

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Health – Hospitals

116MH – The development of Chinese Medicine Hospital in Tseung Kwan O

Health – Others

1MZ – The establishment of Government Chinese Medicines Testing Institute in Tseung Kwan O

Members are invited to recommend to the Finance Committee the upgrading of **116MH** and **1MZ** to Category A at estimated costs of \$8,620.0 million and \$2,005.0 million in money-of-the-day (MOD) prices respectively for the construction of a Chinese Medicine Hospital and a Government Chinese Medicines Testing Institute in Tseung Kwan O.

PROBLEM

The Government has been committed to promoting the development of Chinese medicine (CM) in Hong Kong. The Chinese Medicine Development Committee (CMDC), established in February 2013 and chaired by the Secretary for Food and Health to promote the development of CM, has recognised that the provision of CM inpatient services would enhance the professional standards of CM practitioners and the quality of scientific research in CM in Hong Kong. The Government agreed with the recommendation and reserved a site in Area 78, Tseung Kwan O for the purpose of developing a Chinese Medicine Hospital (CMH). Having regard to the feedback from the industry, the Government announced in the 2017 Policy Address that it would finance the construction of the CMH and identify through tender a suitable non-profit-making organisation to manage, operate and maintain the CMH.

2. In the 2018 Policy Address, the Government re-affirmed the positioning of CM as an integral part of healthcare system in Hong Kong. Specifically, the future CMH will provide a combination of government-subsidised inpatient and outpatient services, 18 Chinese Medicine Clinics cum Training and Research Centres¹ will offer government-subsidised outpatient services at the district level, and specific public hospitals of the Hospital Authority will continue to provide government-subsidised inpatient services with Integrated Chinese-Western Medicine treatment. The aforementioned three components are complementary in terms of service areas, which will provide a comprehensive network for the delivery of government-subsidised CM services.

3. To take forward the development of the CMH, the Government established the Chinese Medicine Hospital Project Office under the Food and Health Bureau in 2018. After three years of initial planning, consultation and tendering, the CMH project is ready to proceed to the commissioning preparation, detailed design and construction stage.

4. As for the Government Chinese Medicines Testing Institute (GCMTI), the Government adopted another CMDC's recommendation to establish a Chinese medicines testing institute to be managed by the Department of Health. The GCMTI will specialise in the testing of and scientific research on Chinese medicines, with a view to setting reference standards for the testing methods of Chinese medicines, supporting research on Chinese medicines identification and testing methods, and empowering the industry through technology transfer to strengthen quality control of products. In addressing the practical issues faced by the CM drugs trade, the GCMTI will assist in developing technical solutions that will benefit CM drugs and testing industries, with a view to enhancing the quality of CM drugs products and the public's confidence in using CM services.

5. As the sites of these projects are adjacent to each other in Tseung Kwan O, it will be beneficial to the development of CM in Hong Kong if the design and commissioning of services of the two projects can be synchronized so as to achieve synergy. Furthermore, the CMH and GCMTI will also leverage on their respective strengths and hardware facilities to collaborate in various areas such as research of CM drugs.

/PROPOSAL

¹ These centres were named as Chinese Medicine Centres for Training and Research before March 2020.

PROPOSAL

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

- (a) **116MH** at an estimated cost of \$8,620.0 million in MOD prices for the development of CMH in Tseung Kwan O; and
- (b) **1MZ** at an estimated cost of \$2,005.0 million in MOD prices for the establishment of GCMTI in Tseung Kwan O.

PROJECT SCOPE AND NATURE

————— 7. Details of the above two projects are at **Enclosures 1 and 2** respectively.

Food and Health Bureau
May 2021

**116MH - The development of Chinese Medicine Hospital
in Tseung Kwan O**

PROJECT SCOPE AND NATURE

The project site for the development of Chinese Medicine Hospital (CMH) is located at Area 78, Tseung Kwan O, covering an area of approximately 42 900 square metres (m²) bounded by Pak Shing Kok Road, the Fire and Ambulance Services Academy, the Disciplined Services Quarters for the Fire Services Department and the proposed Government Chinese Medicines Testing Institute.

2. The scope of services and works of the proposed CMH comprises the following –

- (a) inpatient and day-patient care services, with facilities including seven inpatient wards and two day wards;
- (b) ambulatory care services, with facilities including five outpatient clinics;
- (c) rehabilitation and other allied health services, with facilities including an integrated rehabilitation centre and a satellite rehabilitation room on each ward floor;
- (d) pharmacy services, with facilities including Chinese Medicine (CM) pharmacy and Western Medicine (WM) pharmacy;
- (e) diagnostic, procedural and ancillary services, with facilities including facilities of diagnostic radiology, electrophysiology and endoscopy, two minor operating theatres, a central sterile supplies unit, a core laboratory and a mortuary;
- (f) training and research services, with facilities including a Clinical Trial and Research Centre (CTRRC), lecture theatres, multifunction classrooms, tutorial rooms, a skill and demonstration laboratory and a CM library;

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- (g) community health and support services, with facilities including outreach facilities, kitchen, cafeteria, garden, spiritual support facilities, call room/overnight room/staff barracks, information technology and communication facilities, linen and laundry facilities, facility and plant management facilities, patient supporting facilities including public self-service kiosks with display facilities, ancillary carparks; and
- (h) administrative services, with facilities in relation to hospital administration, patient admission, medical records and other associated uses.

3. The project also provides a Public Vehicle Park (PVP) of about 140 parking spaces (including parking spaces for about ten light goods vehicles, 110 private cars, ten motorcycles and ten light buses).

4. A site and location plan and a sectional plan of the project are at **Annexes 1 to 2 to Enclosure 1** respectively.

5. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee for completion in around four years.

JUSTIFICATION

6. With the decade of experience in providing CM services through the Chinese Medicine Clinics cum Training and Research Centres (CMCTRs) and the Integrated Chinese-Western Medicine (ICWM) Pilot Programme run by the Hospital Authority (HA), the establishment of the CMH together with the collaborating network with the CMCTRs, the universities concerned, the ICWM programme developed in the HA hospitals and the CM sector as a whole will constitute a new platform to further drive CM development.

7. The CMH will serve as a flagship CM institution leading the development of CM in Hong Kong. The CMH will be a change driver promoting service development, education and training, innovation and research. The CMH will also execute and implement the Government's policies on CM and enhance the development of CM in and outside Hong Kong.

8. The CMH will be tasked to provide quality CM services including inpatient, day-patient, outpatient and community services. Its services will cover primary, secondary and tertiary care with a view to promoting the development of specialised CM services. In addition, the CMH will establish a referral system with existing CM and WM service providers to strengthen collaboration. The CMH will identify specific priority disease areas where CM has advantages for strategic development.

9. On the aspects of training and education, the CMH will collaborate with the academia and other related institutions, providing specific healthcare training and education opportunities to related local CM and WM professionals. In relation to the promotion of research, a CTRC will be set up to conduct high-standard clinical trials (Phases I and II) for the development of CM and new proprietary Chinese medicines.

10. On collaboration, the CMH will be an integral part of the healthcare system of Hong Kong and establish partnership and collaboration with relevant parties in both healthcare and non-healthcare sectors. The CMH will establish linkage, exchange and partnership with counterparts in both the Mainland and overseas regions for the promotion of CM development. The CMH together with the CMCTRs will build a platform to facilitate service development, patient flow, knowledge flow and talent flow, and enhance partnership and collaboration in service, training, education and research.

11. On creating health values, the CMH will, through evidence-based research, develop new clinical uses, widen clinical applications and extend clinical outcomes of CM. It will promote the health values of CM to the public by enhancing understanding of CM, the adoption of CM approaches in daily living and the use of CM services in maintaining good health.

