For discussion **PWSC(2015-16)34**
(date to be confirmed)

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS
Education – Others
110ET – A 12-classroom special school for children with mild intellectual disability near Hoi Lai Estate, Sham Shui Po

Members are invited to recommend to Finance Committee the upgrading of **110ET** to Category A at an estimated cost of $256.6 million in money-of-the-day prices for the construction of a 12-classroom special school for children with mild intellectual disability.

PROBLEM

We need to improve the teaching and learning environment of an existing special school through reprovisioning.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **110ET** to Category A at an estimated cost of $256.6 million in money-of-the-day (MOD) prices for the construction of a special school near Hoi Lai Estate in Sham Shui Po, for reprovisioning of the Church of Christ in China Mongkok Church, Kai Oi School (Kai Oi School).

/PROJECT ……

PROJECT SCOPE AND NATURE

3. The project site occupies an area of around 4 400 square metres (m^2) near Hoi Lai Estate in Sham Shui Po. The proposed scope of works under the project includes the construction of a 12-classroom school for children with mild intellectual disability (MiID) with the following facilities –

(a) 12 classrooms;

(b) two small group teaching rooms;

(c) six special rooms, comprising a music room, a visual arts room, a computer room, a home economics room, a design and technology room and a computer-assisted-learning room;

(d) an optional subject room[1];

(e) four speech therapy rooms;

(f) a multi-purpose room;

(g) two interview rooms;

(h) a library and resource room;

(i) a staff room;

(j) a general office and a staff common room;

(k) a conference room;

(l) three social worker's rooms;

(m) a student activity centre;

(n) a multi-purpose area;

(o) an assembly hall;

(p) ……

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[1] Optional subject room is for training on the practical and independent living skills to prepare the senior secondary students for vocational training provided by Integrated Vocational Training Centre and Shine Skills Centre after they finish secondary education.

(p) a basketball court and a covered playground;

(q) a green corner[2]; and

(r) other ancillary facilities including a disabled/fireman's lift, facilities for the disabled, a tuck shop, stores and toilets, etc.

4. The proposed new school premises will meet the planning target of providing two square metres of open space per student. A site plan, floor plans, sectional plans, artist's impressions and a barrier-free access plan for the project are at Enclosures 1 to 6 respectively. Subject to the funding approval by the Finance Committee (FC) within the current legislative session, we plan to commence construction in January 2016 for completion in April 2018. Upon completion of the project, the school will provide 180 MiID school places.

JUSTIFICATION

5. It is the Government's plan to improve the physical conditions of sub-standard school premises through the School Improvement Programme as well as reprovisioning and redevelopment. Constructed almost 40 years ago and with in-situ improvement inhibited by physical constraints, Kai Oi School is critically in need of reprovisioning.

6. In the 2014-15 school year, Kai Oi School operates 11 classes to accommodate 165 students at premises in Mongkok with a site area of about 550 m^2. The school is operating beyond its design capacity to meet the demand and does not have any additional space for infrastructure upgrading or in-situ redevelopment. The existing school premises lack essential facilities such as assembly hall, open playground, student activity centre, visual arts room, computer-assisted-learning room, multi-purpose room, multi-purpose area, resource room, conference room, staff common room and interview room. In addition, the existing school premises have no lay-bys for school buses. Many of the existing facilities such as music room, home economics room, computer room, speech therapy room, social worker's room, staff room are undersized. Due to site constraints, reprovisioning is considered the most effective way to improve the school's teaching and learning environment.

/FINANCIAL ……

[2] A green corner is a designated area inside the campus to encourage students to develop an interest in horticulture and natural environment. The green corner may include planting beds.

