure room</li> <li>• Diagnostic and radiological service with 13 procedural rooms</li> <li>• TWGHs Chinese Medicine services and preventive care services</li> </ul>	<ul style="list-style-type: none"> <li>• In-patient accommodation with around 1 550 patient beds (viz. an additional 350 beds compared with the existing 1 200 beds) including in-patient and day-patient service as well as an emergency medicine ward and isolation facilities</li> <li>• Accident and Emergency Department</li> <li>• Intensive Care Unit or High Dependency Unit for Critical care service</li> <li>• Ambulatory care centre to provide haemodialysis, day surgery, endoscopy, day obstetrics and gynaecology, and day paediatrics and chemotherapy day centre for medical oncology service</li> <li>• Specialist Out-patient Department with 100 consultation rooms</li> <li>• Allied health services</li> <li>• 12 major operating theatres</li> <li>• Six operating theatres for day surgery service</li> <li>• Two operating theatres in labour and delivery service</li> <li>• 12 labour and delivery rooms</li> <li>• One cardiac catheterization procedure room</li> <li>• Diagnostic and radiological service with 21 procedural rooms</li> <li>• TWGHs Chinese Medicine services and preventive care services and Integrated Chinese and Western medicine in-patient accommodation with 50 self-financed beds</li> </ul> <div style="position: relative; margin-left: 400px;"> <div style="position: absolute; top: 50%; left: -20px;">} (viz. an additional 10 operating theatres compared with the existing 10 operating theatres)</div> </div>

#### Notes

1. Having regard to factors such as manpower situation, demand for services and actual circumstances as appropriate, KWH will formulate a more concrete facility/service commissioning schedule nearer to the completion of the new hospital complex phase 1 and phase 2.
2. KWH will continue to provide general out-patient service in TWGHs Tsui Tsin Tong Out-patient Building throughout the redevelopment period.

### 13MD (Part) – Redevelopment of Kwong Wah Hospital

#### Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2015 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	-	-	-	9.8
		Technical	-	-	-	2.4
Sub-total						12.2
(b)	Resident site staff (RSS) costs (Note 3)	Professional	32	38	1.6	3.8
		Technical	182	14	1.6	7.4
Sub-total						11.2
Comprising –						
(i)	Consultants' fees for management of RSS				0.4	
(ii)	Remuneration of RSS				10.8	
Total						23.4

\* 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 supplied by the consultants (as at now, MPS salary point 38 = \$74,210 per month and MPS salary point 14 = \$25,505 per month).
2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for preparatory works of **13MD**. The construction phase of the assignment will only be executed subject to Finance Committee's approval to upgrade part of **13MD** to Category A.
3. The actual man-months and actual fees will only be known after completion of the construction works.

## Expansion of Haven of Hope Hospital

### PROJECT SCOPE AND NATURE

The scope of **3ML** comprises –

- (a) construction of a new hospital block erected over the slope on the east of the existing main block for re-provisioning of 116 infirmary beds from three existing hospital blocks, providing 160 additional extended care beds, accommodating a day medical and rehabilitation centre (DMRC) and an integrated carers' support centre (ICSC);
- (b) demolition of the three existing hospital buildings which accommodate all infirmary wards at Haven of Hope Hospital (HHH);
- (c) construction of two pedestrian link bridges between the new hospital block and the existing main block;
- (d) building services and structural provisions in the new hospital block to cater for future vertical extension;
- (e) alteration and addition works to areas in the existing main block which will be affected by the proposed construction of the two pedestrian link bridges, such as the boiler room and staff room; and
- (f) provision of associated external and landscaping works.

2. The site plan showing the location of construction works at HHH is at Annex 1 to Enclosure 3. The floor plans, sectional drawings and artist's impression of the proposed new block are at Annexes 2 to 10 to Enclosure 3.

3. We plan to commence the proposed works immediately after obtaining the funding approval of the Finance Committee (FC) for completion in the third quarter of 2021. To meet the programme, the Hospital Authority (HA) invited tender on 10 March 2016. The contract will only be awarded upon obtaining FC's funding approval. HHH will remain functional at all times during the works and any disruption of services, if unavoidable, will be kept to a minimum.

/JUSTIFICATION .....

**JUSTIFICATION**

4. HHH was established in 1955. Being one of the three HA hospitals in the KEC, it mainly provides healthcare services for residents in Kwun Tong and Sai Kung (including Tseung Kwan O) districts. HHH specialises in geriatric, pulmonary and palliative services, and is the key provider of sub-acute, convalescent, rehabilitation and infirmary services in KEC. The utilisation of HHH's services has been consistently high. The inpatient bed occupancy rate was over 90% in 2014-15, as compared to the figure of 85% for all HA hospitals.

5. According to the latest projection of the Planning Department, the population in the Kwun Tong and Sai Kung districts would increase from 1 097 000 in 2014 to about 1 221 500 in 2024, representing an increase of 11%. The percentage of population aged 65 or above in the two districts would increase from 15% in 2014 to 20% in 2024. There is a need to expand HHH's service capacity to cope with the rising service demand.

