ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDING

Education – Primary

360EP – First 30-classroom primary school at Queen's Hill, Fanling

361EP - Second 30-classroom primary school at Queen's Hill, Fanling

Members are invited to recommend to the Finance Committee the upgrading of **360EP** and **361EP** to Category A at estimated costs of \$386.1 million and \$386.6 million in money-of-the-day prices respectively.

PROBLEM

We need to construct two new primary schools at Queen's Hill, Fanling to meet the projected demand for public sector primary school places in the North District, including those arising from a new Public Housing Development (PHD) at Queen's Hill.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Education, proposes to upgrade **360EP** and **361EP** to Category A at estimated costs of \$386.1 million and \$386.6 million in money-of-the-day (MOD) prices respectively for the construction of two primary schools at Queen's Hill, Fanling.

PROJECT SCOPE AND NATURE

- 3. The proposed scope of works of each of the two projects includes
 - (a) 30 classrooms;
 - (b) six special rooms, comprising a music room, a visual arts room, a general studies room, a multi-purpose room, a computer assisted learning room and a language room;
 - (c) four small group teaching rooms;
 - (d) a guidance activity room;
 - (e) two interview rooms;
 - (f) a staff room and a staff common room;
 - (g) a student activity centre;
 - (h) a conference room;
 - (i) a library;
 - (j) an assembly hall;
 - (k) multi-purpose area;
 - (l) two basketball courts;
 - (m) a running track¹; and
 - (n) ancillary facilities including an accessible/fireman's lift, facilities for the disabled, a tuck shop-cumcentral portioning area, stores and toilets, etc.
- 4. The two proposed new school premises, each with a site area of about 5 850 square metres (m²), will meet the planning target of providing 2 m² of open space per student. The site and location plans, floor plans, sectional drawings, artist's impressions, and the barrier-free access plans for the two projects are at Enclosures 1 to 10.

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A 60-metre running track will be provided to make optimal use of the campus space.

5. Subject to the funding approval of the Finance Committee (FC) and the land resumption progress, we plan to commence the construction works in the second quarter of 2019 for completion in the third quarter of 2021.

JUSTIFICATION

- 6. Under the established mechanism, the Government will reserve sites for public sector school development when preparing town plans and planning large-scale residential developments having regard to the planned population intake and on the basis of the needs for community services in accordance with the guidelines set out in the Hong Kong Planning Standards and Guidelines. The two school sites in question were reserved in accordance with the above-mentioned mechanism.
- 7. The PHD at Queen's Hill is scheduled for completion in 2021 by phases to provide about 12 000 housing units with an estimated population of about 34 300. To meet the rising demand for public sector primary school places of the North District after taking into account the future population intake of the PHD at Queen's Hill, as well as the projected demand and supply situation of the North District, we consider that there is a need for two new 30-classroom aided primary schools at Queen's Hill from the 2021/22 school year. The two planned school premises to be constructed under **360EP** and **361EP** were allocated to the General of the Salvation Army and the Tung Wah Group of Hospitals respectively through the School Allocation Exercise completed in 2017.
- 8. Under the Primary One Admission System, the 18 districts in the territory are divided into 36 school nets and there are three school nets, viz. Net 80, Net 81 and Net 83, in the North District. The two proposed new primary schools at Queen's Hill will be in Net 81. Upon completion of the two proposed projects, each primary school may operate up to 30 classes, subject to the actual enrolment and operational need.

FINANCIAL IMPLICATIONS

9. We estimate the capital costs of the two projects **360EP** and **361EP** to be \$386.1 million and \$386.6 million in MOD prices respectively, broken down as follows –

\$ million
(in MOD prices)

		360EP	361EP
(a)	Piling	28.4	27.2
(b)	Building ²	177.8	178.5
(c)	Building services	64.0	63.8
(d)	Drainage	13.4	14.3
(e)	External works	42.7	42.7
(f)	Additional energy conservation, green and recycled features	7.4	7.7
(g)	Consultants' fees for	9.3 9.1	9.3
	(i) contract administration(ii) management of resident site staff (RSS)	0.2	0.2
(h)	Remuneration of RSS	8.0	8.0
(i)	Contingencies	35.1	35.1
	Total	386.1	386.6

10. We propose to engage consultants to undertake contract administration and site supervision of the projects. A detailed breakdown of the estimate for consultants' fees and resident site staff costs by man-months is at Enclosure 11. The construction floor area (CFA) of **360EP** and **361EP** are about 11 200 m² and 11 146 m² respectively. The estimated construction unit cost, represented by the building and building services costs, are \$21,589 per m² for **360EP** and \$21,739 per m² for **361EP** of CFA in MOD prices. We consider these comparable to that of similar projects built by the Government.

/11.

² Building works cover construction of substructure and superstructure of the building.

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

Year	•	llion OD)
	360EP	361EP
2019 – 2020	21.0	21.0
2020 – 2021	108.9	108.9
2021 – 2022	164.0	164.0
2022 - 2023	48.5	48.5
2023 – 2024	30.6	30.6
2024 – 2025	13.1	13.6
	386.1	386.6

- 12. We have derived the MOD estimates on the basis of the Government's latest set of assumptions on the trend rate of change in the prices of public sector building and construction output for the period 2019 to 2025. 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 adjustment.
- 13. We estimate the annual recurrent expenditure for each school to be \$42.5 million. As the two new schools will be aided schools, the respective sponsoring bodies will bear the cost of furniture and equipment, estimated at about \$2.3 million for each school.

PUBLIC CONSULTATION

14. We consulted the Social Services, Labour and Economic Affairs Committee of the North District Council on the two projects on 4 September 2018. Members of the Committee supported the two projects.

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15. We consulted the Legislative Council Panel on Education on 2 November 2018. Members of the Panel supported the projects and did not raise any objection to the submission of the funding proposal to the Public Works Subcommittee.

ENVIRONMENTAL IMPLICATIONS

- 16. The two projects are not designated projects under the Environmental Impact Assessment Ordinance (Cap. 499). We have completed a Preliminary Environmental Review (PER) following the "Class Assessment Document for Standard Schools" in November 2018. The PER recommended the installation of insulated windows for noise sensitive rooms exposed to traffic noise exceeding the limits set out in the Hong Kong Planning Standards and Guidelines, in addition to the standard provision of air-conditioning for all standard teaching facilities. With such mitigation measures in place, the projects will not be exposed to long-term environmental impacts. The estimated cost of the recommended installation of insulated windows are \$3.7 million for **360EP** and \$3.3 million for **361EP** in MOD prices. We have included in the project estimates the cost to implement this mitigation measure.
- 17. 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 linings or shields and the building of barrier walls for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities.
- 18. 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 facilities³. 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.

/19.

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.

- 19. At the construction stage, we will require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.
- 20. We estimate that the projects will generate in total about 23 060 tonnes of construction waste. Of these, we will reuse about 12 240 tonnes (53.1%) of inert construction waste on site and deliver 7 350 tonnes (31.9%) of inert construction waste to public fill reception facilities for subsequent reuse. We will dispose of the remaining 3 470 tonnes (15.0%) of non-inert construction waste at landfills. The total cost for disposal of construction waste at public fill reception facilities and landfill sites is estimated to be \$1.2 million for the two projects (based on a unit charge rate of \$71 per tonne for disposal at public fill reception facilities and \$200 per tonne at landfills as stipulated in the Waste Disposal (Charges for Disposal of Construction Waste) Regulation (Cap. 354N)).

HERITAGE IMPLICATIONS

21. The two projects 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

22. To implement the two school building projects, a total area of 11 700 m² of land will be affected, in which resumption of two agricultural lots with a total area of about 542.8 m² is required. While clearance of structures on both private land and Government land will be required, only non-domestic structures with one operator of business undertakings will be affected under the land resumption process. Relevant compensation and ex-gratia allowances (where applicable) will be paid to the business operator, if eligible, in accordance with the prevailing policy. The cost of land resumption and clearance, estimated at \$5.6 million, will be charged to **Head 701** - **Land Acquisition**. A breakdown of the land resumption and clearance cost is at Enclosure 12.

23. In order to complete the necessary resumption and clearance procedures such that the construction works of the two proposed school building projects can commence in the second quarter of 2019 with a view to completing the two projects in time for starting operation in the 2021/22 school year as set out in paragraph 5 above, we have consulted the Panel on Education on 2 November 2018 regarding our plan to invite the Lands Department to order the resumption of the two private lots mentioned in paragraph 22 above under the Lands Resumption Ordinance (Cap. 124) in December 2018, before FC's funding approval for the works is obtained.