FINANCIAL IMPLICATIONS

7. We estimate the capital cost of the project to be $256.6 million in MOD prices (please see paragraph 9 below), broken down as follows –

			$ million	
(a)	Piling		33.0	
(b)	Building		84.7	
(c)	Building services		18.6	
(d)	Drainage		5.5	
(e)	External works		26.4	
(f)	Additional energy conservation, green and recycled features		4.1	
(g)	Furniture and equipment (F&E)[3]		2.9	
(h)	Consultants' fees for		6.6	
	(i) contract administration	6.3		
	(ii) management of resident site staff (RSS)	0.3		
(i)	Remuneration of RSS		8.4	
(j)	Contingencies		19.0	
	Sub-total		209.2	(in September 2014 prices)
(k)	Provision for price adjustment		47.4	
	Total		256.6	(in MOD prices)

8. We propose to engage consultants to undertake contract administration and site supervision for the project. A detailed breakdown of the estimates for consultants' fees and RSS costs by man-months is at Enclosure 7.

/The ……

[3] The estimated cost is based on an indicative list of F&E required for a new 12-classroom special school for children with MiID. The actual cost will be subject to a survey on the conditions of the existing F&E.

The construction floor area (CFA) of this project is about 5 500 m^2. The estimated construction unit cost, represented by the building and building services costs, is $18,782 per m^2 of CFA in September 2014 prices. We consider this construction unit cost comparable to that of similar projects built by the Government.

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

Year	$ million (Sept 2014)	Price adjustment factor	$ million (MOD)
2015 – 16	2.0	1.05725	2.1
2016 – 17	35.0	1.12069	39.2
2017 – 18	90.0	1.18793	106.9
2018 – 19	40.0	1.25920	50.4
2019 – 20	25.0	1.33475	33.4
2020 – 21	12.0	1.40483	16.9
2021 – 22	5.2	1.47507	7.7
	209.2		256.6

10. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2015 to 2022. We will deliver the construction works through a lump-sum contract because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

11. The cost of F&E for the project, estimated to be about $2.9 million, will be borne by the Government according to the existing policy. We estimate the annual recurrent expenditure arising from this project to be $27.7 million upon full commissioning of the new school premises.

/PUBLIC ……

PUBLIC CONSULTATION

12. We consulted the Shum Shui Po District Council on 13 January 2015. Members supported the project. The school consulted parents concerned on the reprovisioning project and the design of the new school premises through workshop, seminar and meeting with school representatives from October 2014 to May 2015. Parents concerned supported the reprovisioning project.

13. We also consulted the Legislative Council Panel on Education on 11 May 2015. Members supported the project.

ENVIRONMENTAL IMPLICATIONS

14. The project is not a designated project under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed the Preliminary Environmental Review (PER) for the project and agreed the PER findings with the Director of Environmental Protection in May 2015. The PER recommended implementation of the following mitigation measures –

(a) insulated windows and air-conditioning for the following rooms exposed to excessive traffic noise –

  (i) nine classrooms;

  (ii) the visual arts room, design and technology room, multi-purpose room, home economics room, optional subject room, music room and two small group teaching rooms; and

(b) solid boundary wall along parts of east and west sides exposed to excessive traffic noise.

15. With the mitigation measures in place, noise affecting the teaching and learning environment of the reprovisioned School will be reduced to the minimum. The estimated cost of the above mitigation measures is $5.4 million in September 2014 prices. We have included the cost of these mitigation measures as part of the building, building services and external works in the project estimate in paragraph 7 above.

/16. ……

16. 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 quieter Powered Mechanical Equipment, acoustic lining or shields and the building of temporary barriers for noisy construction activities, frequent cleaning and watering of the site and the provision of wheel-washing facilities.

17. 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[4]. 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.

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

19. We estimate that the project will generate in total about 6 200 tonnes of construction waste. Of these, we will reuse about 1 900 tonnes (30.7%) of inert construction waste on site and deliver about 3 400 tonnes (54.8%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining about 900 tonnes (14.5%) 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 $0.2 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 ……

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

HERITAGE IMPLICATIONS

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

LAND ACQUISITION

21. The project does not require any land acquisition.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

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

(a) heat recovery fresh air pre-conditioners in the air-conditioned space for heat energy reclaim of exhaust air; and

(b) photovoltaic system.