*Outdated design and unsatisfactory building conditions*

6. The existing infirmary wards at HHH are accommodated in three hospital buildings, namely the Grace Ward, Blessing Ward and Harmony Ward. These buildings, built in the 1950s, were renovated in 1998. After 18 years of use, the physical conditions of these buildings have become dilapidated. The facilities therein are outdated and cannot cope with the modern service requirements. Costly maintenance and repairment are required. Furthermore, frequent decanting of patients caused by maintenance works has affected the patients and created additional workload to staff.

7. The existing infirmary buildings are not connected with each other and are located on a slope far away from the hospital main block. Transportation of patients and equipment to and from the main block or among the three buildings is inconvenient and has posed safety risks for both patients and hospital staff. The lack of linked bridges among the buildings also affects the operational efficiency of HHH and undermines the flexibility in deploying beds between wards during peak admission seasons.

*/Enhancement .....*

*Enhancement of service capacity and operational efficiency*

8. In line with the commitment in the 2013 Policy Address to strengthen longer-term and rehabilitation services for elderly people suffering from chronic diseases, we propose to provide 160 additional extended care beds at the expanded HHH. We further propose to expand the clinical, supporting and ancillary facilities in the expanded HHH to support additional inpatient care services. We will reprovision the 116 infirmary beds at the existing three aged hospital buildings to the new block, and provide two link bridges between the new block and the existing main block. Patients, particularly those with complex medical and nursing needs would be better supported by the clinical services provided at the existing main block.

*Establishment of a DMRC and ICSC to meet service demand*

9. With an ageing population, the focus of healthcare provision in Hong Kong has shifted from acute episodic illnesses to chronic disabling and relapsing illnesses. It is also an international trend to develop ambulatory and community care with a view to reducing unnecessary hospitalisation.

10. We propose to set up a new hospital-based DMRC at the new block in HHH with the aim of reducing unnecessary hospitalisation and premature institutionalisation. The proposed DMRC, with an estimated number of 11 000 annual attendances, will provide out-patient consultation, day medical procedures and day rehabilitation services for patients. Rehabilitation training to patients will also be provided at the DMRC.

11. Volunteers and non-medical caregivers are important partners of healthcare professionals in providing support and ambulatory care to the disabled and the frail, as well as hospital discharges. To strengthen this partnership, a new ICSC, with an estimated number of 3 000 annual referrals from the inpatient service, will be established at the new block to provide information on healthcare resources, training, support groups and professional psychosocial support for carers and volunteers in the community. This one-stop service and information centre will also serve as a base of development and operation of the community volunteer support network, which consists of volunteers of the hospital and non-governmental organisations for post-discharged patients.

**/FINANCIAL .....**

**FINANCIAL IMPLICATIONS**

12. HA, in consultation with the Director of Architectural Services, estimates the cost of the proposed works to be \$2,116.0 million in money-of-the-day (MOD) prices (please see paragraph 15 below), of which \$2,073.0 million will be funded by the Government (please see paragraph 14 below), broken down as follows –

	<b>\$ million</b>
(a) Site works and demolition	3.2
(b) Piling and foundation works	142.9
(c) Site formation works	108.7
(d) Building works <sup>1</sup>	554.3
(e) Building services works <sup>2</sup>	364.9
(f) Building and building services works of provision for future vertical extension	16.0
(g) Drainage works	15.4
(h) External works and soft landscaping works	50.1
(i) Additional energy conservation, green and recycled measures	30.0
(j) Furniture and equipment (F&E) <sup>3</sup>	122.3

**/\$ million .....**

---

<sup>1</sup> Building works comprise construction of the substructure and superstructure of the building.

<sup>2</sup> Building services works comprise electrical installations, ventilation and air-conditioning, fire services installation and lifts, etc.

<sup>3</sup> Based on an indicative list of F&E items at Annex 12 to Enclosure 3 and their estimated prices.

		\$ million	
(k)	Consultants' fees for	15.4	
	(i) contract administration	14.8	
	(ii) management of resident site staff (RSS)	0.6	
(l)	Remuneration of RSS	40.0	
(m)	Contingencies	129.9	
	Sub-total	1,593.1	(in September 2015 prices)
(n)	Provision for price adjustment	522.9	
	Total	2,116.0	(in MOD prices)

13. Due to insufficient in-house resources, HA will engage consultants to undertake contract administration and supervision for the construction works. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at Annex 11 to Enclosure 3. The construction floor area (CFA) of the proposed new block is about 36 400 square metres (m<sup>2</sup>). The estimated construction unit cost represented by the building and the building services costs is \$25,692 per m<sup>2</sup> of CFA in September 2015 prices. We consider this unit cost reasonable as compared with that of similar projects.