12. The CMH will be built as an intelligent hospital supported by smart equipment, facilities as well as corresponding workflow design and scheduling systems, including the adoption of various automated systems for delivery and storage of medication and supplies, CM and WM dispensaries and clinical patient monitoring as coordinated and managed by Internet of Things, to facilitate effective, safe, user-friendly, environment-friendly and efficient care delivery.

/FINANCIAL

FINANCIAL IMPLICATIONS

13. We estimate the capital cost of the project to be \$8,620.0 million in money-of-the-day (MOD) prices, broken down as follows –

	\$ million (in MOD prices)
(a) Site works	8.7
(b) Piling / Foundation ¹	230.7
(c) Basement ²	184.5
(d) Building ³	3,224.1
(e) Building services ⁴	2,427.0
(f) Drainage	42.1
(g) External works	86.1
(h) Additional energy conservation, green and recycled features ⁵	119.1
(i) Furniture and equipment (F&E) ⁶	1,476.3

/\$ million

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- ¹ Piling / foundation works cover construction of piles, footings and all related tests and monitoring.
- ² Basement works cover construction of basement enclosure, waterproofing and excavation works.
- ³ Building works cover construction of substructure and superstructure of the building.
- ⁴ Building services works cover electrical installations, ventilation and air-conditioning installations, fire services installations, lift installations and other specialist installations.
- ⁵ Additional energy conservation, green and recycled features cover variable speed drive for chillers, demand control of supply air, heat energy reclaim of exhaust air, heat pump for hot water, space heating and dehumidification, photovoltaic system, solar hot water system, landscaping, green roof, vertical greening, planting areas, rainwater harvesting system, etc.
- ⁶ Based on an indicative list of F&E items and their estimated prices.

		\$ million (in MOD prices)
(j)	Consultants' fees for	25.1
	(i) contract administration	24.7
	(ii) management of resident site staff (RSS)	0.4
(k)	Remuneration of RSS	12.7
(l)	Contingencies	783.6
Total		8,620.0

14. We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at **Annex 3 to Enclosure 1**. The construction floor area (CFA) of this project is about 159 000 m². The estimated construction unit cost, represented by the building and building services costs, is \$35,542 per m² of CFA in MOD prices. We consider this unit cost reasonable as compared to that of other hospital projects built by the Government.

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

Year	\$ million (in MOD prices)
2021 – 22	313.5
2022 – 23	438.9
2023 – 24	1,036.9
2024 – 25	2,298.5
2025 – 26	2,032.3
2026 – 27	1,129.6

/Year

Year	\$ million (in MOD prices)
2027 – 28	624.9
2028 – 29	455.7
2029 – 30	289.7
	<hr/>
	8,620.0
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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 2021 to 2030. We will deliver the project through a design-and-build contract. We intend to award the contract on a lump-sum basis as we can clearly define the scope of the works in advance. The contract will provide for price adjustment.

17. The Chinese Medicine Hospital Project Office has assessed the requirements for F&E for the project and estimates the F&E costs to be about \$1,476.3 million. The proposed F&E provision represents 25.5% of the total construction cost of the project⁷. An indicative list of major F&E items (costing \$1 million or above per item) to be procured for the project is at **Annex 4 to Enclosure 1**.

18. We estimate the annual recurrent expenditure⁸ arising from the project to be about \$1,044.6 million.

/PUBLIC

⁷ Represented by building, building services, drainage and external works costs.

⁸ The estimated recurrent consequences of about \$1,044.6 million will be provided by the Government after the commencement of hospital services to provide for government-subsidised patient services, training and research, and funding for relevant government departments to repair and maintain the CMH and manage, operate and maintain the PVP.

PUBLIC CONSULTATION

19. The Subcommittee on Issues Relating to the Development of Chinese Medicine under the Panel on Health Services was consulted on the proposed works on 4 May 2020 while the Education, Health and Social Welfare Committee of the Sai Kung District Council was consulted on 9 July 2020. Members of the two committees generally supported the project.

20. We consulted the Legislative Council Panel on Health Services on 9 April 2021. Members supported the project and the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

21. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) for the project in October 2020. The PER concluded that the project would not cause long-term environmental impacts and the findings were agreed with the Director of Environmental Protection. We have included in the project estimates the costs to implement suitable environmental mitigation measures during construction to control short-term environmental impacts.

22. We will control noise, dust and site run-off nuisances during construction to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, acoustic linings or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel washing facilities.

/23.

23. At the planning and design stages, we have considered measures to reduce generation of construction waste wherever 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 disposal of inert construction waste at public fill reception facilities (PFRFs)⁹. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

24. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation measures 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 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 PFRFs and landfills respectively through a trip-ticket system.

25. We estimate that the proposed project will generate in total about 351 810 tonnes of construction waste. Of these, we will reuse about 10 860 tonnes (3.1%) of inert construction waste on site and deliver about 309 590 tonnes (88.0%) of inert construction waste to PFRFs for subsequent reuse. We will dispose of the remaining 31 360 tonnes (8.9%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRFs and landfill sites is estimated to be about \$28.3 million for the project (based on a unit charge rate of \$71 per tonne for disposal at PFRFs and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

/HERITAGE

⁹ PFRFs are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRFs requires a licence issued by the Director of Civil Engineering and Development.

HERITAGE IMPLICATIONS

26. 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

27. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

28. 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) photovoltaic system; and
- (f) solar hot water system.

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

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

31. The total estimated additional cost for adoption of the above features is around \$119.1 million (including \$34.8 million 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