23. For greening features, there will be vertical greening on the building façade and landscape in the appropriate area on the main roofs and terraces for environmental and amenity benefits.

24. For recycled features, we will adopt rainwater harvesting system for landscape irrigation with a view to conserving water.

25. The total estimated additional cost for adoption of the above features is around $4.1 million (including $0.4 million for energy efficient features), which has been included in the cost estimate of this project. The energy efficient features will achieve 7.9% energy savings in the annual energy consumption with a payback period of about 8.1 years.

/**BACKGROUND** ……

BACKGROUND INFORMATION

26. We upgraded **110ET** to Category B in September 2012. We engaged a consultant in July 2014 to undertake various services, including PER, building environmental assessment, detailed design and preparation of tender documents; contractors to undertake topographical survey in August 2014 and ground investigation in December 2014; and a quantity surveying consultant in April 2015 to prepare tender documents at a total cost of about $8.2 million. The services and works by the consultants and contractors are 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 works have been completed.

27. Of the 43 trees within the project boundary, four trees will be preserved. The proposed works will involve the removal of 39 trees, including 14 trees to be felled and 25 trees to be replanted within the project site. All trees to be removed are not important trees[5]. We will incorporate planting proposals as part of the project, including the planting of about 17 trees, 10 000 shrubs and 5 000 groundcovers.

28. We estimate that the proposed works will create about 125 jobs (110 for labourers and another 15 for professional/technical staff) providing a total employment of 2 400 man-months.

Education Bureau
June 2015

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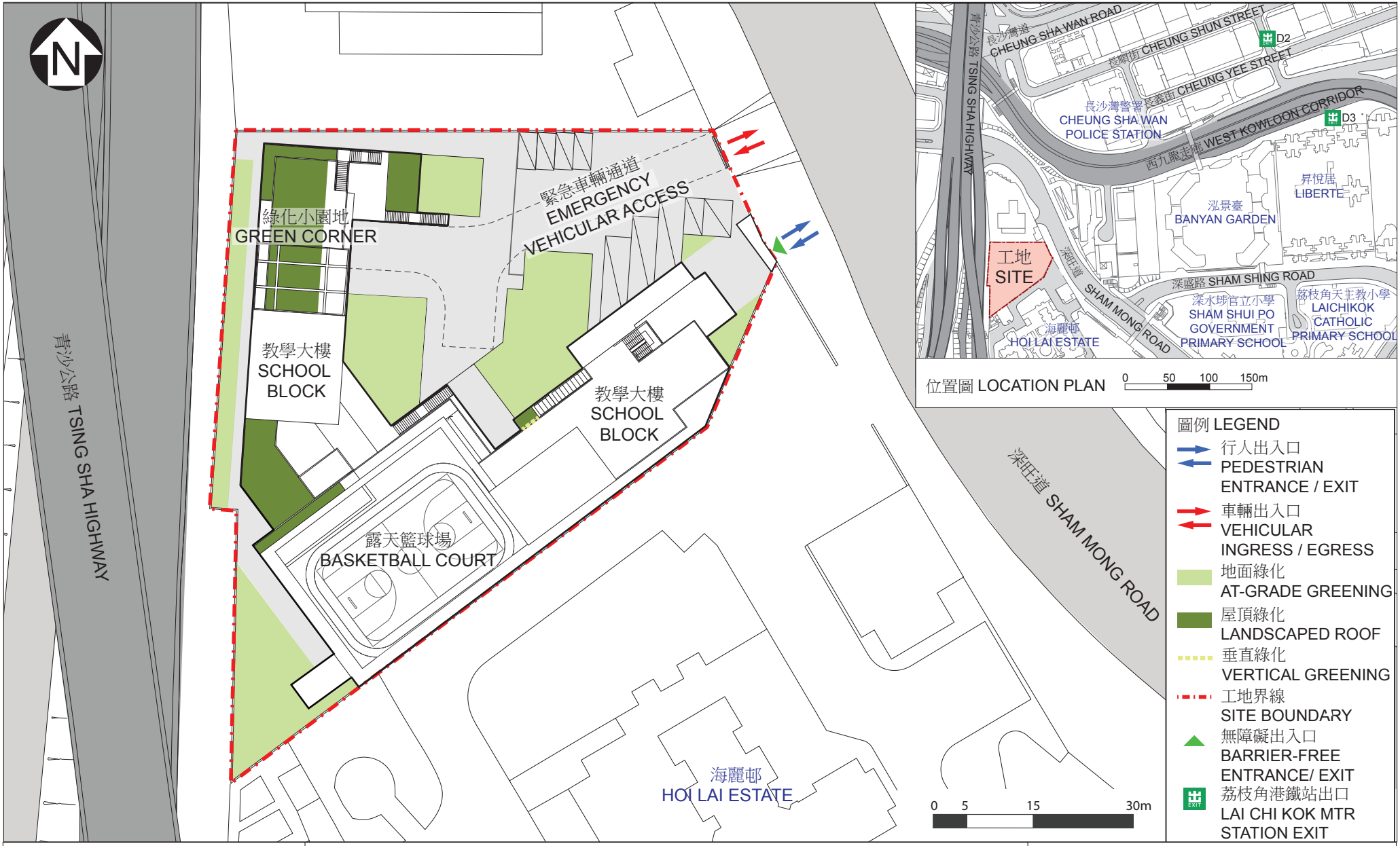
[5] "Important trees" refer to trees in the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