14. Haven of Hope Christian Service (HOHCS), the parent organisation of HHH, has undertaken to contribute \$43.0 million in MOD prices towards the capital cost of the project. The Government will fund the remaining commitment of \$2,073.0 million in MOD prices for this project, calculated as follows –

		\$ million	
(a)	Total capital cost	2,116.0	
(b)	Contribution from HOHCS	(43.0)	
	Total commitment sought	2,073.0	(in MOD prices)

15. Subject to funding approval, HA will phase the expenditure as follows –

Year	\$ million (Sept 2015)		Price adjustment factor	\$ million (MOD)	
	Funded under 3ML	Total construction cost		Funded under 3ML	Total construction cost
2016 – 17	0.0	27.4	1.05775	0.0	29.0
2017 – 18	110.5	123.0	1.12122	123.9	137.9
2018 – 19	324.5	324.5	1.18849	385.7	385.7
2019 – 20	376.0	376.0	1.25980	473.7	473.7
2020 – 21	213.6	213.6	1.33539	285.2	285.2
2021 – 22	92.0	92.0	1.40549	129.3	129.3
2022 – 23	155.5	155.5	1.47577	229.5	229.5
2023 – 24	139.7	139.7	1.54956	216.5	216.5
2024 – 25	141.4	141.4	1.62122	229.2	229.2
	<hr/> 1,553.2 <hr/>	<hr/> 1,593.1 <hr/>		<hr/> 2,073.0 <hr/>	<hr/> 2,116.0 <hr/>

16. HA has 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 2016 to 2025. HA will award the contract on the proposed works on a lump-sum basis because the scope of the works can be clearly defined in advance. The contract will provide for price adjustment. HA will award the contract on consultancy services for contract administration and construction supervision on a lump-sum basis without provision for price adjustment.

17. HA has assessed the requirements for F&E for this project, and estimates the F&E costs to be \$122.3 million. The proposed F&E provision represents 12.2% of the total construction cost of the project<sup>4</sup>. An indicative list of major F&E items (costing \$1 million or above per item) to be procured for the project is at Annex 12 to Enclosure 3.

18. We estimate the additional annual recurrent expenditure arising from this project to be in the order of \$210 million.

## **PUBLIC CONSULTATION**

19. We consulted the Social Services & Healthy and Safe City Committee of Sai Kung District Council (SKDC) on the proposed project on 21 July and 15 September 2015, and further updated SKDC on the project progress on 8 March 2016. Members of the SKDC welcomed the proposed project and urged for its early implementation.

20. We consulted the Legislative Council Panel on Health Services on 21 March 2016. Members of the Panel supported the project.

## **ENVIRONMENTAL IMPLICATIONS**

21. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). HA has completed the Preliminary Environmental Review (PER) for the project. The PER has concluded and the Director of Environmental Protection agreed that the project would not have long-term adverse environmental impacts.

22. HA will incorporate into the works contract mitigation measures recommended in the PER in order to ensure that the environmental impacts arising from the construction 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 \$2.0 million in the project estimate the cost for the implementation of the environmental mitigation measures.

/23. ....

---

<sup>4</sup> Represented by building, building services, drainage, external works and soft landscaping works costs.

23. 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<sup>5</sup>. 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.

24. 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.

25. HA estimates that the project will generate in total 20 800 tonnes of construction waste. Of these, HA will reuse 4 200 tonnes (20.2%) of inert construction waste on site and deliver 13 800 tonnes (66.3%) of inert construction waste to public fill reception facilities for subsequent reuse. HA will dispose of the remaining 2 800 tonnes (13.5%) 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 \$0.72 million for this project (based on a unit charge rate of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation).

## **ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES**

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

/(a) .....

---

<sup>5</sup> Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

- (a) high efficiency air-cooled chiller with variable speed drive;
- (b) demand control of fresh air supply with carbon dioxide sensors;
- (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) demand control of lighting by occupancy sensor and / or daylight sensor; and
- (g) solar hot water system.

27. For greening features, HA will provide vertical greening, green roof and landscaping features such as sun shading trellis for environmental and amenity benefits.

28. For recycled features, HA will provide rainwater recycling system for irrigation purpose.

29. The total estimated additional cost for adoption of the above features is around \$30.0 million (including \$6.5 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features and renewable energy technologies will achieve 6.2% energy savings in the annual energy consumption with a payback period of about 7.4 years.

## **HERITAGE IMPLICATIONS**

30. 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 .....**

**LAND ACQUISITION**

31. This proposed works does not require any land acquisition.

**BACKGROUND INFORMATION**

32. We upgraded **3ML** to Category B in March 2016.

33. In 2014, HA engaged consultants to carry out ground investigation works, topographical, tree, utility and asbestos surveys, as well as to prepare tender document. The above preparatory works, at a cost of \$18.0 million funded under **Subhead 8083MM** “One-off grant to the Hospital Authority for minor works projects”, have completed.

34. The proposed works will involve removal of 578 trees including transplantation of 14 trees and felling of 564 trees. Two of the trees are important trees<sup>6</sup> and have to be removed due to their deteriorating condition. Other trees to be removed are not important trees. Compensatory planting of 171 new trees will be incorporated in the planting proposal as part of the project.