BACKGROUND INFORMATION

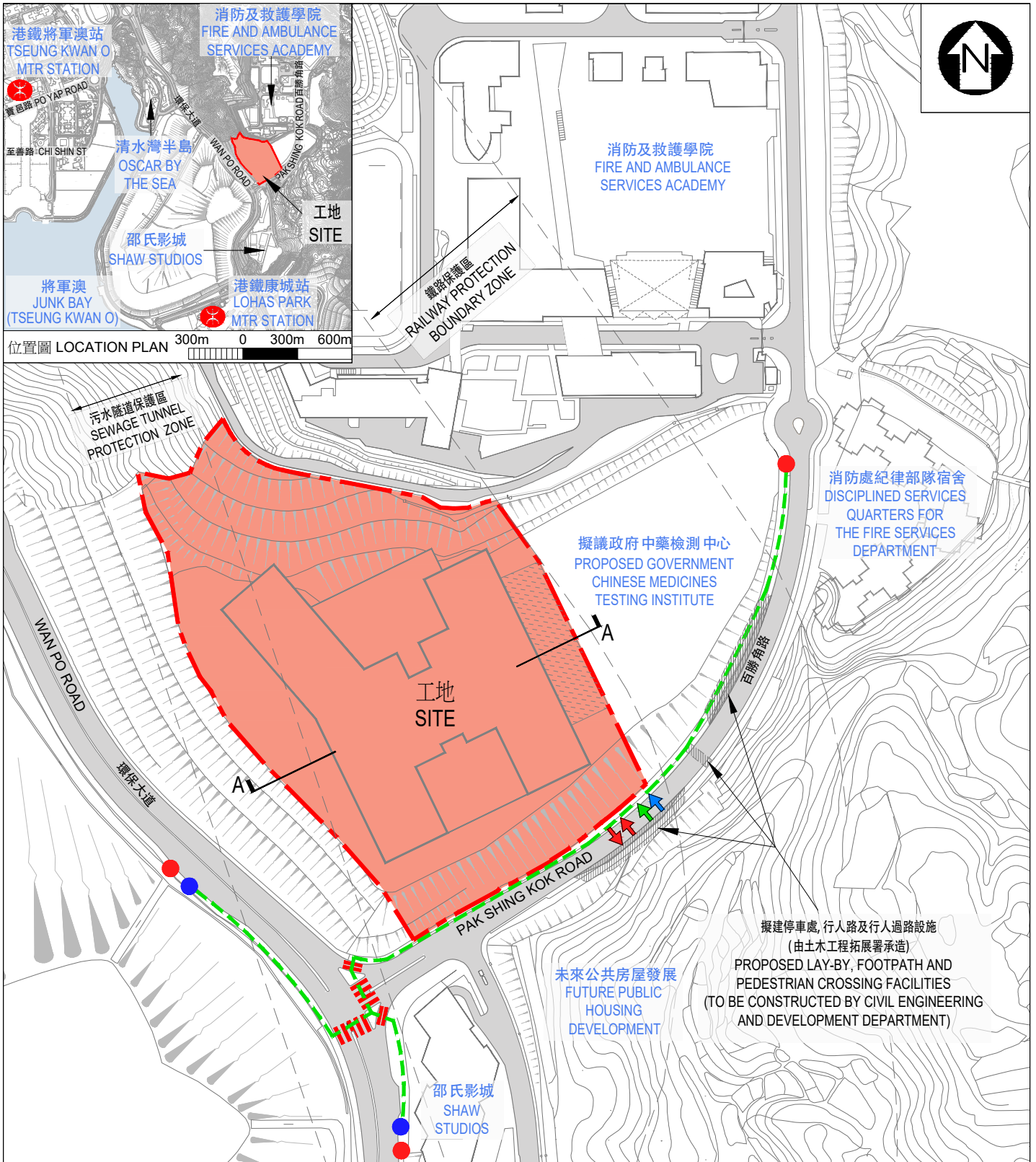
32. We upgraded **116MH** to Category B in August 2019. We engaged consultants to undertake various services and investigation works, including ground investigation, geotechnical assessment, underground services investigation, topographical survey, PER, traffic impact assessment, landfill gas hazard assessment, and contract advisory services and quantity surveying services, at a total cost of about \$8.2 million. The services and works provided by the consultants were funded under block allocation **Subhead 3100GX** “Project feasibility studies, minor investigations and consultants’ fees for items in Category D of the Public Works Programme”. All the above services and investigation works have been completed except for the contract advisory services and quantity surveying services.

33. Of the 72 trees within the project boundary, 31 trees will be preserved. The proposed project will involve removal of 41 trees. All trees to be removed are not important trees¹⁰. We will incorporate planting proposals as part of the project, including estimated quantities of 41 trees and about 134 000 shrubs/groundcovers/climbers.










34. We estimate that the proposed works will create about 1 630 jobs (1 480 for labourers and 150 for professional or technical staff) providing a total employment of 64 600 man-months.

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 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

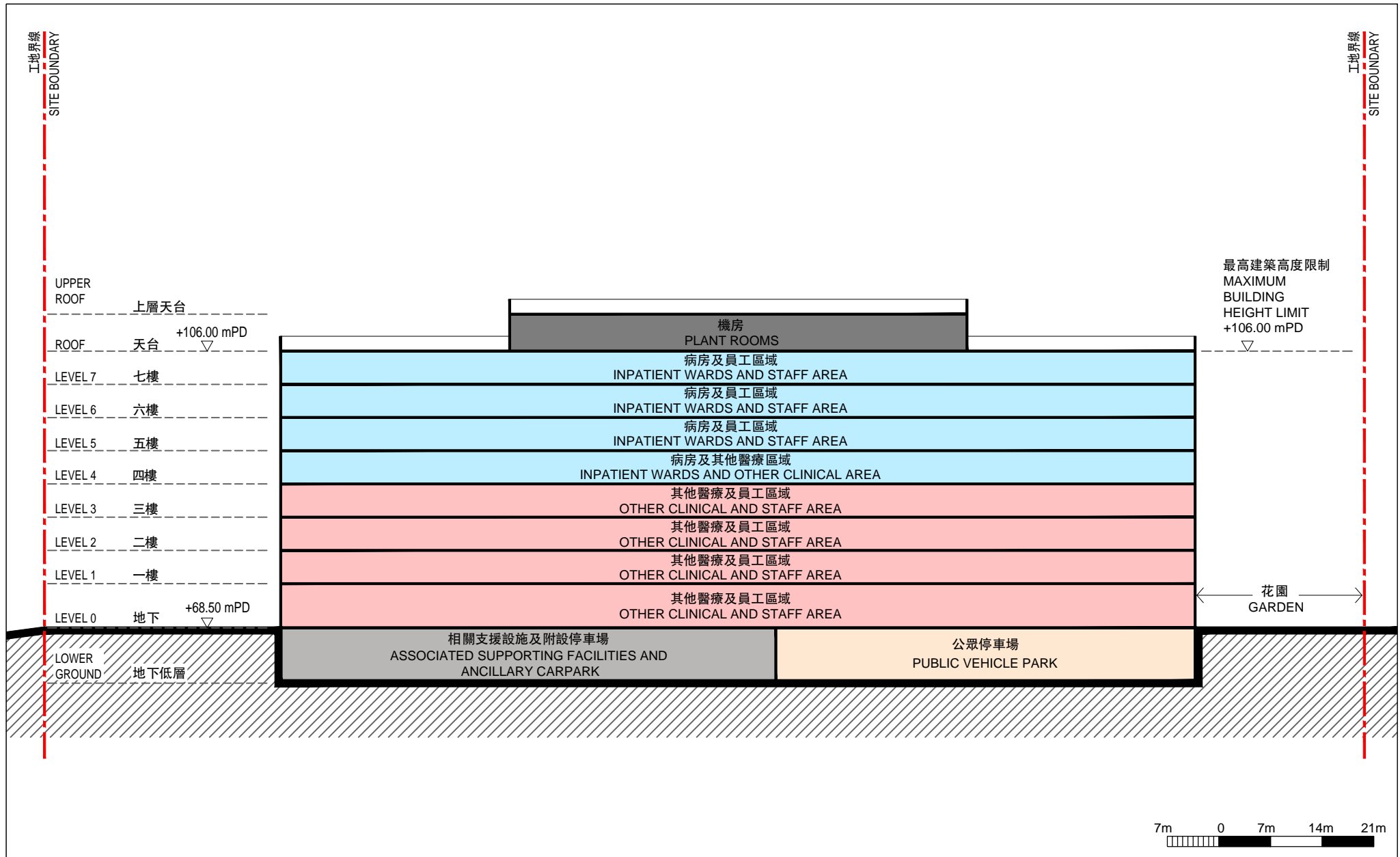
- | | | | |
|---|---|--|--|
|  工地界線
SITE BOUNDARY |  現有巴士站
EXISTING BUS STOP |  現有小巴士
EXISTING MINIBUS STOP |  現有行人過路處
EXISTING AT-GRADE PEDESTRIAN CROSSING |
|  車輛出入口
VEHICULAR INGRESS / EGRESS |  行人出入口
PEDESTRIAN ENTRANCE / EXIT |  無障礙出入口
BARRIER-FREE ENTRANCE / EXIT |  無障礙通道
BARRIER-FREE ACCESS |
|  花園
GARDEN | | | |



工地平面圖
SITE PLAN

116MH
將軍澳中醫醫院發展項目
THE DEVELOPMENT OF CHINESE MEDICINE HOSPITAL IN TSEUNG KWAN O

 ARCHITECTURAL SERVICES DEPARTMENT 建築署



剖面圖 A-A
SECTION A-A

116MH

將軍澳中醫醫院發展項目

THE DEVELOPMENT OF CHINESE MEDICINE HOSPITAL IN TSEUNG KWAN O



ARCHITECTURAL SERVICES
DEPARTMENT 建築署

Annex 3 to Enclosure 1

116MH – The development of Chinese Medicine Hospital in Tseung Kwan O

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2020 prices)