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



工地平面圖
SITE PLAN

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH
MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

ARCHITECTURAL
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DEPARTMENT 建築署

地下平面圖
GROUND FLOOR PLAN

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

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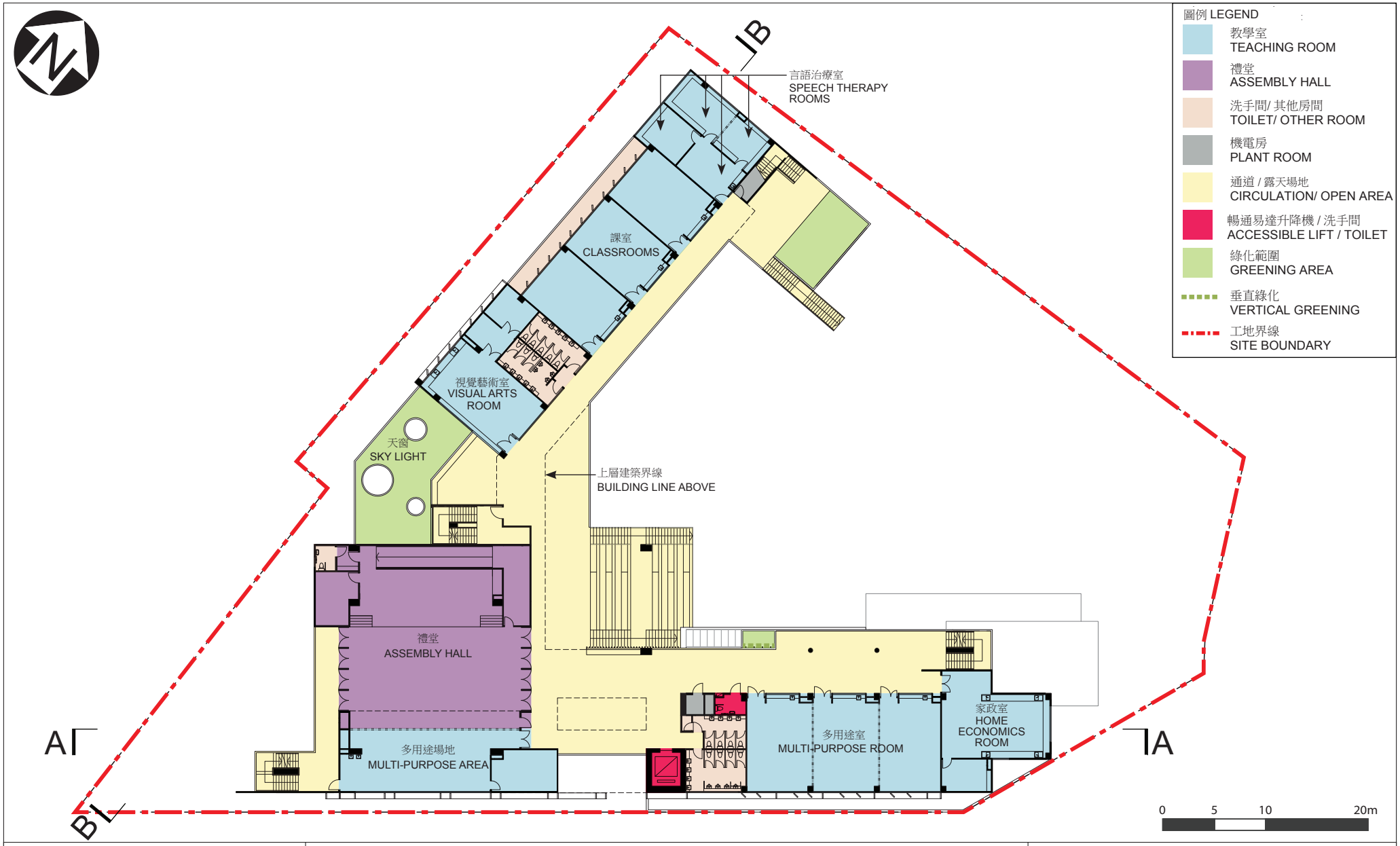