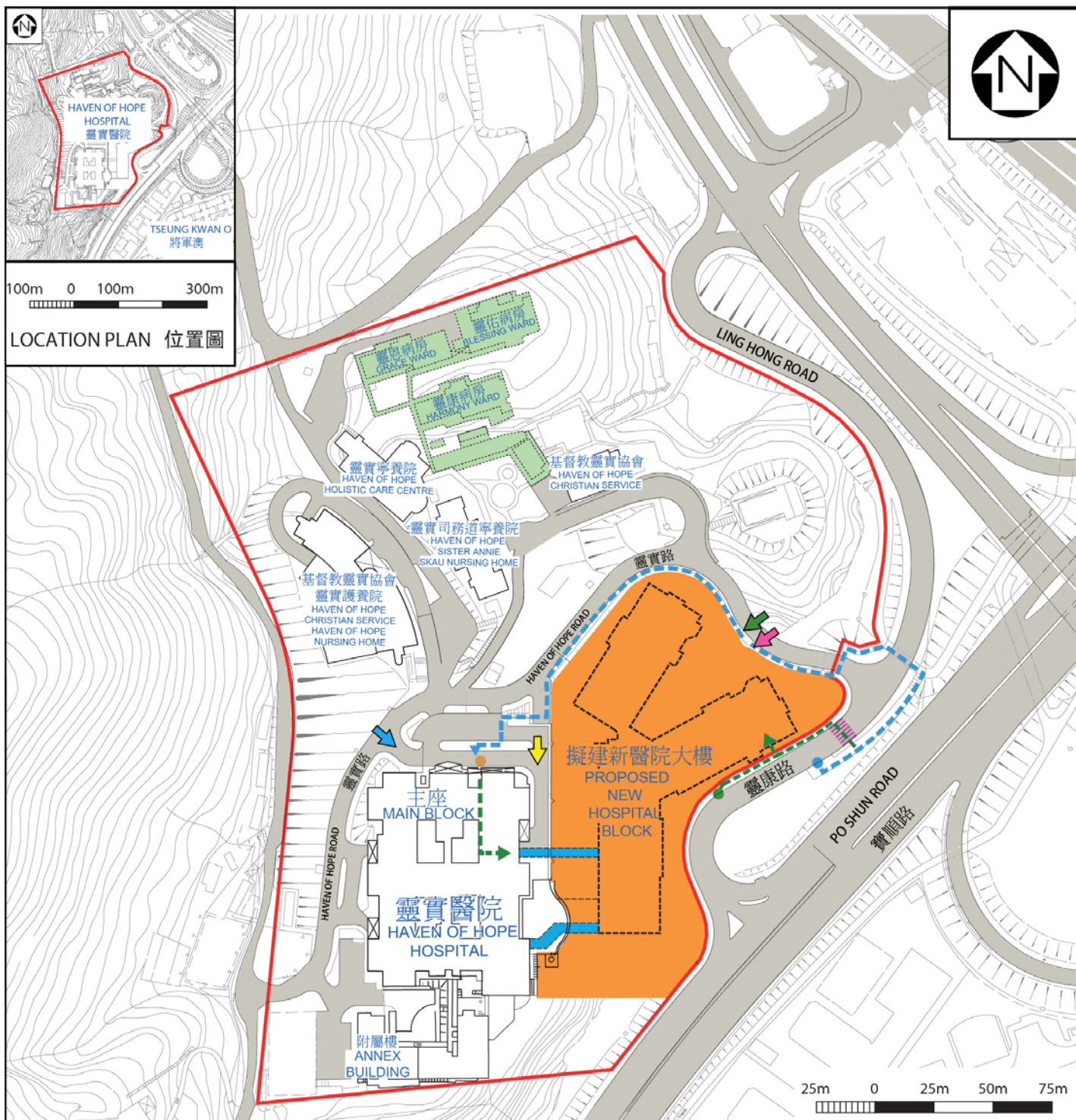
35. We estimate that the proposed works will create about 460 jobs (400 for labourers and another 60 for professional or technical staff) providing a total employment of 14 400 man-months.

-----
















---

<sup>6</sup> “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:

- |                                                                                     |                                                |                                                                                     |                                               |                                                                                       |                                                       |
|-------------------------------------------------------------------------------------|------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | SITE FOR EXPANSION WORKS<br>擴建工程地盤             |  | EXISTING BUS STOP<br>現有巴士站                    |  | PROPOSED BUS STOP<br>擬新增巴士站                           |
|  | PROPOSED NEW HOSPITAL BLOCK<br>擬建新醫院大樓         |  | EXISTING MINI-BUS STOP<br>現有小巴士站              |  | PROPOSED PEDESTRIAN CROSSING<br>擬新增行人過路處              |
|  | PROPOSED NEW LINK BRIDGE<br>擬建新連接橋             |  | EXISTING PEDESTRIAN ROUTE<br>現有行人道路           |  | PROPOSED PEDESTRIAN/BARRIER FREE ROUTE<br>擬新增行人/無障礙道路 |
|  | BUILDINGS TO BE DEMOLISHED<br>將予拆卸的樓宇          |  | EXISTING VEHICULAR INGRESS/EGRESS<br>現有車輛出入口  |  | PROPOSED VEHICULAR INGRESS/EGRESS<br>擬新增車輛出入口         |
|  | HAVEN OF HOPE HOSPITAL SITE BOUNDARY<br>靈實醫院範圍 |  | EXISTING AMBULANCE INGRESS/EGRESS<br>現有救護車出入口 |  | PROPOSED AMBULANCE INGRESS/EGRESS<br>擬新增救護車出入口        |