		Estimated man- months	Average MPS* salary point	Multiplier <small>(Note 1)</small>	Estimated fee (\$ million)
(a) Consultants' fees for contract administration <small>(Note 2)</small>	Professional	–	–	–	10.8
	Technical	–	–	–	9.1
	Sub-total				19.9 #
(b) Resident site staff (RSS) costs <small>(Note 3)</small>	Professional	38	38	1.6	5.2
	Technical	110	14	1.6	5.3
	Sub-total				10.5#
Comprising –					
	(i) Consultants' fees for management of RSS				0.3#
	(ii) Remuneration of RSS				10.2#
	Total				30.4

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the staff cost of RSS supplied by the consultants (as at now, MPS salary point 38 = \$85,870 per month and MPS salary point 14 = \$30,235 per month).
2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the provision of contract administration and site supervision of **116MH**. The assignment will only be executed subject to the Finance Committee's funding approval to upgrade **116MH** to Category A.
3. The consultants' fee and staff cost for site supervision is 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 cost figures marked with # are shown in money-of-the-day prices in paragraph 13 of **Enclosure 1**.

Annex 4 to Enclosure 1

**116MH – The development of Chinese Medicine Hospital
in Tseung Kwan O**

**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 for Patients & Visitors	1	5.3	5.3
Access Control System for the Hospital	1	16.7	16.7
Audio-visual System in Auditorium	2	7.1	14.2
Audio-visual System in Main Entrance Lobby	1	4.9	4.9
Audio-visual System in Skill & Demonstration Laboratory - Skill & Demo Room	1	4.4	4.4
Audio-visual System in the Board Room	1	3.7	3.7
Automated Chinese Herbal Medicines Storage & Retrieval System	1	4.1	4.1
Automated Decoction System for Chinese Herbal Medicines	1	1.9	1.9
Automated Dispensing System for Chinese Herbal Medicines	1	5.3	5.3
Automated Endoscopic Reprocessor	2	1.0	2.0
Automatic Box Medication Dispensing System	2	2.8	5.6
Automatic Tablet Dispensing & Packaging System with Medication Detection Function	1	2.8	2.8
Autonomous Mobile Robots	1	19.6	19.6
Blood Bank Automation - Analyzer & Middleware	2	1.2	2.4

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
Cart Washer for Catering	1	2.0	2.0
Cart Washer for Sterilization	1	1.8	1.8
Cart Washer for Sterilization (Double Door)	2	1.8	3.6
Centralized Water Treatment System	1	6.2	6.2
Chemistry Analyser	1	1.2	1.2
Closed Circuit Television System	1	6.0	6.0
Cold Body Chambers (40 spaces)	1	4.4	4.4
Computed Tomography Scanning System cum Imaging & Control System	1	15.6	15.6
Conveyor Belt System for Chinese Medicines Dispensing	1	3.1	3.1
Digital Display System for Clinical Counselling & Teaching	1	2.3	2.3
Digital Display System for Hospital Information Display / Public Education / Contingency Response at Communal Area	1	2.3	2.3
Digital Display System for Outpatient Service, Training Activities & Event Display	1	1.9	1.9
Digital Display System for Patient Training (Clinical)	1	2.3	2.3
Digital Display System for Service Operation Display / Administrative Information Display (Waiting Area)	1	3.5	3.5
Digital Radiography System	2	1.6	3.2
Dishwasher (Type 1)	1	1.1	1.1
Dishwasher (Type 2)	1	1.4	1.4

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
E-directory	1	3.5	3.5
Endoscopic Viewing System	2	2.6	5.2
Flatwork Ironing System	1	7.8	7.8
Fluoroscopic System, Multipurpose with Digital Subtraction Angiography	1	7.4	7.4
Haematology Analyser	2	1.4	2.8
Hydropool (Single Person Aquatic Exercise)	2	1.2	2.4
Laboratory Automation System	1	10.5	10.5
Laboratory Bench	1	2.1	2.1
Magnetic Resonance Imaging Scanning cum Imaging & Control System	1	26.5	26.5
Medical Record Electrical Mobile Shelving System	1	4.4	4.4
Mobile General Radiography Machines	4	1.3	5.2
Mortuary Body Tagging & Management System	1	2.3	2.3
Patient & Asset Tagging System	1	2.7	2.7
Patient Bed Panels	1	4.8	4.8
Patient Room / Cubicle Displays	1	2.1	2.1
Patient Self-service Kiosk	1	2.4	2.4
Picture Archiving & Communication System	1	15.5	15.5
Power Driven Upper Limb Support Training System	6	2.8	16.8
Queue Display & Management System at Outpatient Services	1	1.1	1.1

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
Robotic-assisted Lower Limb Training System	1	4.7	4.7
Steam Sterilizer (Autoclave)	4	1.0	4.0
Steam Sterilizer (Autoclave) (Double Door)	3	1.1	3.3
Sterilizing Units (Hydrogen Peroxide Gas)	1	1.3	1.3
Telecommunications System	1	36.5	36.5
Telephone System, Private Automatic Branch Exchange	1	11.2	11.2
Therapeutic Drug Monitoring & Immunoassay System	1	1.2	1.2
Trolley Washer (Laundry)	1	1.9	1.9
Tumble Dryer System (Laundry)	1	5.7	5.7
Tunnel Finishing System (Laundry)	1	6.8	6.8
Tunnel Washer with Ultrasonic Function & Automatic Conveyor Belt (For Sterilization)	4	3.7	14.8
Ultrasound Scanner	2	1.6	3.2
Uniform Dispensing System	1	10.1	10.1
Vacuum Insulated Evaporator Tank	1	4.7	4.7
Washer Disinfectant	5	1.1	5.5
Washer Disinfectant (Steam Heated)	3	1.3	3.9
Washer Extractor System	1	6.8	6.8

**1MZ - The establishment of Government Chinese
Medicines Testing Institute in Tseung Kwan O**

PROJECT SCOPE AND NATURE

The project site for the establishment of Government Chinese Medicines Testing Institute (GCMTI) is located at Area 78, Tseung Kwan O, covering an area of approximate 17 200 square meters (m²) bounded by Pak Shing Kok Road, the Fire and Ambulance Services Academy, the Disciplined Services Quarters for the Fire Services Department and the proposed Chinese Medicine Hospital (CMH).

2. The scope of the works of the proposed GCMTI comprises the following –

- (a) various dedicated laboratories, including a chemistry laboratory, deoxyribonucleic acid (DNA) laboratory, a macroscopic identification laboratory and a microscopic identification laboratory, etc.;
- (b) a Chinese medicine (CM) drugs herbarium laboratory;
- (c) an international collaboration and training centre, equipped with a multi-purpose conference room, and a training and technology transfer laboratory;
- (d) a medicinal plant garden;
- (e) laboratories for the Chinese Medicines Section (CMS) of the Government Laboratory (GL), and a macroscopic and microscopic examination laboratory of the Department of Health (DH);
- (f) a laboratory for organising proficiency testing programmes and producing reference materials; and
- (g) ancillary facilities including cold storage rooms, specimen/ sample storage rooms, sterilisation and autoclave rooms, offices and a carpark, etc.

3. A site and location plan and a sectional plan are at **Annexes 1 to 2 to Enclosure 2** respectively.

4. We plan to commence the proposed works upon obtaining funding approval from the Finance Committee for completion in around four years.