一樓平面圖
FIRST FLOOR PLAN

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

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二樓平面圖
SECOND FLOOR PLAN

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

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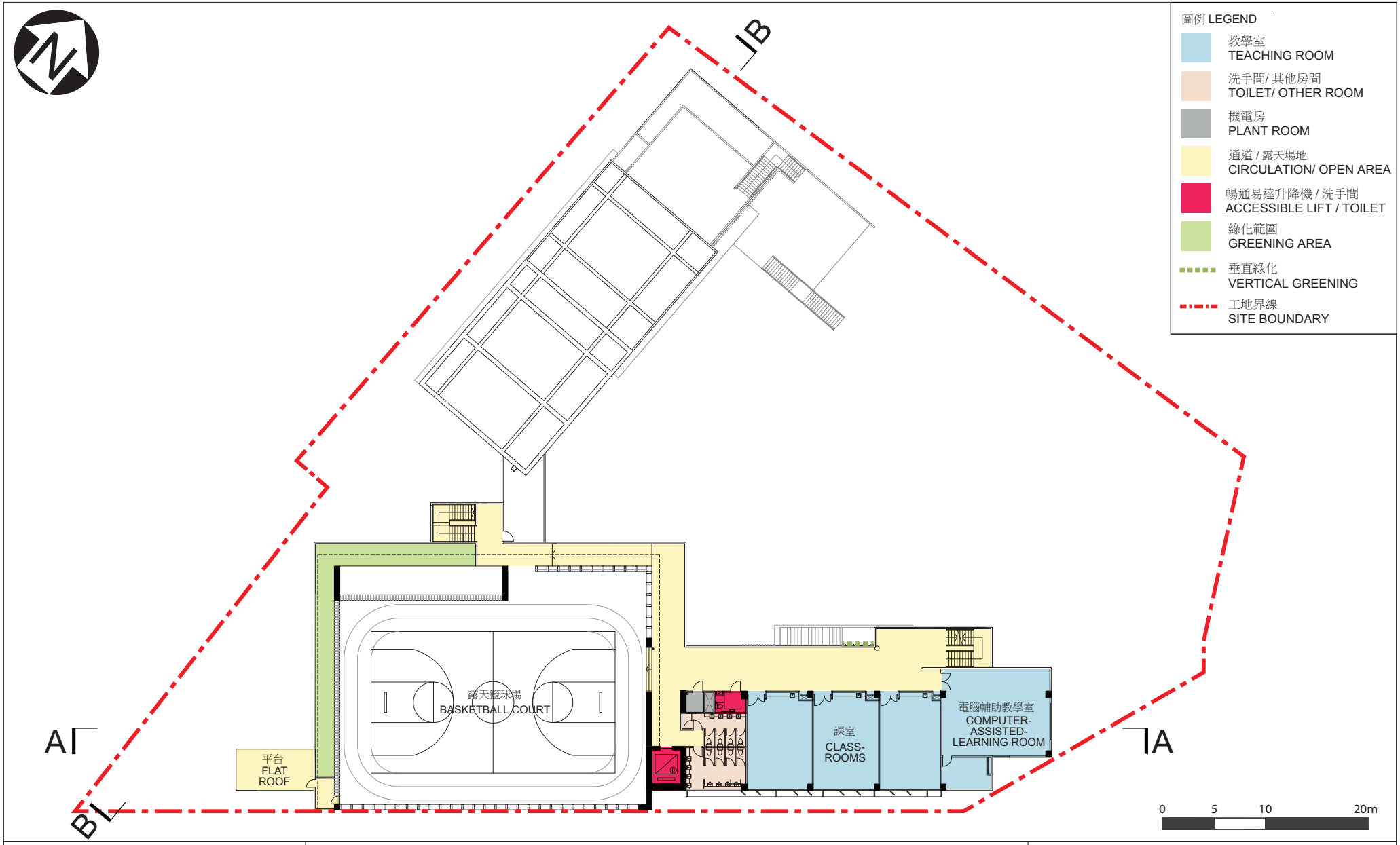