**SITE PLAN**  
工地平面圖

8003ML  
EXPANSION OF HAVEN OF HOPE HOSPITAL  
靈實醫院擴建計劃



圖例 LEGEND

公共區域  
Public Area

人行道  
Walkway

機電房  
Plant Room

無障礙通道  
Barrier Free Access

車輛區域  
Vehicular Area

相關外部工程  
Associated External Works

輔助設施/通道  
Ancillary Facility / Circulation



SCALE BAR 2 5 10 20m

Project Title 項目名稱  
靈實醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
地下平面圖  
G/F FLOOR PLAN



圖例 LEGEND

- |                           |                       |                              |                                             |
|---------------------------|-----------------------|------------------------------|---------------------------------------------|
| 公共區域<br>Public Area       | 醫療區域<br>Clinical Area | 車輛區域<br>Vehicular Area       | 輔助設施/通道<br>Ancillary Facility / Circulation |
| 機電房<br>Plant Room         | 人行道<br>Walkway        | 無障礙通道<br>Barrier Free Access | 辦公室區域<br>Office Area                        |
| 綠化設施<br>Landscaping Works |                       |                              |                                             |



Project Title 項目名稱  
靈賓醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
一樓平面圖  
1/F FLOOR PLAN



圖例 LEGEND

公共區域  
Public Area

辦公室區域  
Office Area

醫療區域  
Clinical Area

輔助設施/通道  
Ancillary Facility / Circulation

機電房  
Plant Room



SCALE BAR 2 5 10 20m

Project Title 項目名稱  
靈賓醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
二樓平面圖  
2/F FLOOR PLAN