JUSTIFICATION

5. Hong Kong has developed into a mature market for and a trading port of CM drugs leveraging on her unique blend of eastern and western cultures, as well as the wide acceptance of using CM drugs by the public. Local scientific research and testing technologies also help promote the development of CM drugs testing in Hong Kong. Against this background, the Government announced in the 2015 Policy Address the establishment of a Chinese medicines testing institute to be managed by the DH. The 2017 Policy Address announced the establishment of a temporary testing institute in the Hong Kong Science Park, with operation commenced in phases since March 2017. The Government announced in the 2019 Policy Address the establishment of the permanent GCMTI adjacent to the CMH. The GCMTI is to specialise in scientific research on CM drugs with a view to setting reference standards on safety, quality and testing method of CM drugs, and strengthening the capability for the quality control and identification of CM drugs.

6. The DH set up the GCMTI Advisory Committee (AC)¹ in 2017 as a platform for stakeholders to advise on long-term development strategies, measures and specific research proposals. Members of the AC are from the CM drugs trade, CM practice, academia, the Government and the International Advisory Board (IAB) of the Hong Kong Chinese Materia Medica Standards (HKCMMS) Project. The AC has provided valuable inputs in various areas of the proposed GCMTI project. Having considered the views of the AC, as well as those of the CM drugs and testing industries, the DH has worked out the proposed design of the GCMTI project so as to meet the needs of the industry and facilitate the achievement of the GCMTI's missions with a view to fostering the development of CM drugs testing.

/7.

¹ The Chinese Herbal Medicines Task Force, the Proprietary Chinese Medicines Task Force and the Technical Support Group were set up under the AC to respectively undertake focused discussions on specific topics and to provide expert advice on technical aspects of research projects to the AC for consideration.

7. In recent years, the Government has actively fostered exchanges and cooperation with relevant Mainland organisations in respect of CM drugs testing and research on reference standards. Various cooperation agreements² in this regard have been signed. The Mainland has long been supportive to the development of CM drugs in Hong Kong, including offering technical support to the GCMTI, thereby laying a good foundation for the establishment and long-term development of the GCMTI.

8. The temporary testing institute at the Hong Kong Science Park has embarked on various research projects and promotion work with the AC's support. Major research projects include (a) identification of easily confused species of Chinese Materia Medica (CMM) in Hong Kong by macroscopic and microscopic characteristics, (b) collection of specimens for the GCMTI, (c) digitalisation of CM drugs for the database of digitalised platform, (d) analysis of chemical markers of CMM in medicinal oil for external use, and (e) establishment of a reference DNA sequence library of CMM and employment of DNA method for the analysis of Cervi Cornu Pantotrichum (deer antler velvet, 鹿茸) as a complementary approach. The temporary testing institute has continued to formulate reference standards for commonly used CMM under the existing HKCMMS project. With the completion of some of the research work, the related results and information (including a number of testing methods, DNA sequence library and monographs of easily confused species of CMM etc.) have been published at the website of the Chinese Medicine Regulatory Office of the DH, as well as shared with the stakeholders in the CM drugs and testing industries through training. The research results directly benefit the trade, which has expressed general support to the GCMTI's research work.

9. The missions of the GCMTI are to develop internationally-recognised reference standards for CM drugs and related products by employing state-of-the-art technology and engaging in scientific research, to strengthen quality control of CM drugs and their products through transfer of testing technology to the industry with a view to establishing the brand image of Hong Kong's CM drugs as well as developing Hong Kong into an international hub of

/testing

² These include (a) Co-operation Agreement on Hong Kong's Materia Medica Standards Project signed with the National Institutes for Food and Drug Control in November 2011; (b) Co-operation Agreement on Research for Testing and Standards of CM Drug signed with the National Medical Products Administration in June 2016; (c) Co-operation Agreement on Chinese Medicine signed with the National Administration of Traditional Chinese Medicine in October 2018; and (d) Co-operation Agreement on Construction, Research and Management of Chinese Medicines Herbarium signed with the National Medical Products Administration in May 2019.

testing and quality control of CM drugs. Moreover, the GL's services relating to CM drugs testing will be conducted at the GCMTI premises at the permanent site as it would be conducive to the pooling of related resources and enhancing the efficiency of CM drugs testing.

10. To fulfil these missions and goals, the GCMTI needs a purpose-built premises that can provide the required space and facilities to facilitate more centralised deployment of CM drugs testing resources, support high-end research on CM drugs identification and testing methods, and foster technology transfer. There will be various facilities relating to CM drugs testing in the GCMTI. Upon completion, the GCMTI will benefit the public and stakeholders, and foster the development of CM drugs in various respects. The major setup and work of the GCMTI will be of practical value to CM drugs and testing industries in the following ways –

- (a) The GCMTI will use various dedicated laboratories, including a chemistry laboratory, DNA laboratory, a macroscopic identification laboratory and a microscopic identification laboratory, to embark on high-tech scientific research of testing and standard setting of CM drugs for raising the standard of testing of CM drugs products in Hong Kong. The research results will directly benefit CM drugs traders by providing solutions to their technical difficulties (e.g. methodology examination and identification of CMM) and differentiation of genuine products from fake ones, thereby raising the quality of CM drugs products. As CM and CM drugs are closely related, CM drugs products of higher quality would be conducive to enhance the public's confidence in using CM services. The GCMTI's research projects will benefit the CM and CM drugs sectors as well as the general public. The GCMTI will continue to strengthen communication with academia and stakeholders (in particular the CM drugs trade) in identifying their practical difficulties and formulating appropriate research projects in search for feasible solutions;
- (b) The medicinal plant garden and CM drugs herbarium laboratory are complementary in nature, which will achieve synergy in the research and development of CM drugs. They have multiple functions in respect of facilitating scientific testing and research, talent training, and public science education. The outdoor medicinal plant garden comprises medicinal as well as ornamental plants and will be open to the general public, CM practitioners, CM drugs industry and students. Guided tours will also be available. The garden is the first of its scale in Hong Kong featuring predominantly medicinal plants

of Lingnan (嶺南) characteristics, which will showcase various plants that are used for treatment under CM theory. It also serves the functions to support the GCMTI's research work, facilitate collection and identification of CM specimens, showcase the entire chain of traditional CM drugs from original plants to proprietary Chinese medicines. Furthermore, it supports the promotion of CM drugs education, provision of CM drugs training for the CMH, and promotion of CM drugs knowledge to the public and students through guided tours. The CM drugs herbarium laboratory will collect, classify and display various types of CM drugs specimens. In the collection of these CM drugs specimens of different variety, corresponding CMM specimens, source plants, and specimens of decoction pieces, etc. will be assembled to facilitate precise identification of the source origin of CM drugs. In addition, the GCMTI will digitise physical CM drugs specimens in phases for display through the digitalised platform, and compile data based on microscopic, chemical and DNA analysis of physical CM drugs specimens. The proposals above are supported by the AC;

- (c) The GCMTI aspires to assist the industry in enhancing CM drugs and testing capabilities of their staff. With the proposed international collaboration and training centre, the GCMTI will be able to organise meetings, seminars, training and educational activities for the CM drugs trade and CM testing industry, as well as to transfer the knowledge of reference standards of CM drugs, and technical know-how of CM drugs testing to the CM drugs and testing industries. The international collaboration and training centre will be used in future to host international conferences and meetings relating to CM drugs with a view to maintaining close liaison with related Mainland and international institutions. The GCMTI will cooperate with relevant overseas institutions through various international traditional CM drugs platforms including International Regulatory Cooperation for Herbal Medicines of the World Health Organisation and Western Pacific Regional Forum for the Harmonization of Herbal Medicines. In future, CM practitioners and persons engaged in CM drugs trade can participate in training and exchanges through suitable venues and platforms provided by the international collaboration and training centre for enhancing their professional capabilities;