ENERGY CONSERVATION, GREEN AND RECYCLED FEATURES

- 24. The two projects will adopt various forms of energy efficient features and renewable energy technologies, in particular
 - (a) heat recovery fresh air pre-conditioners in the airconditioned space for heat energy reclaim of exhaust air;
 - (b) LED general light fittings; and
 - (c) photovoltaic system.
- 25. For greening features, there will be landscaping, vertical greening and roof greening in the appropriate areas for environmental and amenity benefits.
- 26. For recycled features, we will adopt rainwater harvesting systems for landscape irrigation with a view to conserving water.
- The total estimated additional cost for adoption of the above features is around \$7.4 million for **360EP** and \$7.7 million for **361EP** (including \$0.7 million for energy efficient features for each school) in MOD prices, which have been included in the cost estimate of these projects. The energy efficient features will achieve 6.1% energy savings in the annual energy consumption with a payback period of about 10 years for each school.

BACKGROUND INFORMATION

- We upgraded **360EP** and **361EP** to Category B in September 2016. We engaged consultants to undertake various 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 consultancy services and works have been completed.
- 29. The proposed works for the two projects will involve the felling of 45 trees. All trees to be removed are not important trees⁴. We will incorporate planting proposals as part of the projects, including the planting of about 23 trees, 320 bamboo, 2 700 shrubs, 26 000 groundcovers and 240 m² of grassed area for **360EP**, and 23 trees, 7 200 shrubs, 27 000 groundcovers and 30 m² of grassed area for **361EP**.
- 30. We estimate that the proposed works will create the following job opportunities -

	Professional / Technical staff	Labourer	Total	Estimated total man-months
360EP	15	135	150	3 800
361EP	15	135	150	3 800

Education Bureau December 2018

⁴ "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;

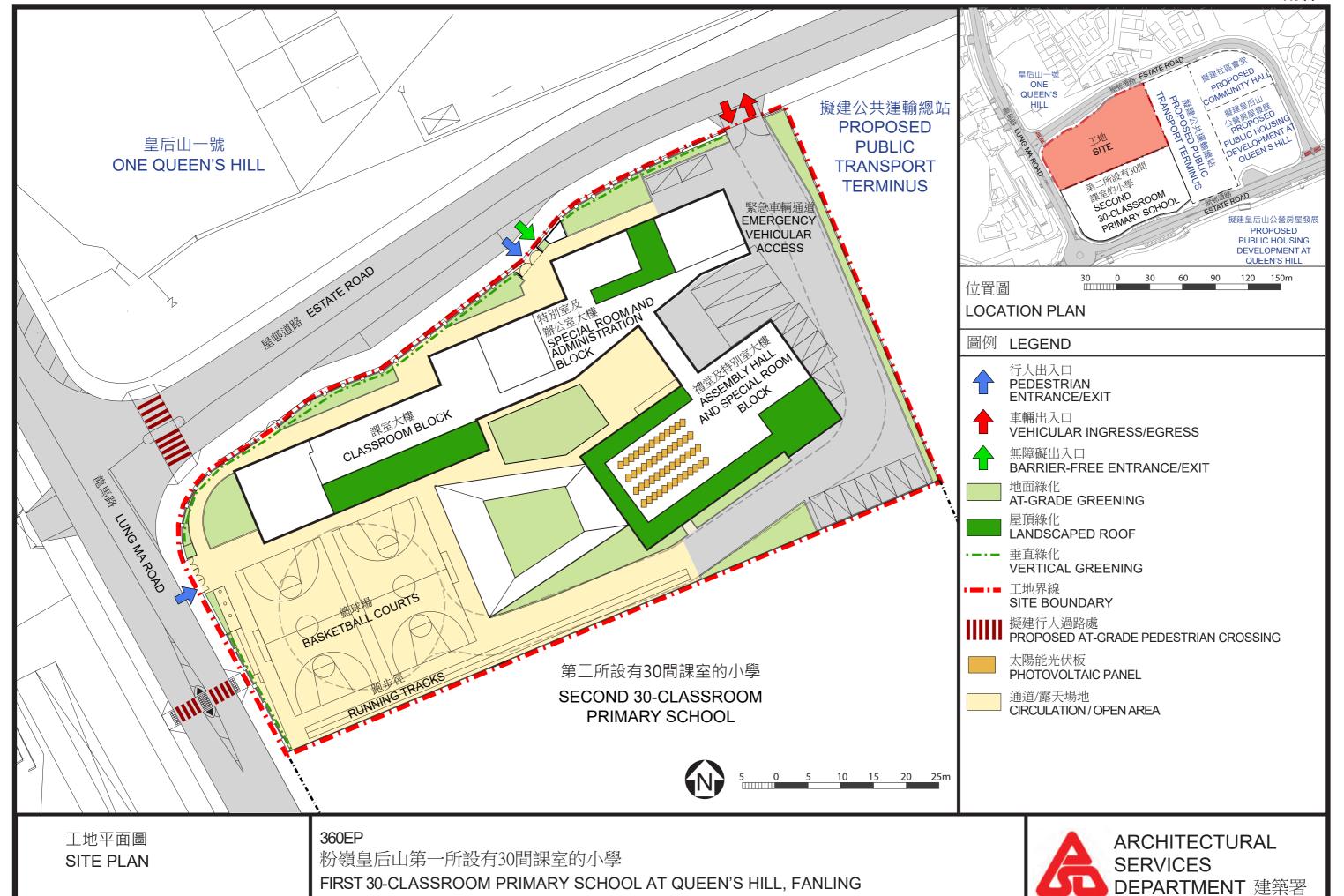
⁽b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;

⁽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

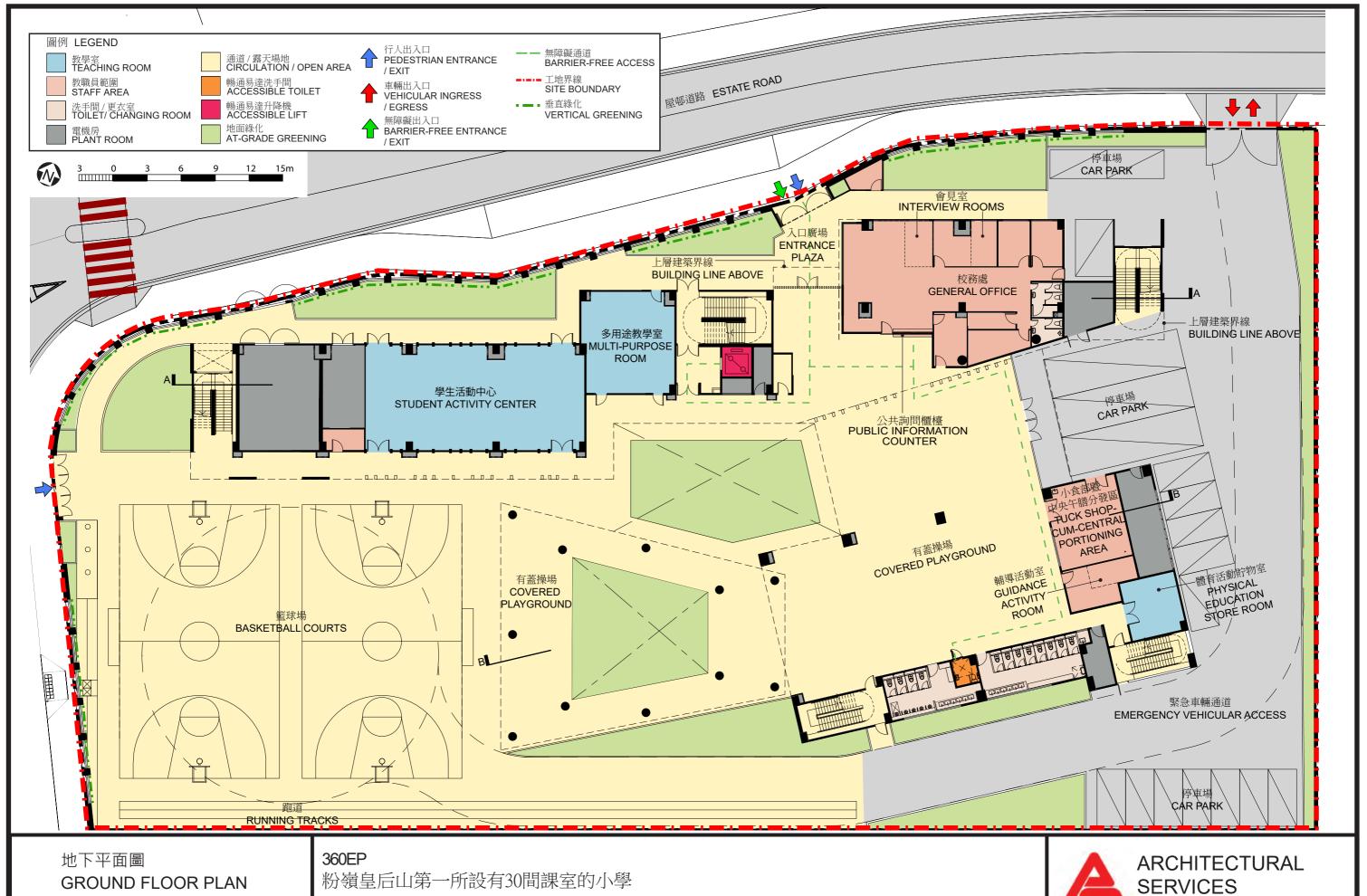
⁽e) trees with trunk diameter equal or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