圖例 LEGEND

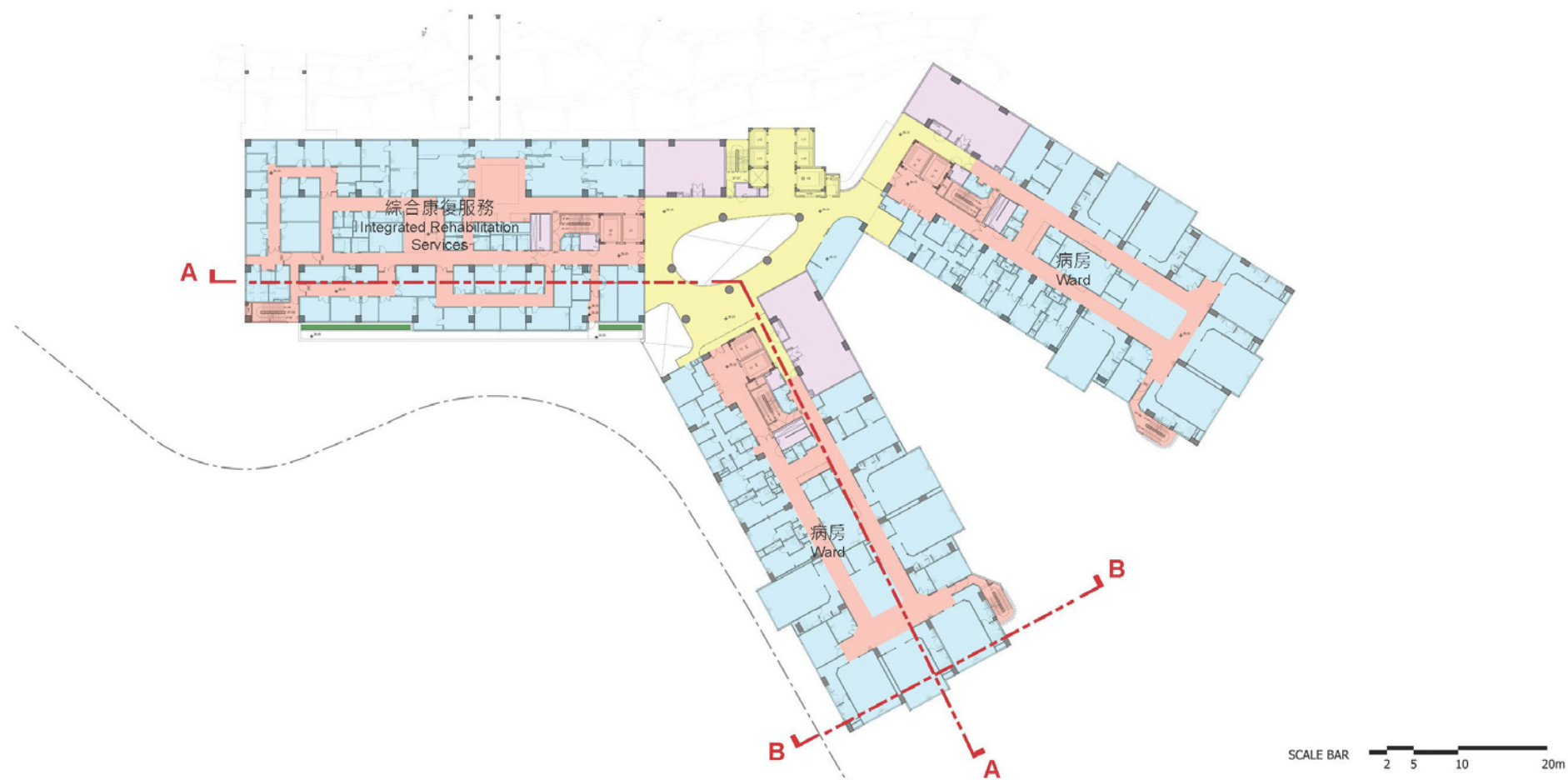
公共區域  
Public Area

綠化設施  
Landscaping Works

醫療區域  
Clinical Area

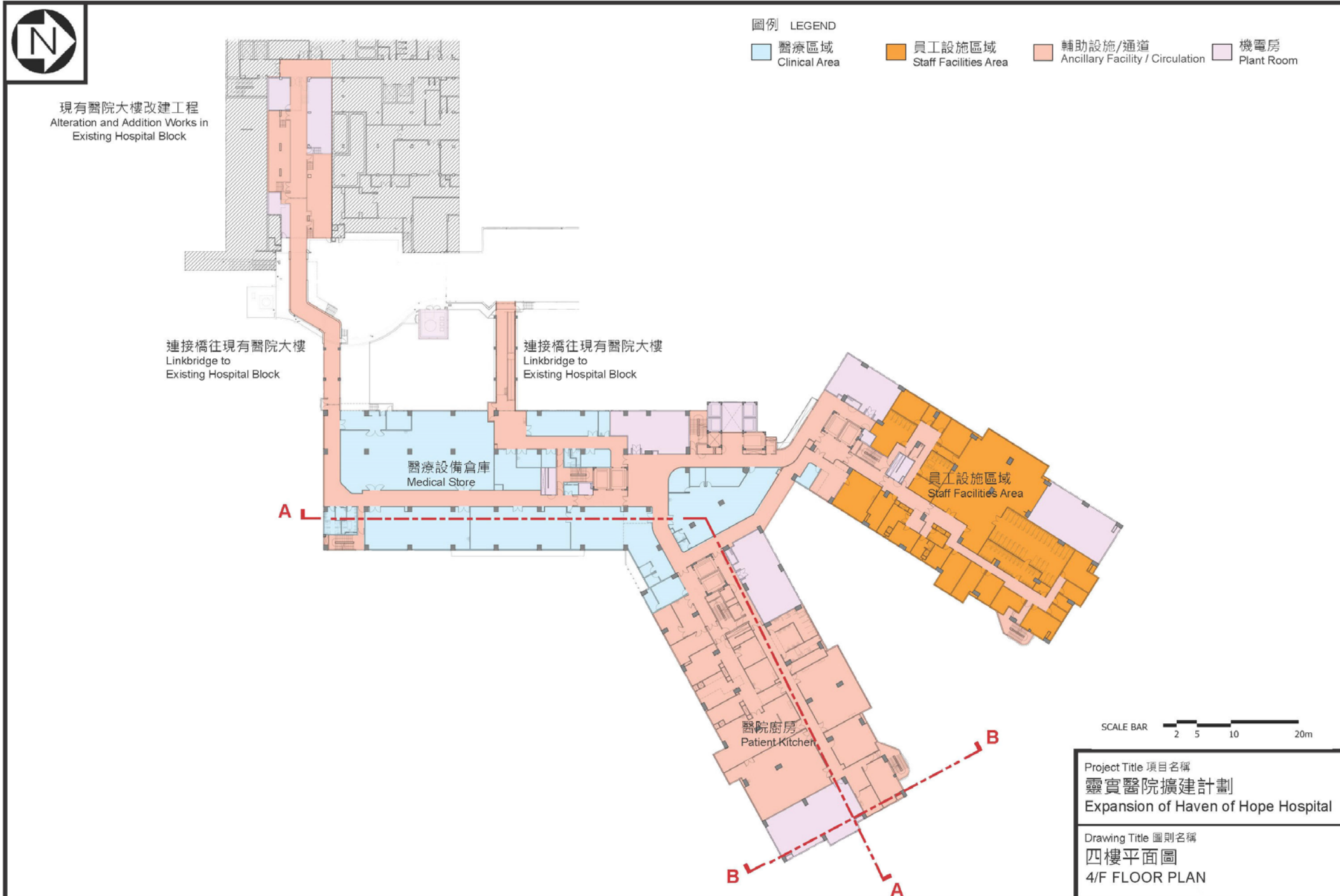
輔助設施/通道  
Ancillary Facility / Circulation