/(d)

- (d) The CMS of the GL, which is mainly responsible for providing analytical and advisory services to support the DH in its enforcement work, will be relocated to the GCMTI premises. It will also develop new chemical analysis methods to meet the service needs of the DH from time to time. Furthermore, the GL will also set up a new section to promote chemical metrology by organising proficiency testing programmes and developing reference materials on CM drugs to assist testing laboratories in respect of validating analytical methods, establishing traceability of measurement results, ensuring the reliability and accuracy of measurement data, and thereby improving the quality and safety of CM drugs. The new section is to be established in the GCMTI premises to facilitate centralised use of resources and testing technologies for jointly promoting the development of both the CM drugs industry and the testing and certification industry in Hong Kong; and
- (e) The GCMTI will continue to take forward the HKCMMS project. The HKCMMS project has been launched since 2002, with reference standards for 330 CMM developed. The IAB for the HKCMMS which consists of herbal research experts of herbal medicines from a number of countries, as well as representatives of different pharmacopoeial and regulatory authorities, including experts and institutional representatives from the Mainland, Europe, and the United States. They unanimously support the work of the HKCMMS. At present, the National Institutes for Food and Drug Control under the National Medical Products Administration is taking part in the research work of HKCMMS. Other partners include the Chinese Pharmacopoeia Commission of the People's Republic of China, the National Administration of Traditional Chinese Medicine and the GL. With their support, the HKCMMS have become well-recognised reference standards in the field of CM drugs testing and certification. A number of Hong Kong manufacturers of proprietary Chinese medicines certified with the Good Manufacturing Practice and the Hospital Authority have adopted reference standards of HKCMMS in the procurement of CM drugs and quality control. The research work of HKCMMS is of great significance to the standardisation and internationalisation of CM drugs, and can help to promote Hong Kong as an international centre for testing and certification of CM drugs.

11. Furthermore, the GCMTI will strive to collaborate with the CMH and the Mainland counterparts with a view to providing further values –

- (a) The GCMTI will collaborate with the CMH to provide integrated training and technology transfer events on CM drugs and CM for different stakeholders, such as CM practitioners, representatives of trade of CM drug and testing industries, and undergraduates and post-graduates of related subjects. Subject to needs of the CMH, the GCMTI will tailor make training courses for its staff, students of related subject and members of public on CM drugs to strengthen quality control of CM drugs and promote safe use of drugs by the public.

The future CMH will engage in research of CM drugs including evaluation of CM in clinical setting, while the GCMTI specialises in testing and research of CM drugs, using advanced technology to develop reference standards. The GCMTI will actively collaborate with the CMH in research of CM drugs, with a view to capitalising our respective strengths of specialised fields to further develop CM.

- (b) With a view to facilitating the development of evidence-based Chinese medicine (EBCM)³, the GCMTI, adjoining the CMH, will provide help desk supporting services on clinical trial of proprietary Chinese medicines, to offer advice on clinical trial design, applications for related certificates and other regulatory issues (such as importing investigational proprietary Chinese medicines) to researchers or research institutes interested in clinical trials, with an aim to advance the standards of clinical trial, and work synergistically with the CMH, thereby further strengthening the important role of GCMTI in driving CM development; and
- (c) In addition, the GCMTI will pool together resources and further the collaborations in CM in Guangdong-Hong Kong-Macao Greater Bay Area by working with Mainland research institutes to formulate internationally recognised standards in CM products, fostering standardisation and internationalisation of CM. Leveraging this platform, the GCMTI will facilitate the promotion of CM culture and trade to the world.

/12.

³ The approach of EBCM evolved from the theories and methods of evidence-based medicine to collect, evaluate, produce and translate the evidence relating to the effectiveness and safety of CM, revealing characteristics and principles of the clinical effects of CM. The China Center for Evidence Based Traditional Chinese Medicine was established in 2019 for promoting evidence-based Chinese medicine.

12. The GCMTI is a key establishment essential to the development of CM drugs sector. It will continue with its work to develop a set of internationally-recognised reference standards for CM drugs and related products, and foster research and technology transfer on CM drugs testing to the CM drugs and testing industries. The GCMTI's work promotes the collaboration among the government, industry, academic and research sectors. The GCMTI will also play an active role in promoting the development of CM and CM drugs, thereby benefitting the public.

FINANCIAL IMPLICATIONS

13. We estimate the capital cost of the project to be \$2,005.0 million in money-of-the-day (MOD) prices, broken down as follows –

	\$ million (in MOD prices)
(a) Site works	2.2
(b) Foundation	9.3
(c) Building ⁴	824.1
(d) Building services ⁵	626.4
(e) Drainage	10.0
(f) External works	23.0
(g) Additional energy conservation, green and recycled features	29.3
(h) Furniture and equipment (F&E) ⁶	285.3

/\$ million

⁴ Building works cover 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 Based on an indicative list of F&E items and their estimated prices.

		\$ million (in MOD prices)
(i)	Consultants' fees for	6.6
	(i) contract administration	6.5
	(ii) management of resident site staff (RSS)	0.1
(j)	Remuneration of RSS	6.5
(k)	Contingencies	182.3
Total		2,005.0

14. We propose to engage consultants to undertake contract administration and site supervision of the project. A detailed breakdown of the estimate for consultants' fees and RSS costs by man-months is at **Annex 3 to Enclosure 2**. The construction floor area (CFA) of this project is about 27 600 m². The estimated construction unit cost, represented by the building and building services costs, is \$52,554 per m² of CFA in MOD prices. We consider this unit cost reasonable as compared to that of similar projects built by the Government.

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

Year	\$ million (in MOD prices)
2021 – 22	73.2
2022 – 23	109.7
2023 – 24	247.7
2024 – 25	520.2
2025 – 26	476.3
2026 – 27	239.2
2027 – 28	184.7

/Year

Year	\$ million (in MOD prices)
2028 – 29	154.0
	<hr/>
	2,005.0
	<hr/>

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 2021 to 2029. We will deliver the project through a design-and-build contract. We intend to award the contract on a lump-sum basis as we can clearly define the scope of the works in advance. The contract will provide for price adjustment.

17. The DH and the GL have assessed the requirements for F&E for the project and estimates the F&E costs to be about \$285.3 million. The proposed F&E provision represents 19.2% of the total construction cost of the project⁷. An indicative list of major F&E items (costing \$1 million or above per item) to be procured for the project is at **Annex 4 to Enclosure 2**.

18. We estimate the annual recurrent expenditure arising from the project to be about \$198.7 million.

PUBLIC CONSULTATION

19. The Subcommittee on Issues Relating to the Development of Chinese Medicine under the Panel on Health Services was consulted on the proposed works on 8 June 2020 while the Education, Health and Social Welfare Committee of the Sai Kung District Council was consulted on 9 July 2020. Members of the two committees generally supported the project.

20. We consulted the Legislative Council Panel on Health Services on 9 April 2021. Members supported the submission of the funding proposal to the Public Works Subcommittee.

/ENVIRONMENTAL

⁷ Represented by building, building services, drainage and external works costs.

ENVIRONMENTAL IMPLICATIONS

21. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We completed a Preliminary Environmental Review (PER) for the project in October 2020. The PER concluded that the project would not cause long-term environmental impacts and the findings were agreed with the Director of Environmental Protection. We have included in the project estimates the costs to implement suitable environmental mitigation measures during construction to control short-term environmental impacts.

22. We will control noise, dust and site run-off nuisances during construction to within established standards and guidelines through the implementation of mitigation measures in the relevant contract. These include the use of silencers, mufflers, acoustic linings or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel washing facilities.