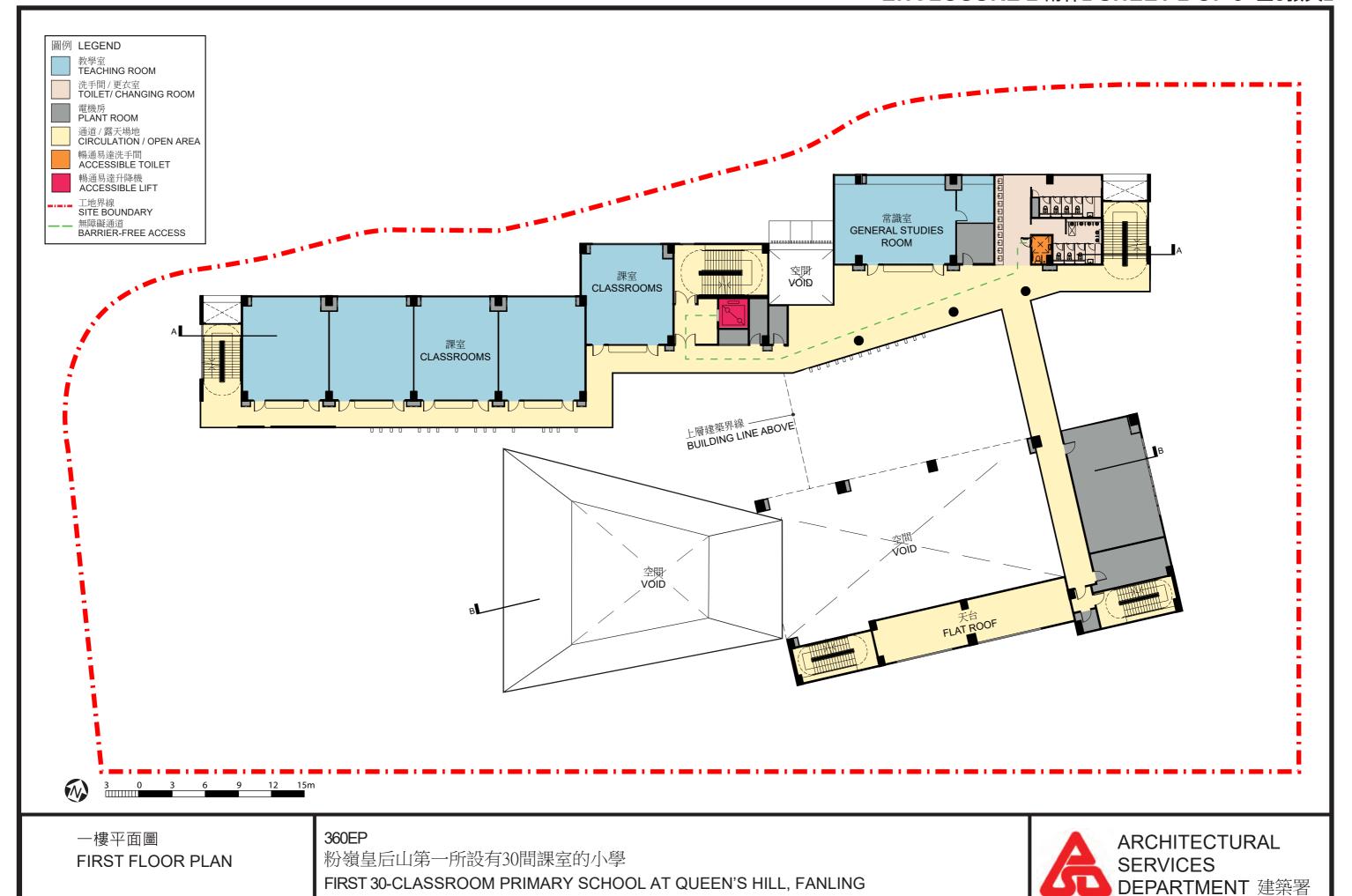
ENCLOSURE 1 附件1



ENCLOSURE 2 附件2 SHEET 1 OF 8 全8張其1

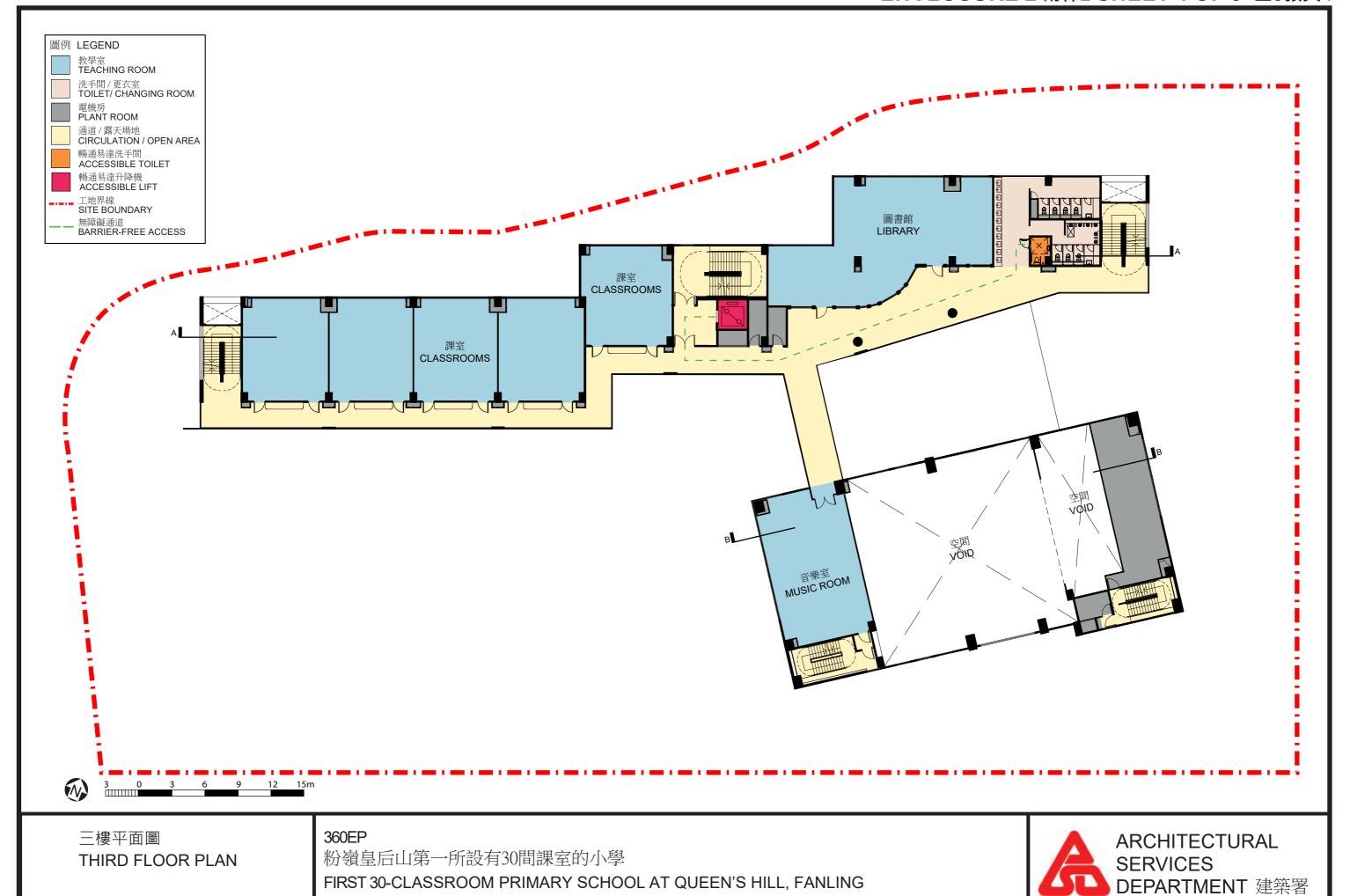
DEPARTMENT 建築署

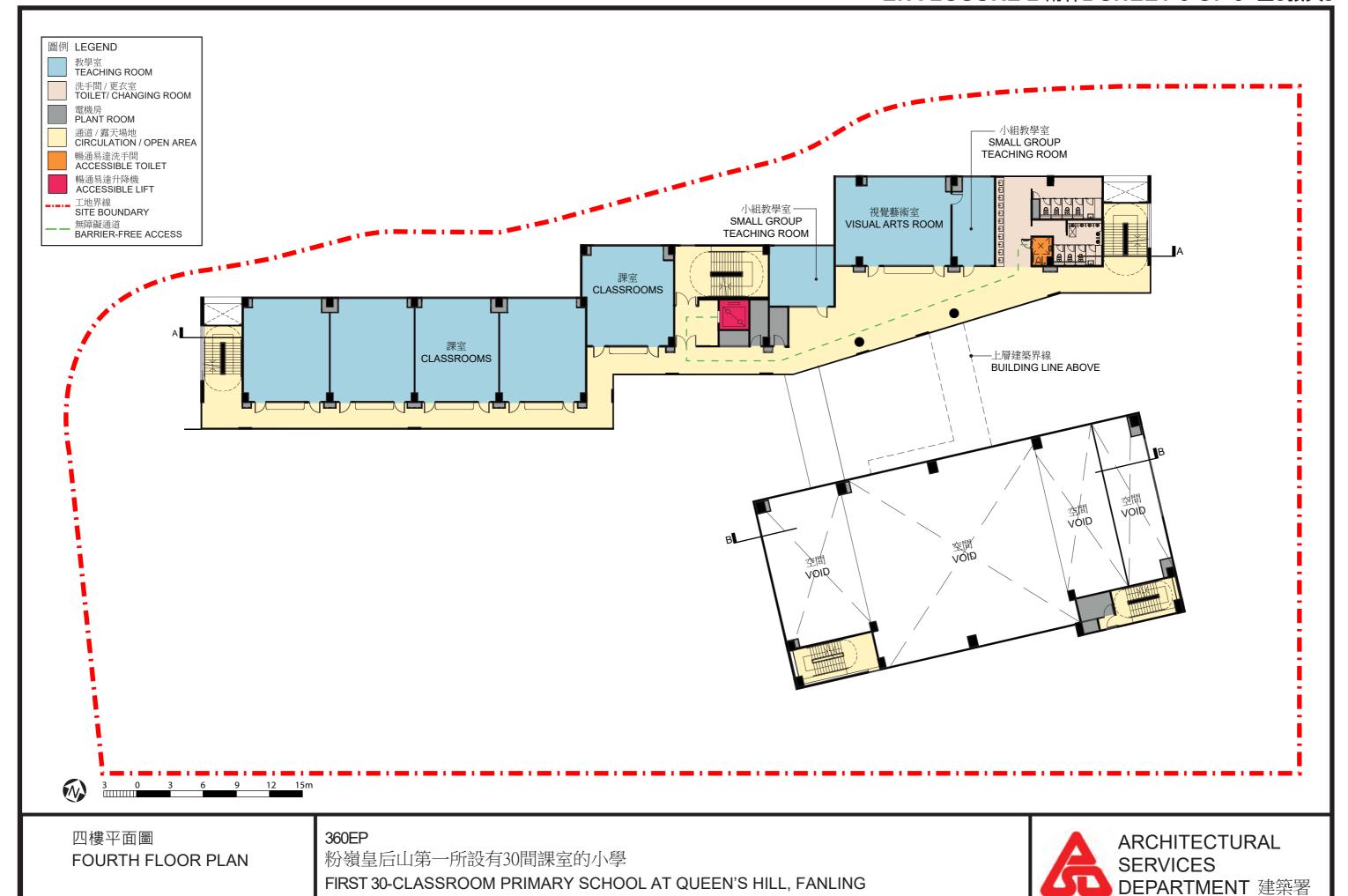


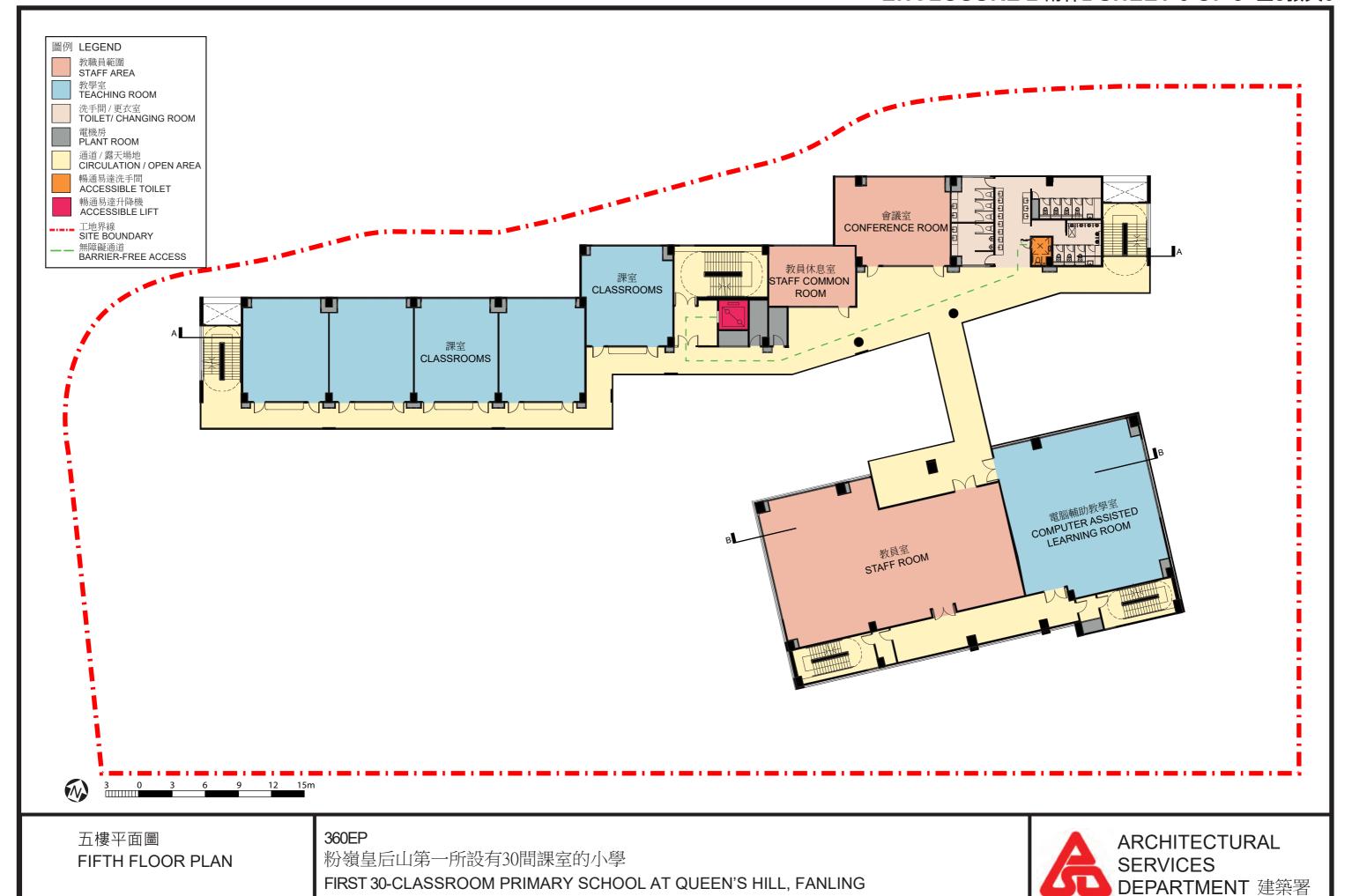