三樓平面圖
THIRD FLOOR
PLAN

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH
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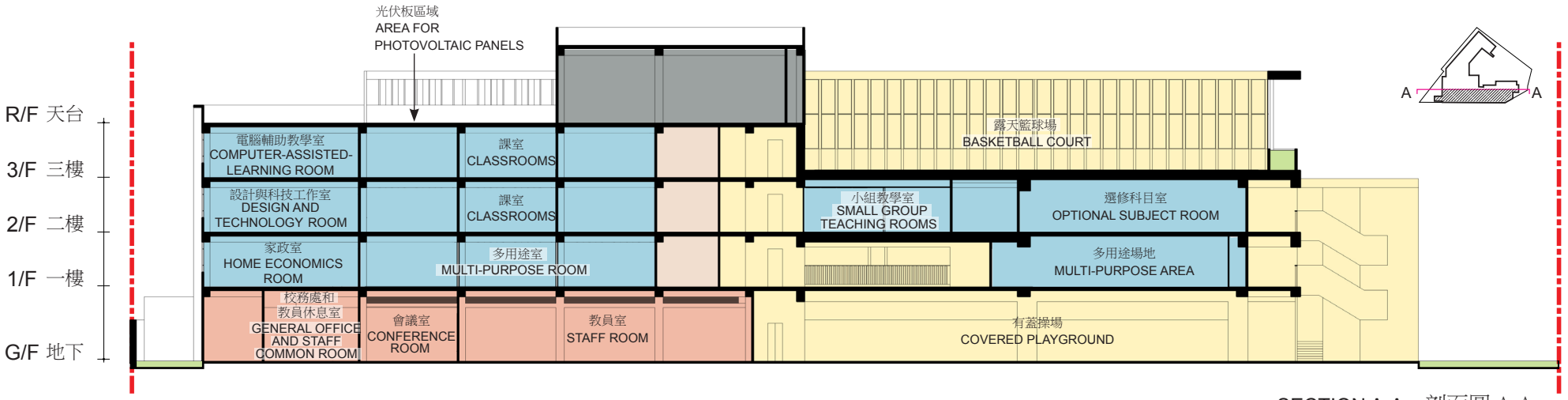
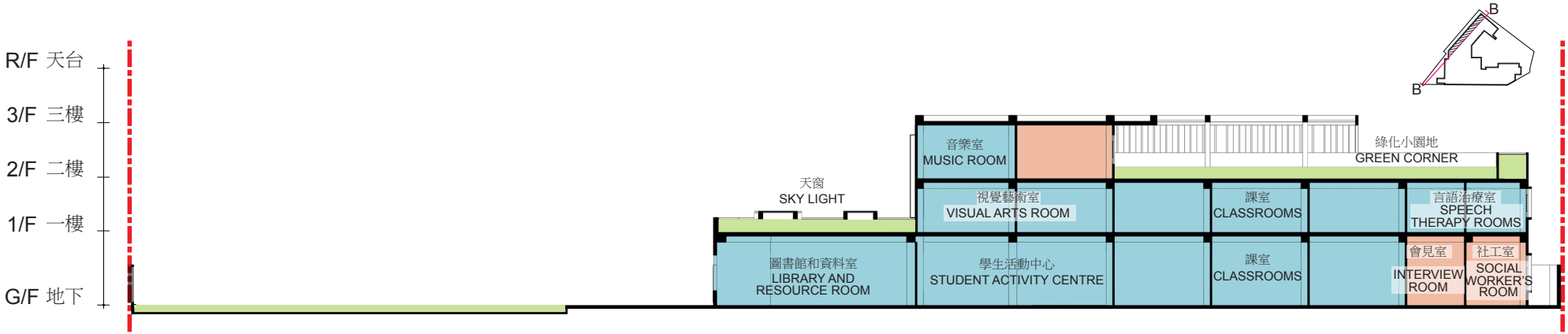