23. At the planning and design stages, we have considered measures to reduce generation of construction waste wherever 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 disposal of inert construction waste at public fill reception facilities (PFRFs)⁸. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, and the use of non-timber formwork to further reduce the generation of construction waste.

24. At the construction stage, we will require the contractor to submit for approval a plan setting out waste management measures, which will include appropriate mitigation measures 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 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 PFRFs and landfills respectively through a trip-ticket system.

/25.

⁸ PFRFs are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N). Disposal of inert construction waste at PFRFs requires a licence issued by the Director of Civil Engineering and Development.

25. We estimate that the proposed project will generate in total about 30 810 tonnes of construction waste. Of these, we will reuse about 2 600 tonnes (8.4%) of inert construction waste on site and deliver about 24 890 tonnes (80.8%) of inert construction waste to PFRFs for subsequent reuse. We will dispose of the remaining 3 320 tonnes (10.8%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at PFRFs and landfill sites is estimated to be about \$2.4 million for the project (based on a unit charge rate of \$71 per tonne for disposal at PFRFs and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

26. 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

27. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

28. 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 space heating and dehumidification; and
- (e) photovoltaic system.

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

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

31. The total estimated additional cost for adoption of the above features is around \$29.3 million (including \$8.2 million 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

32. We upgraded **1MZ** to Category B in August 2019. We engaged consultants to undertake various services and investigation works, including ground investigation, geotechnical assessment, underground services investigation, topographical survey, PER, traffic impact assessment, landfill gas hazard assessment and contract advisory services and quantity surveying services, at a total cost of about \$3.3 million. The services and works provided by the consultants were funded under block allocation **Subhead 3100GX** “Project feasibility studies, minor investigations and consultants’ fees for items in Category D of the Public Works Programme”. All the above services and investigation works have been completed except for the contract advisory services and quantity surveying services.

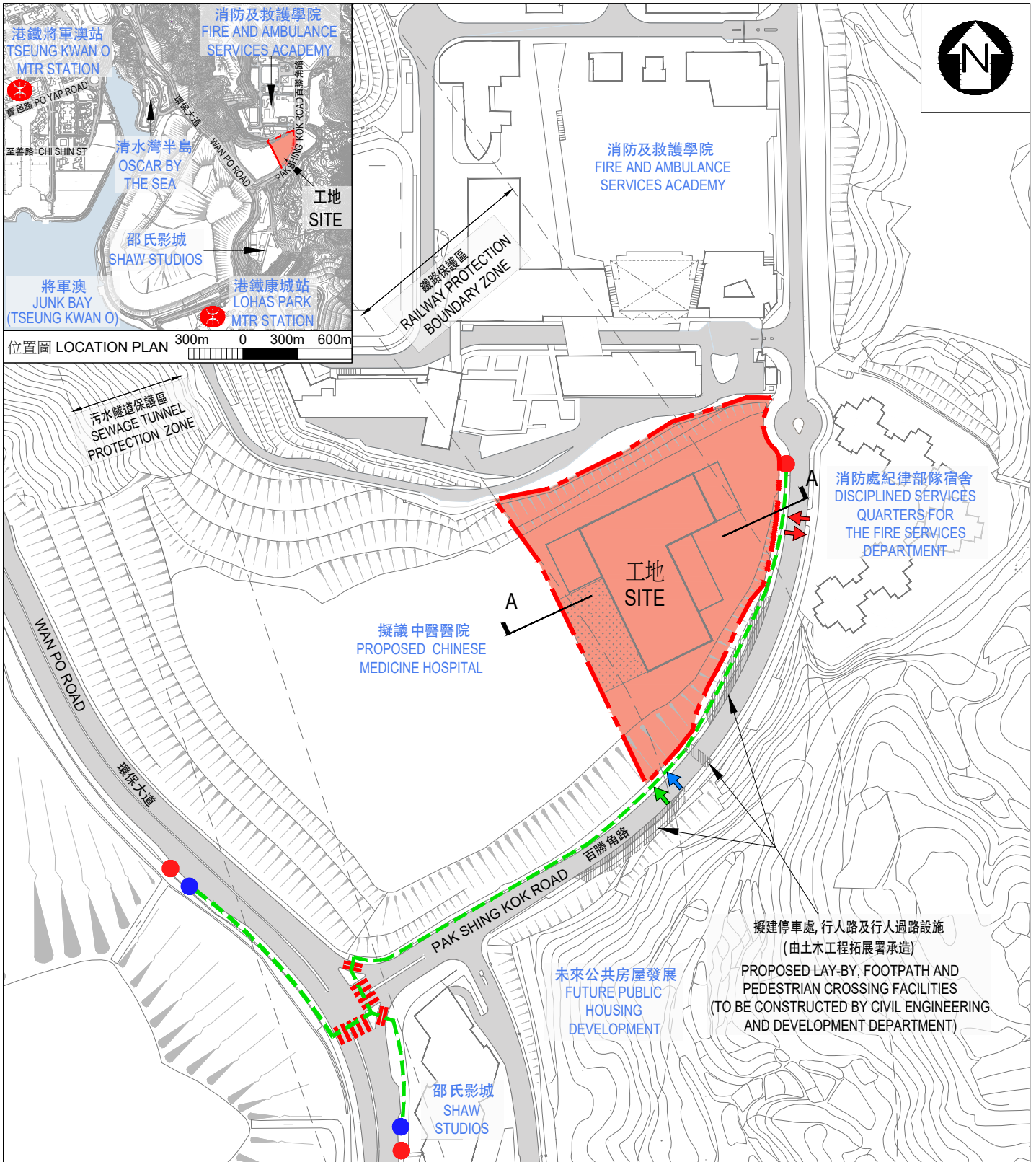
33. Of the 29 trees within the project boundary, 19 trees will be preserved. The proposed project will involve removal of 10 trees. All trees to be removed are not important trees⁹. We will incorporate planting proposals as part of the project, including estimated quantities of 10 trees and about 36 000 shrubs/groundcovers/climbers.

/34.










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.

34. We estimate that the proposed works will create about 390 jobs (350 for labourers and 40 for professional or technical staff) providing a total employment of 15 800 man-months.



圖例 LEGEND

- | | | | |
|--|--|---|---|
|  工地界線
SITE BOUNDARY |  現有巴士站
EXISTING BUS STOP |  现有小巴士
EXISTING MINIBUS STOP |  現有行人過路處
EXISTING AT-GRADE
PEDESTRIAN CROSSING |
|  車輛出入口
VEHICULAR INGRESS /
EGRESS |  行人出入口
PEDESTRIAN ENTRANCE /
EXIT |  無障礙出入口
BARRIER-FREE
ENTRANCE / EXIT |  無障礙通道
BARRIER-FREE
ACCESS |
|  藥用植物園
MEDICINAL PLANT
GARDEN | | | |