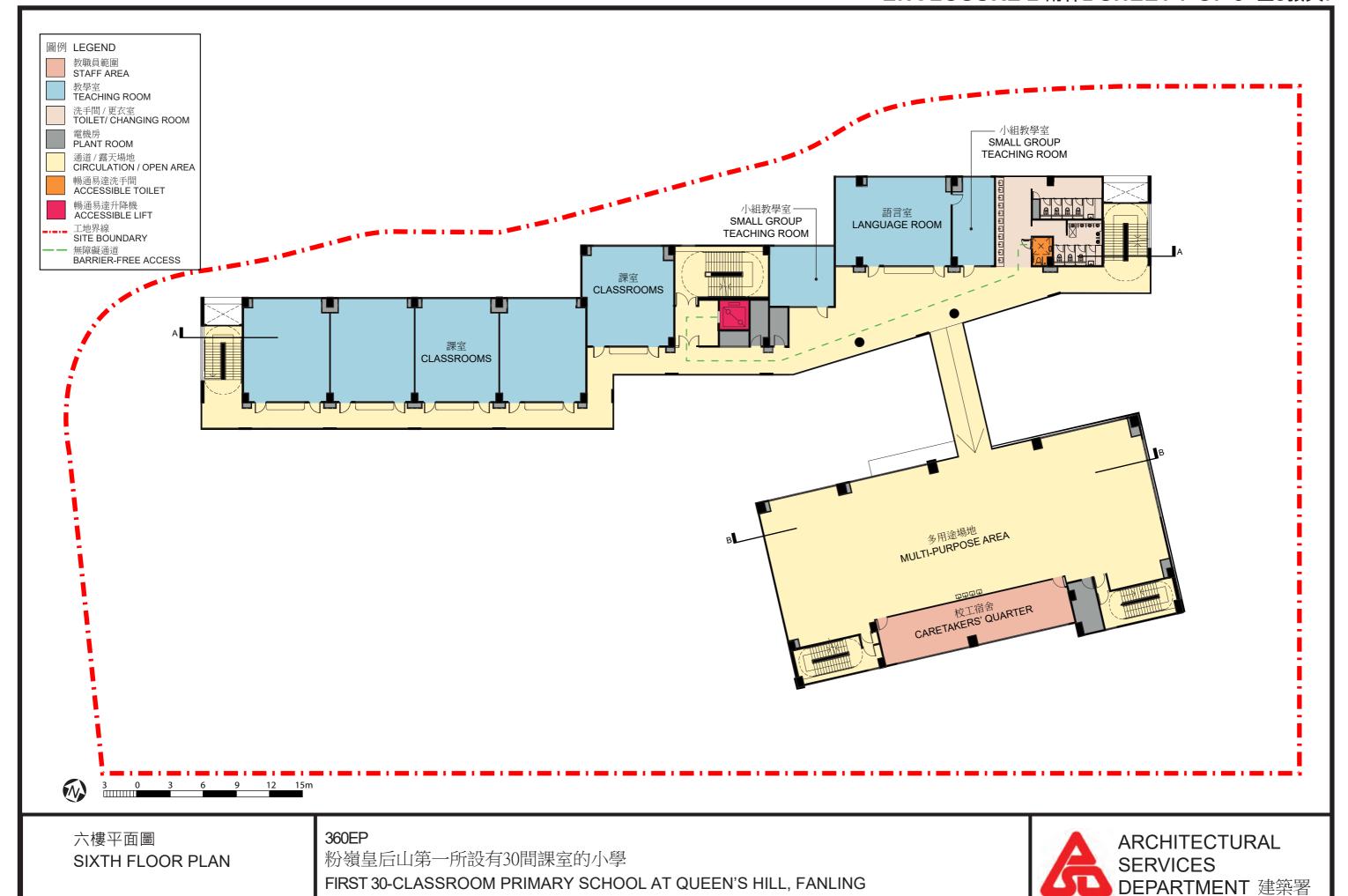


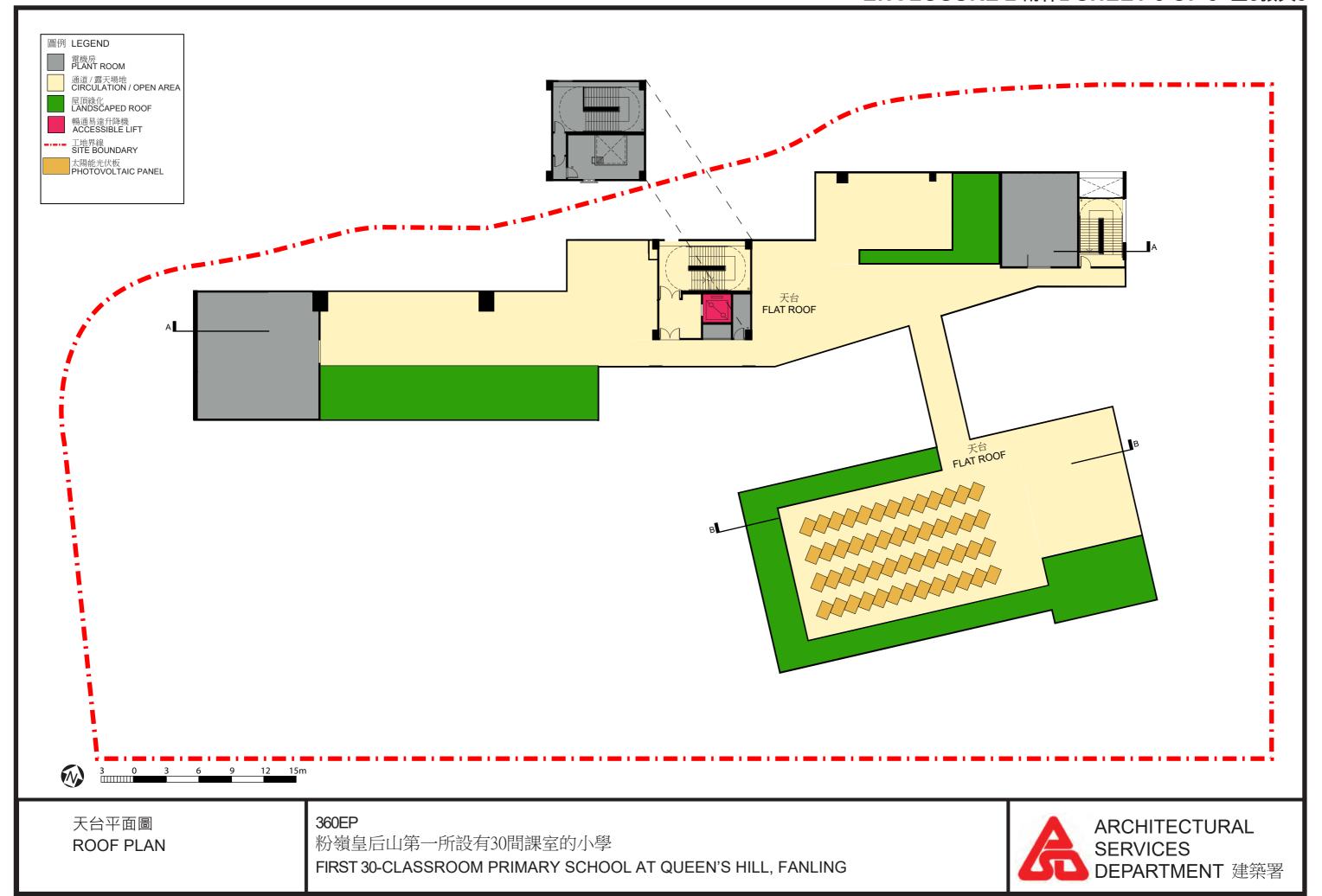


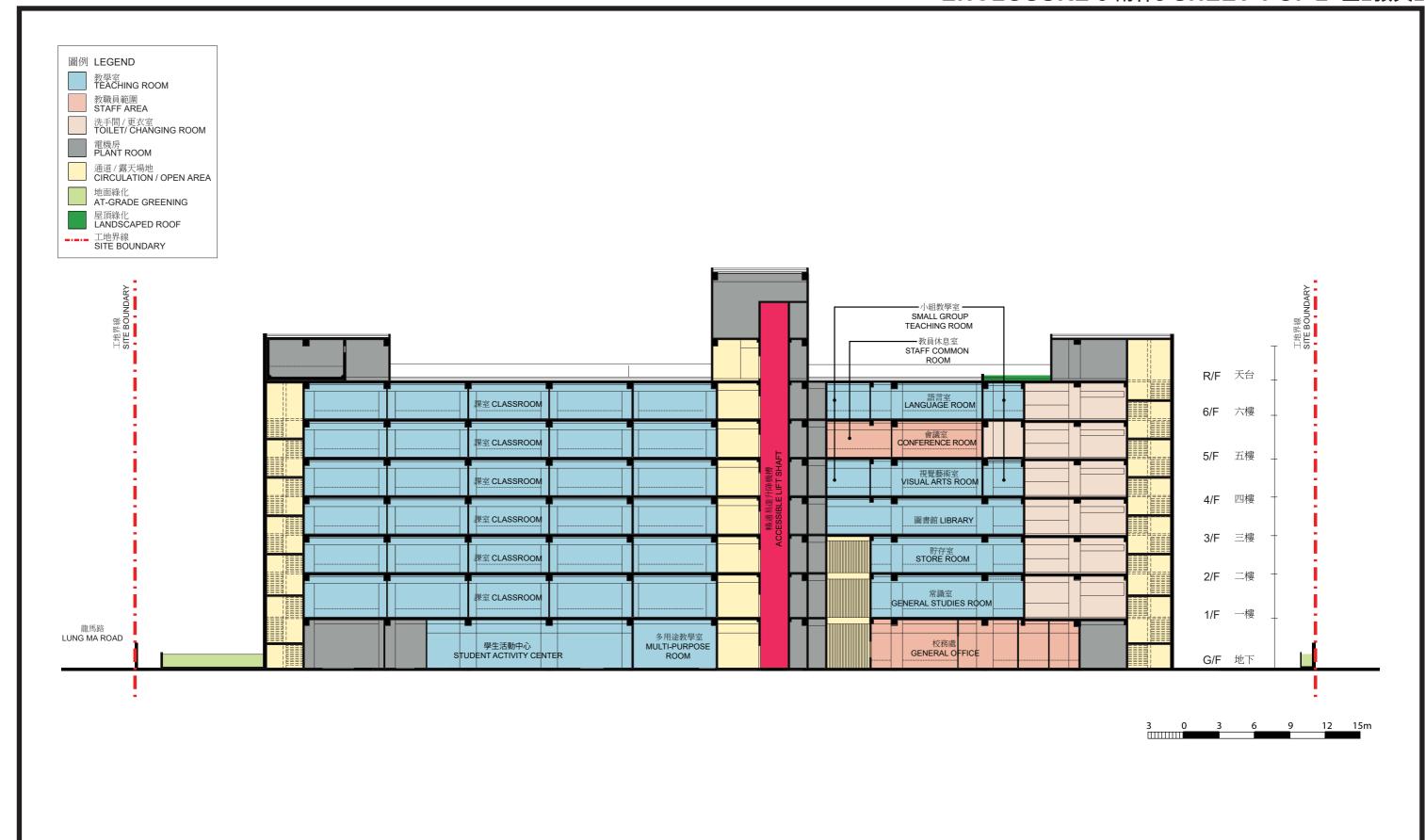










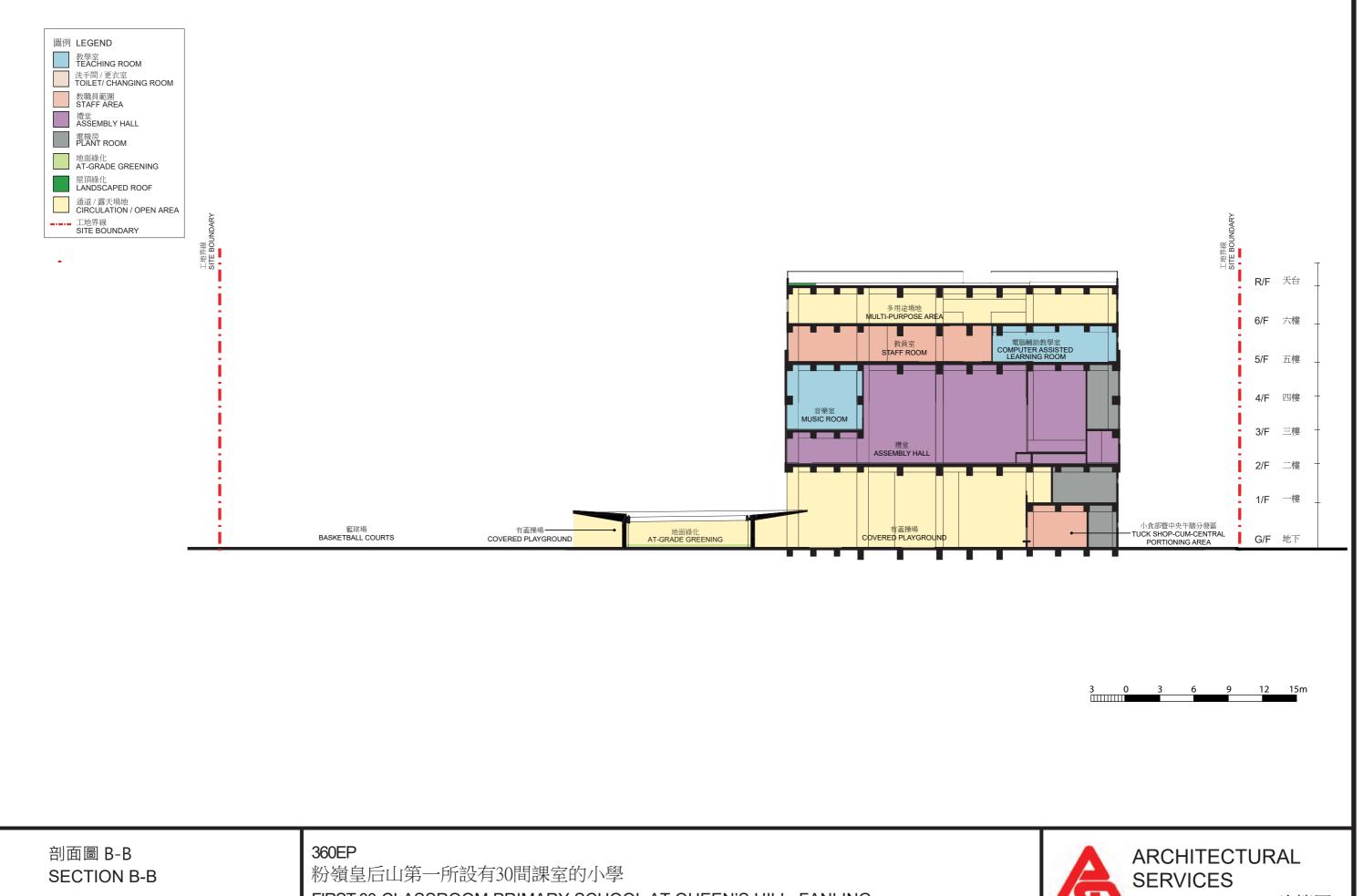


剖面圖 A-A SECTION A-A 360EP

粉嶺皇后山第一所設有30間課室的小學



ENCLOSURE 3 附件3 SHEET 2 OF 2 全2張其2