SECTION A-A 剖面圖 A-A



SECTION B-B 剖面圖 B-B

圖例 LEGEND

教學室 TEACHING ROOM	教職員範圍 STAFF AREA	洗手間/ 其他房間 TOILET/ OTHER ROOM	機電房 PLANT ROOM	通道 / 露天場地 CIRCULATION/ OPEN AREA	綠化範圍 GREENING AREA	工地界線 SITE BOUNDARY

0 5 10 20m

剖面圖
SECTION

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH
MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

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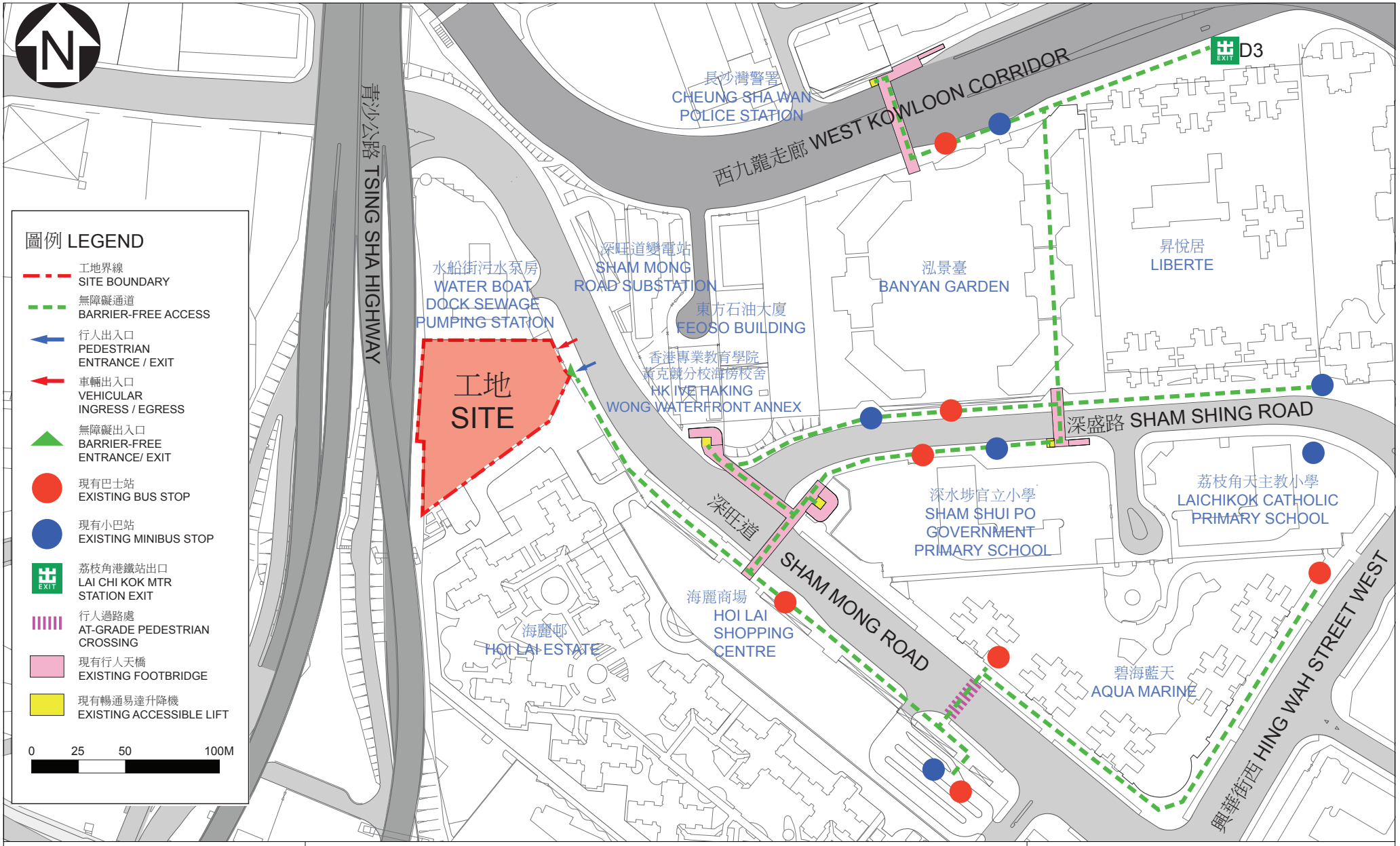
從東北面望向學校的構思鳥瞰圖
AERIAL VIEW FROM NORTH EASTERN DIRECTION