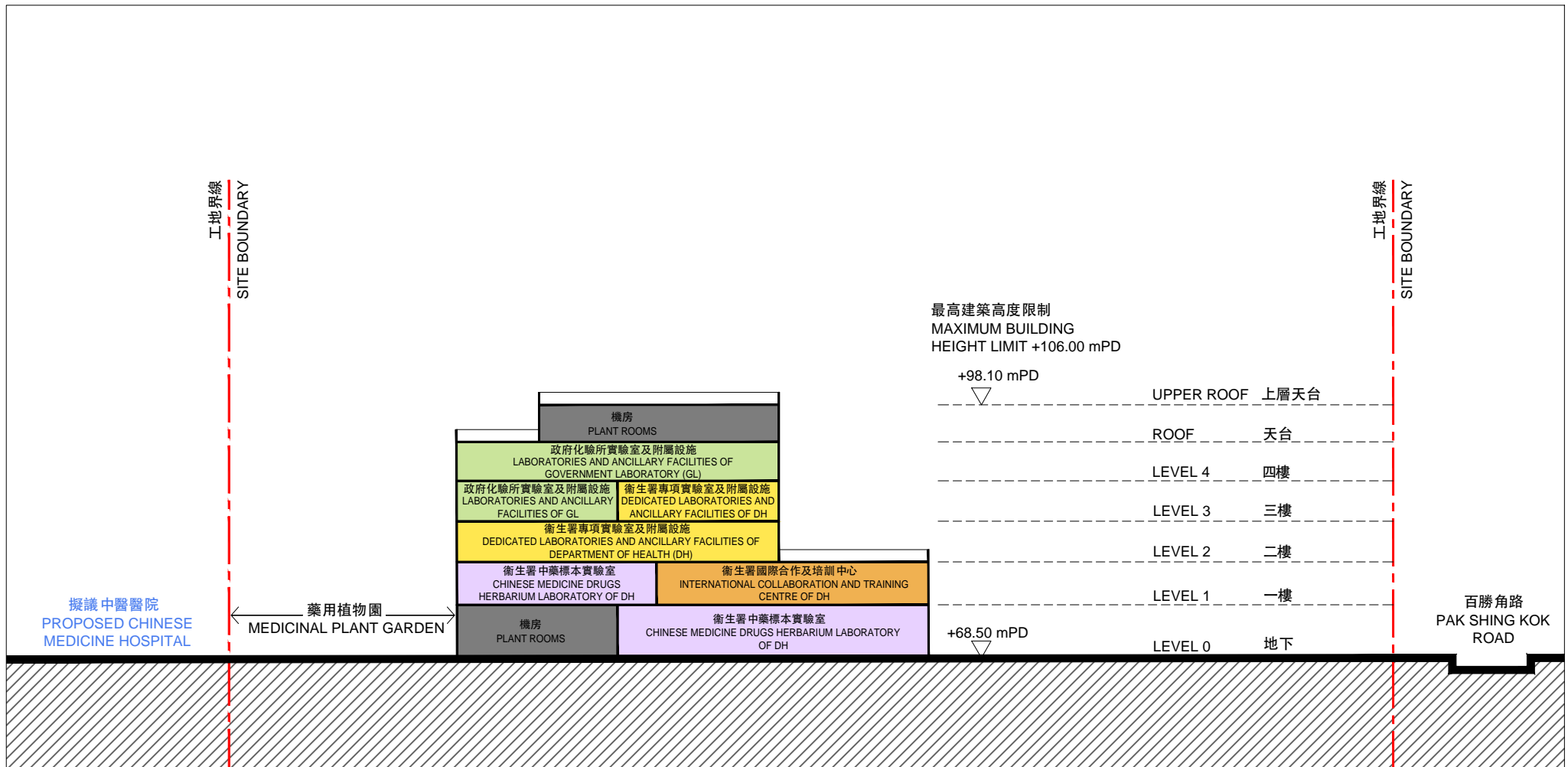
工地平面圖
SITE PLAN

1MZ

在將軍澳成立政府中藥檢測中心
**THE ESTABLISHMENT OF GOVERNMENT CHINESE MEDICINES
TESTING INSTITUTE IN TSEUNG KWAN O**



ARCHITECTURAL
SERVICES
DEPARTMENT 建築署



剖面圖 A-A
SECTION A-A

1MZ
在將軍澳成立政府中藥檢測中心
THE ESTABLISHMENT OF GOVERNMENT CHINESE MEDICINES TESTING INSTITUTE IN TSEUNG KWAN O

**1MZ – The establishment of Government Chinese Medicines Testing Institute
in Tseung Kwan O**

**Breakdown of the estimates for consultants' fees and resident site staff costs
(in September 2020 prices)**

		Estimated man- months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(a) Consultants' fees for contract administration (Note 2)	Professional	–	–	–	3.3
	Technical	–	–	–	1.9
				Sub-total	<u>5.2 #</u>
(b) Resident site staff (RSS) costs (Note 3)	Professional	14	38	1.6	1.9
	Technical	70	14	1.6	3.4
				Sub-total	<u>5.3 #</u>
Comprising –					
(i) Consultants' fees for management of RSS					0.1 #
(ii) Remuneration of RSS					<u>5.2 #</u>
				Total	<u>10.5</u>

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the staff cost of RSS supplied by the consultants (as at now, MPS salary point 38 = \$85,870 per month and MPS salary point 14 = \$30,235 per month).
2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the provision of contract administration and site supervision of **1MZ**. The assignment will only be executed subject to the Finance Committee's funding approval to upgrade **1MZ** to Category A.
3. The consultants' fee and staff cost for site supervision is 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 cost figures marked with # are shown in money-of-the-day prices in paragraph 13 of **Enclosure 2**.

**1MZ – The establishment of Government Chinese Medicines Testing Institute
in Tseung Kwan O**

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

Items for Department of Health

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
Access Card System	1	4.1	4.1
DNA Extraction Workstation	1	1.2	1.2
DNA Sequencer System	3	2.1	6.3
Electronic Nose Analyzer	1	1.8	1.8
Electronic Tongue Analyzer	1	1.4	1.4
Fast Protein Liquid Chromatography System	1	1.0	1.0
Gas Chromatograph-Tandem Mass Spectrometer System	2	1.6	3.2
Gel Permeation Chromatograph System	1	1.0	1.0
High Performance Liquid Chromatograph with Various Detectors System	7	1.3	9.1
High Performance Liquid Chromatograph with Diode Array Detector and Fluorescence Detector System	2	1.5	3.0
High Performance Liquid Chromatograph with Inductively Coupled Plasma Mass Spectrometer System	1	4.3	4.3
Inductively Coupled Plasma Mass Spectrometer System	1	2.0	2.0
Inductively Coupled Plasma Optical Emission Spectrometer System	1	1.2	1.2
Ion Chromatograph	1	1.2	1.2

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
Liquid Chromatograph-Tandem Mass Spectrometer System - Quadrupole Traps Type	1	6.7	6.7
Liquid Chromatograph-Tandem Mass Spectrometer System - Triple Quadrupole Type	2	6.4	12.8
Polymerase Chain Reaction Automatic Robotic System / Robotic Library Preparation System	2	2.3	4.6
Preparative Thin Layer Chromatography System	4	1.2	4.8
Telephone System, Private Automatic Branch Exchange	1	1.5	1.5
Ultra High Performance Liquid Chromatograph with Diode Array Detector System	3	1.1	3.3
X-ray Powder Diffractometer System with Water Chiller	1	2.5	2.5
55" Open Frame OLED Display System with Control and Player (9 units system)	1	1.1	1.1
55" Open Frame OLED Display System with Control and Player (12 units system)	1	1.3	1.3

Items for Government Laboratory

Item description	Quantity	Unit cost (\$ million)	Total cost (\$ million)
Access Card System	1	3.3	3.3
Gamma/X-ray Irradiator	1	3.3	3.3
Gas Chromatography-Tandem Mass Spectrometry System	1	3.2	3.2
High Performance Liquid Chromatography-Tandem Mass Spectrometry System	1	3.2	3.2
Homogenization Assembly System	1	1.4	1.4
Ion Chromatography System	1	4.4	4.4
Ion Chromatography-Inductively Coupled Plasma-Tandem Mass Spectroscopy System	1	6.0	6.0
Ultra Performance Liquid Chromatography-Mass Spectrometry System	1	9.0	9.0