從西南面望向小學的構思透視圖 PERSPECTIVE VIEW OF THE PRIMARY SCHOOL FROM SOUTHWEST DIRECTION

構思圖 ARTIST'S IMPRESSION 360EP

粉嶺皇后山第一所設有30間課室的小學 FIRST 30-CLASSROOM PRIMARY SCHOOL AT QUEEN'S HILL, FANLING



ENCLOSURE 5 附件5

LEGEND 圖例

_____ 工地界線 SITE BOUNDARY

無障礙通道
BARRIER-FREE ACCESS

無障礙出入口 BARRIER-FREE ENTRANCE / EXIT

擬建巴士站 PROPOSED BUS STOP

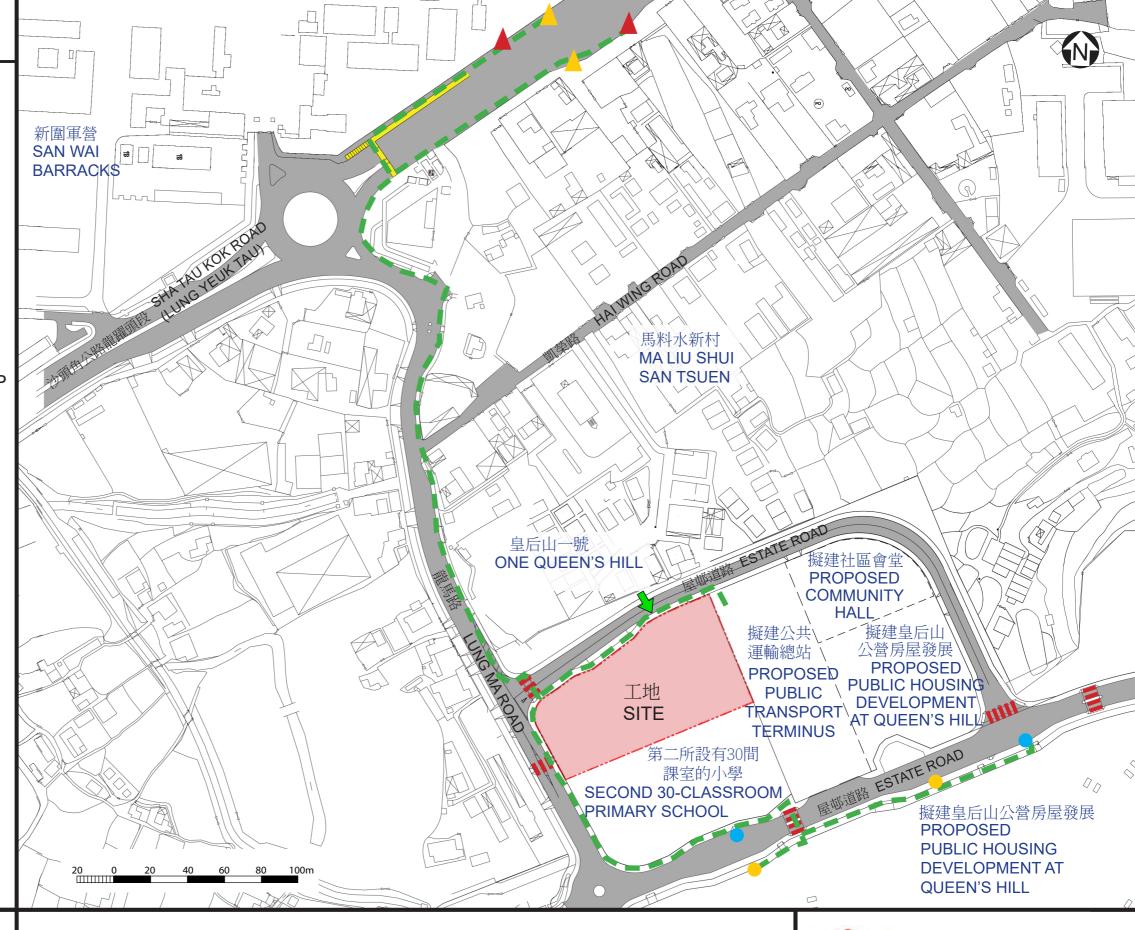
擬建小巴站 PROPOSED MINIBUS STOP

擬建的士站 PROPOSED TAXI STOP

現有巴士站 EXISTING BUS STOP

現有小巴站 EXISTING MINIBUS STOP