構思圖 ARTIST'S IMPRESSION	110ET 在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校 A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO	ARCHITECTURAL SERVICES DEPARTMENT 建築署

從東北面望向學校的構思透視圖
PERSPECTIVE VIEW FROM NORTH EASTERN DIRECTION

構思圖 ARTIST'S IMPRESSION	110ET 在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校 A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO	ARCHITECTURAL SERVICES DEPARTMENT 建築署



無障礙通道平面圖
PLAN OF BARRIER-FREE ACCESS

110ET
在深水埗海麗邨附近興建 1 所設有12 間課室的輕度智障兒童特殊學校
A 12-CLASSROOM SPECIAL SCHOOL FOR CHILDREN WITH MILD INTELLECTUAL DISABILITY NEAR HOI LAI ESTATE, SHAM SHUI PO

ARCHITECTURAL SERVICES DEPARTMENT 建築署

110ET – A 12-classroom special school for children with mild intellectual disability near Hoi Lai Estate, Sham Shui Po

Breakdown of the estimates for consultants' fees and resident site staff costs (in September 2014 prices)

			Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee ($ million)
(a)	Consultants' fees for contract administration (Note 2)	Professional	–	–	–	4.7
		Technical	–	–	–	1.6
					Sub-total	6.3
(b)	Resident site staff (RSS) costs (Note 3)	Professional	15	38	1.6	1.7
		Technical	179	14	1.6	7.0
					Sub-total	8.7
	Comprising –					
	(i) Consultants' fees for management of RSS				0.3	
	(ii) Remuneration of RSS				8.4	
					Total	**15.0**

* MPS = Master Pay Scale

Notes

1. A multiplier of 1.6 is applied to the average MPS salary point to estimate the cost of RSS supplied by the consultants (as at now, MPS salary point 38 = $71,385 per month and MPS salary point 14 = $24,380 per month).

2. The consultants' fees for contract administration are calculated in accordance with the existing consultancy agreement for the design and construction of **110ET**. The assignment will only be executed subject to Finance Committee's funding 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.