機電房  
Plant Room



Project Title 項目名稱  
靈賓醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
三樓平面圖  
3/F FLOOR PLAN





圖例 LEGEND

公共區域  
Public Area

綠化設施  
Landscaping Works

醫療區域  
Clinical Area

輔助設施/通道  
Ancillary Facility / Circulation

機電房  
Plant Room

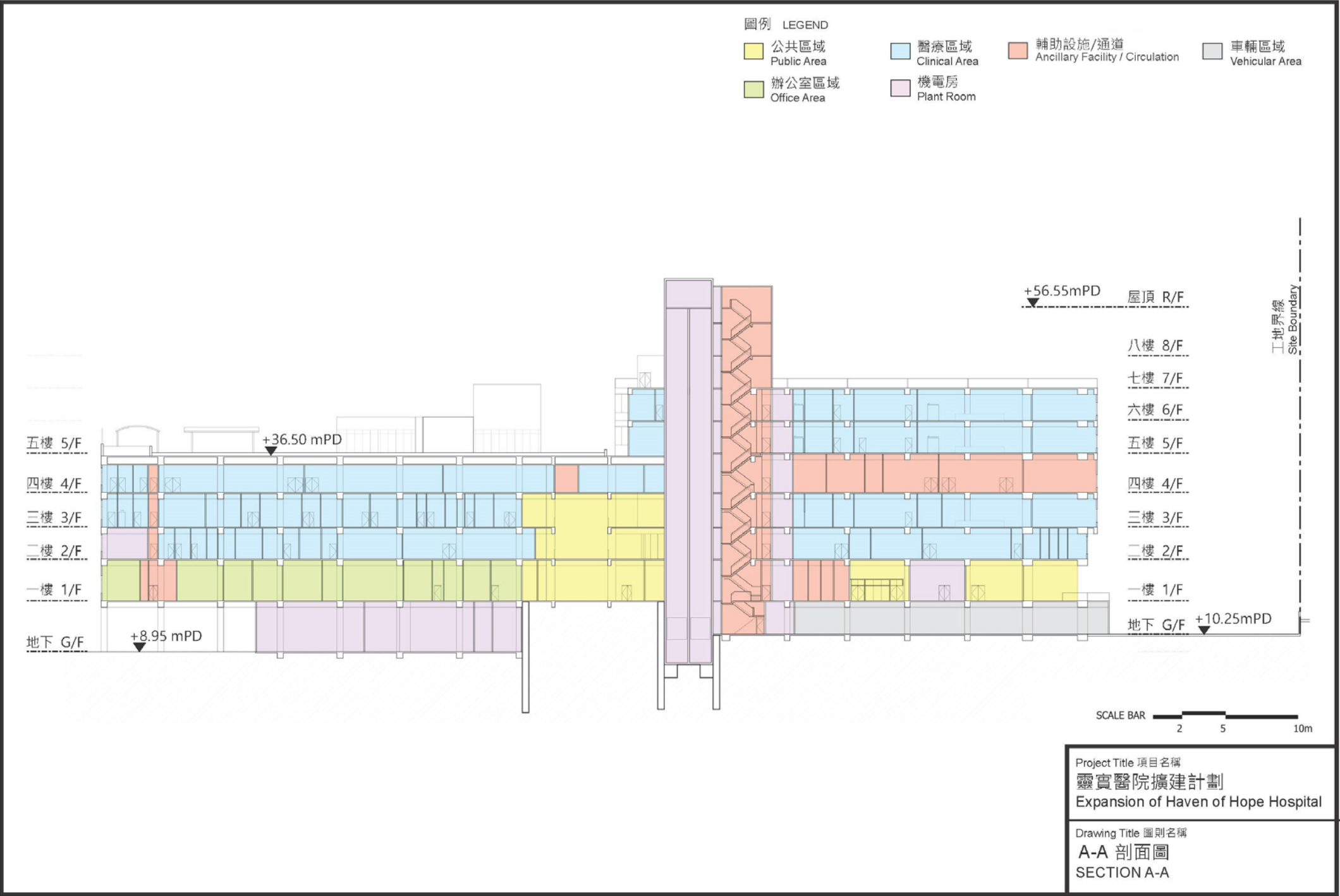
無障礙通道  
Barrier Free Access

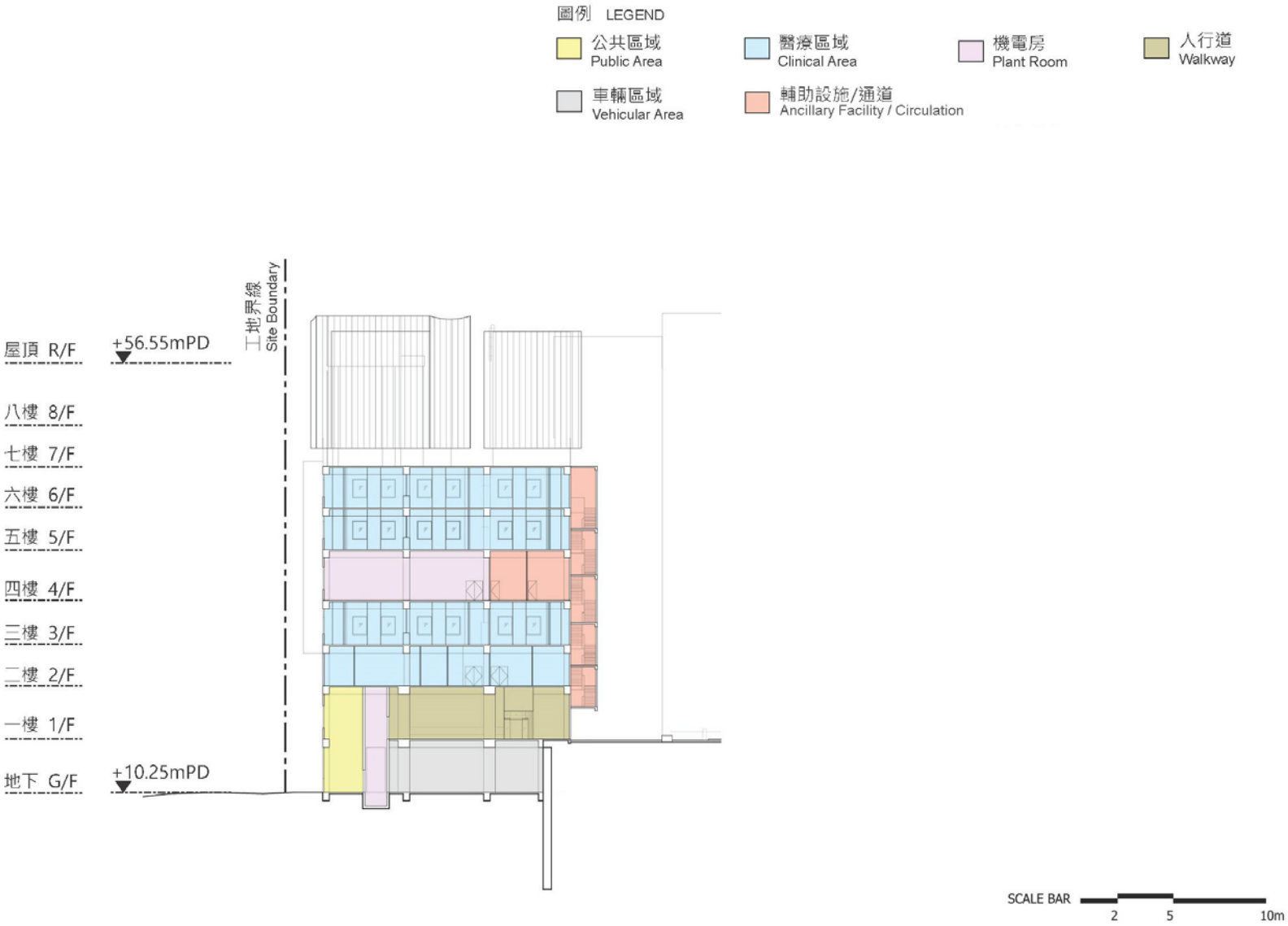


SCALE BAR 2 5 10 20m

Project Title 項目名稱  
靈賓醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
五樓平面圖  
5/F FLOOR PLAN





Project Title 項目名稱  
靈實醫院擴建計劃  
Expansion of Haven of Hope Hospital

Drawing Title 圖則名稱  
B-B 剖面圖  
SECTION B-B



8003ML - Expansion of Haven of Hope Hospital 靈實醫院擴建計劃

View of the expanded HHH from Ling Hong Road (Artist's Impression) 從靈康路望向擴建後的靈實醫院 (構思圖)

## Annex 11 to Enclosure 3

### 3ML – Expansion of Haven of Hope Hospital

#### Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2015 prices)

		Estimated man- months	Average MPS <sup>*</sup> salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants' fees for contract administration	Professional	66	38	2.0	9.8
	Technical	98	14	2.0	5.0
	Sub-total				14.8
(b) Resident site staff (RSS) costs (Note 2)	Technical	995	14	1.6	40.6
	Sub-total				40.6
Comprising -					
(i) Consultants' fees for management of RSS				0.6	
(ii) Remuneration of RSS				40.0	
<b>Total</b>					<b>55.4</b>

\* 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 = \$74,210 per month and MPS salary point 14 = \$25,505 per month).
2. The actual man-months and actual fees will only be known after completion of the refurbishment works.

## **Annex 12 to Enclosure 3**

### **3ML – Expansion of Haven of Hope Hospital**

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

<b>Item description</b>	<b>Quantity</b>	<b>Unit cost (\$ million)</b>	<b>Total cost (\$ million)</b>
Exercise, Computer-aided Training, Upper Limb	1	2.4	2.4
Robotic Gait Training System	1	2.5	2.5
Radiographic System	1	2.0	2.0
Telecommunication System	1	4.0	4.0
Mobile Communication System	1	3.2	3.2