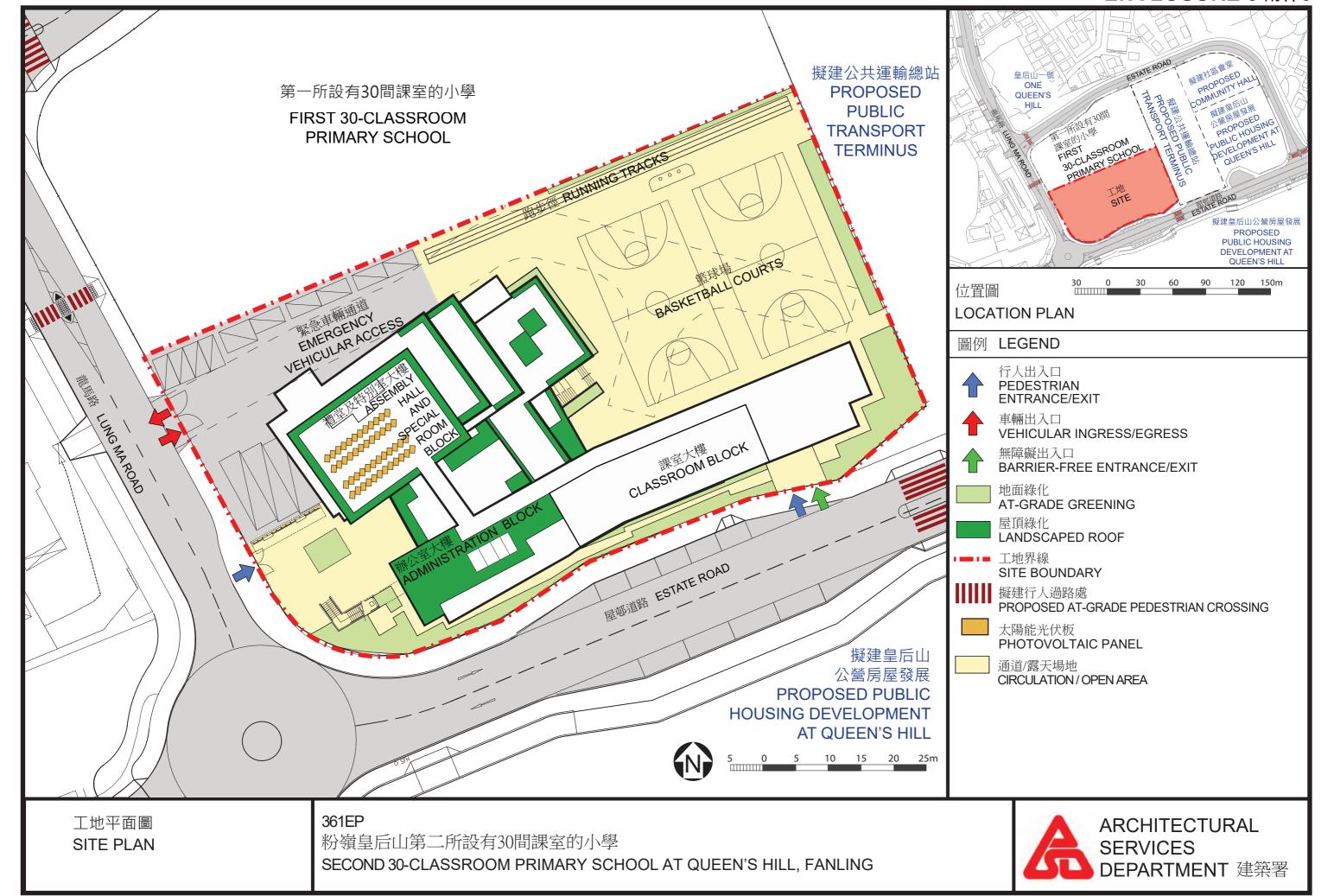
擬建行人過路處
PROPOSED AT-GRADE
PEDESTRIAN CROSSING



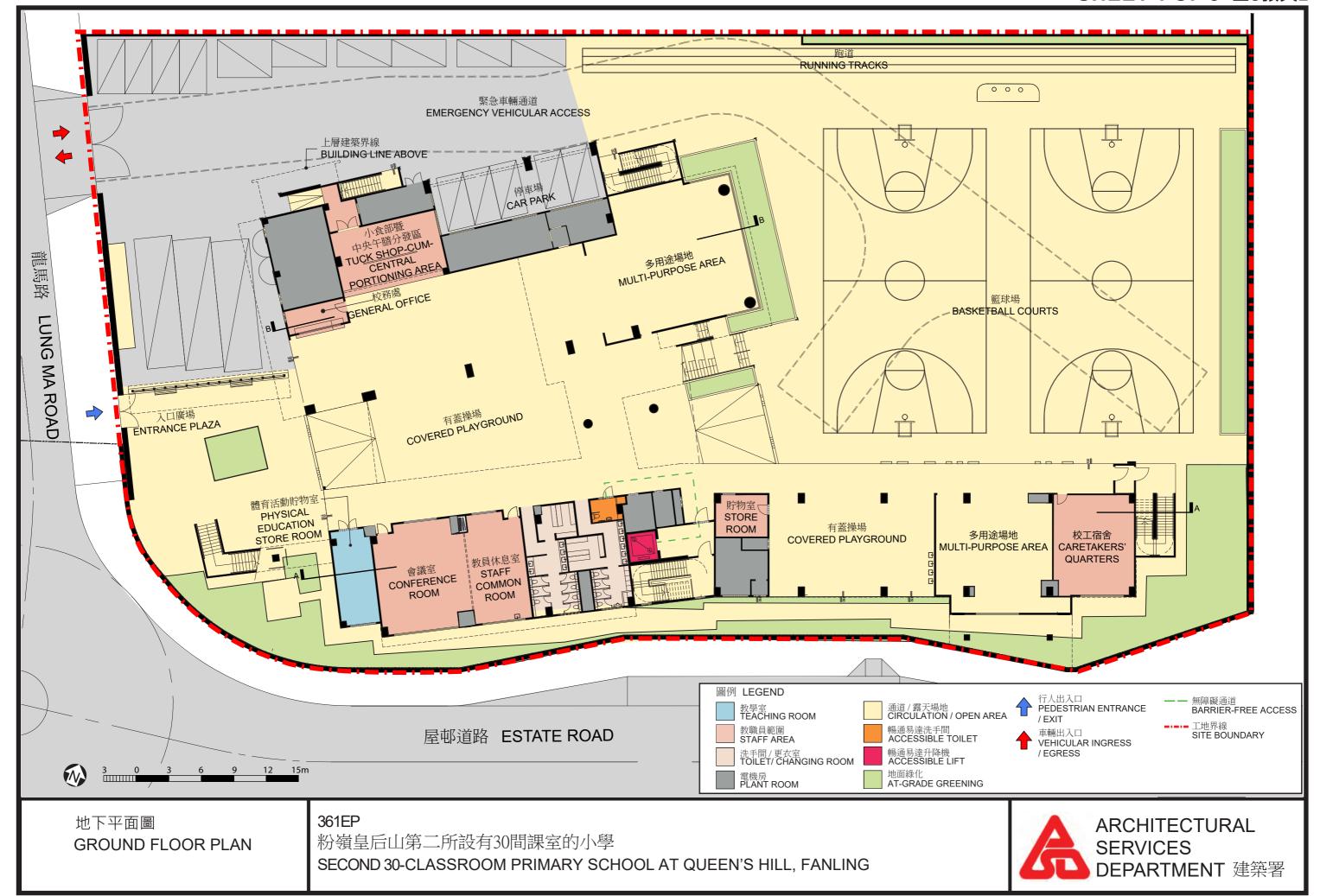
無障礙通道平面圖 PLAN OF BARRIER-FREE ACCESS 360EP 粉嶺皇后山第一所設有30間課室的小學 FIRST 30-CLASSROOM PRIMARY SCHOOL AT QUEEN'S HILL, FANLING



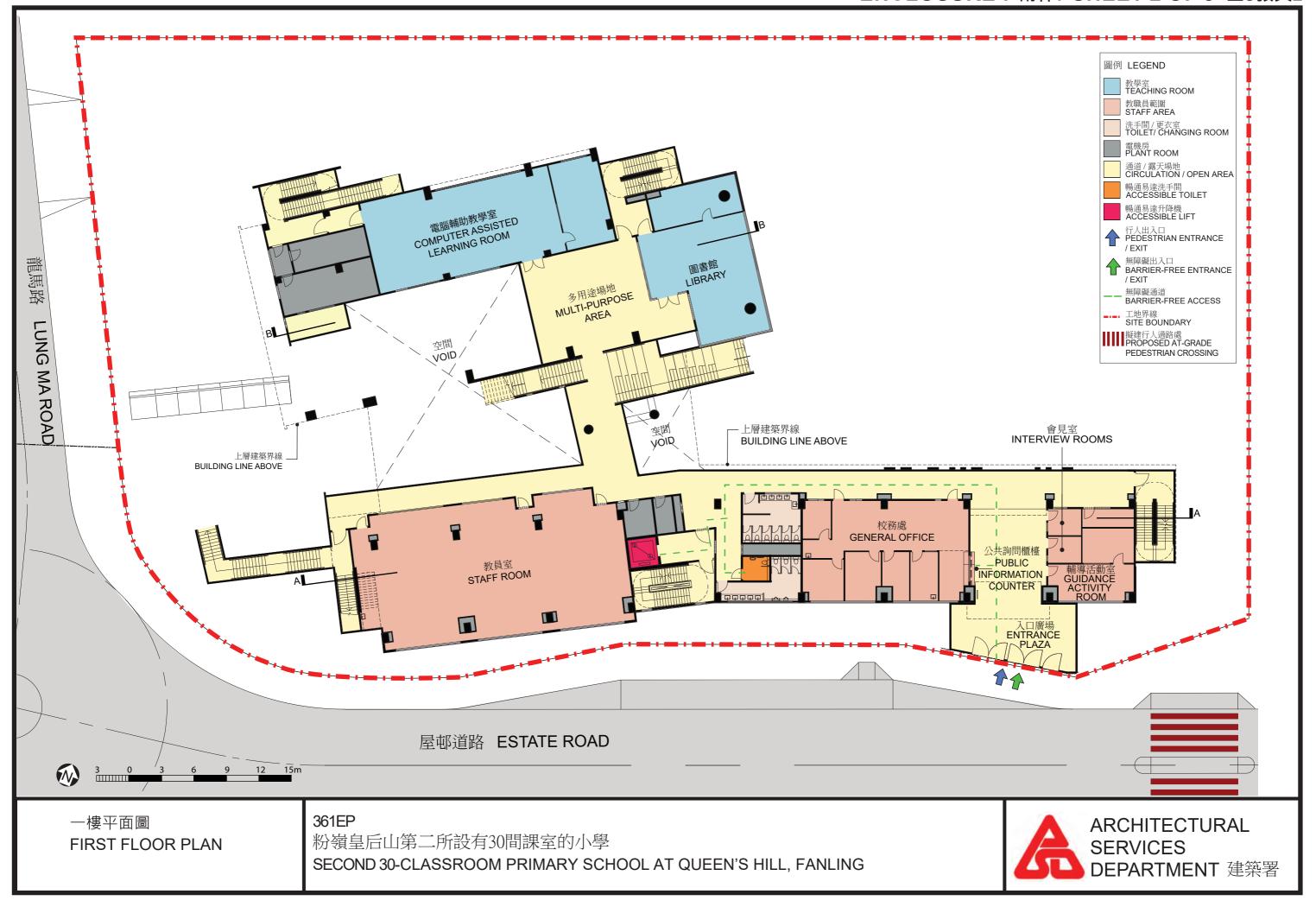
ENCLOSURE 6 附件6



ENCLOSURE 7 附件7 SHEET 1 OF 8 全8張其1



ENCLOSURE 7 附件7 SHEET 2 OF 8 全8張其2



ENCLOSURE 7 附件7 SHEET 3 OF 8 全8張其3



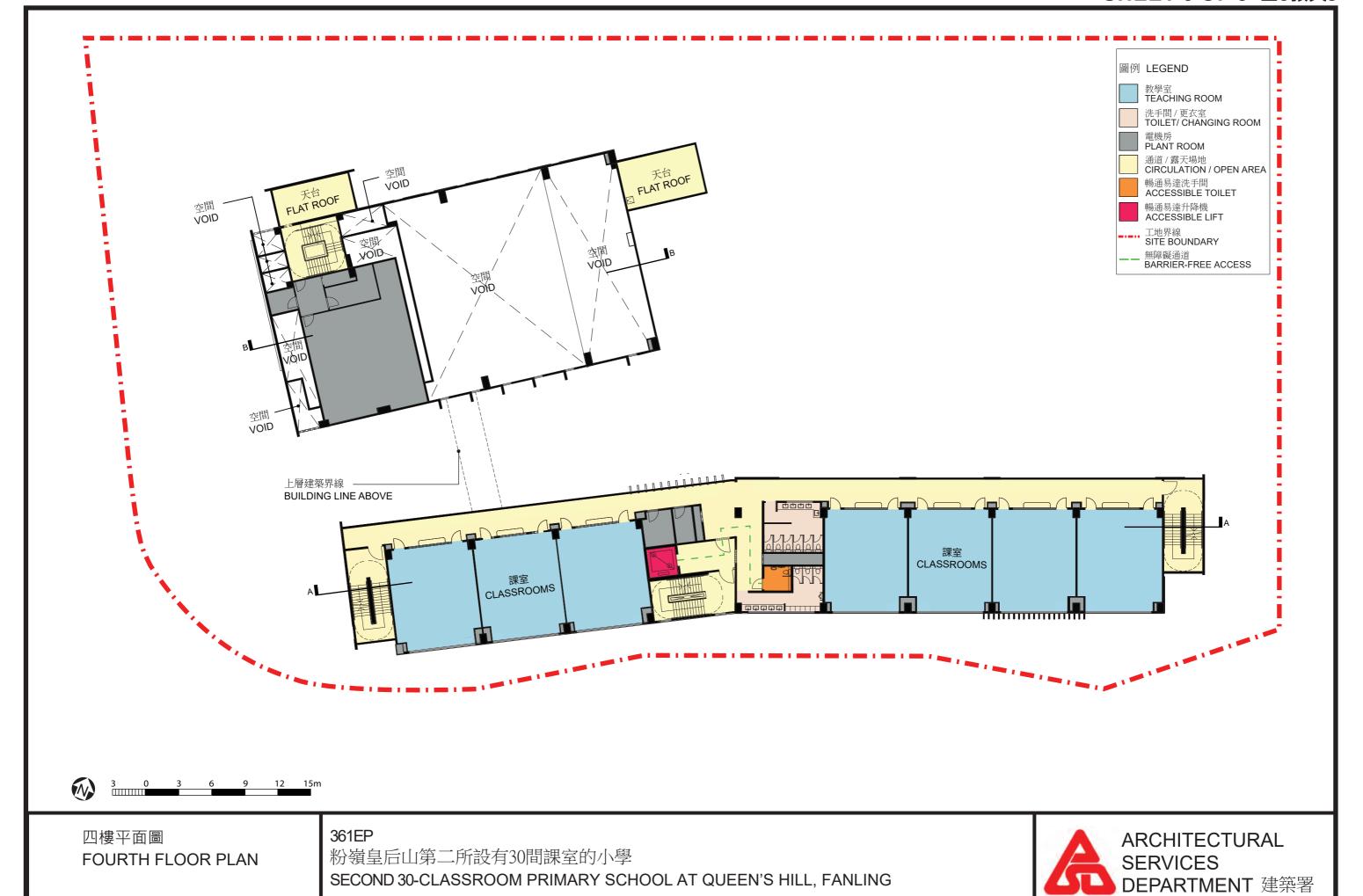


ENCLOSURE 7 附件7 SHEET 4 OF 8 全8張其4





ENCLOSURE 7 附件7 SHEET 5 OF 8 全8張其5



ENCLOSURE 7 附件7 SHEET 6 OF 8 全8張其6



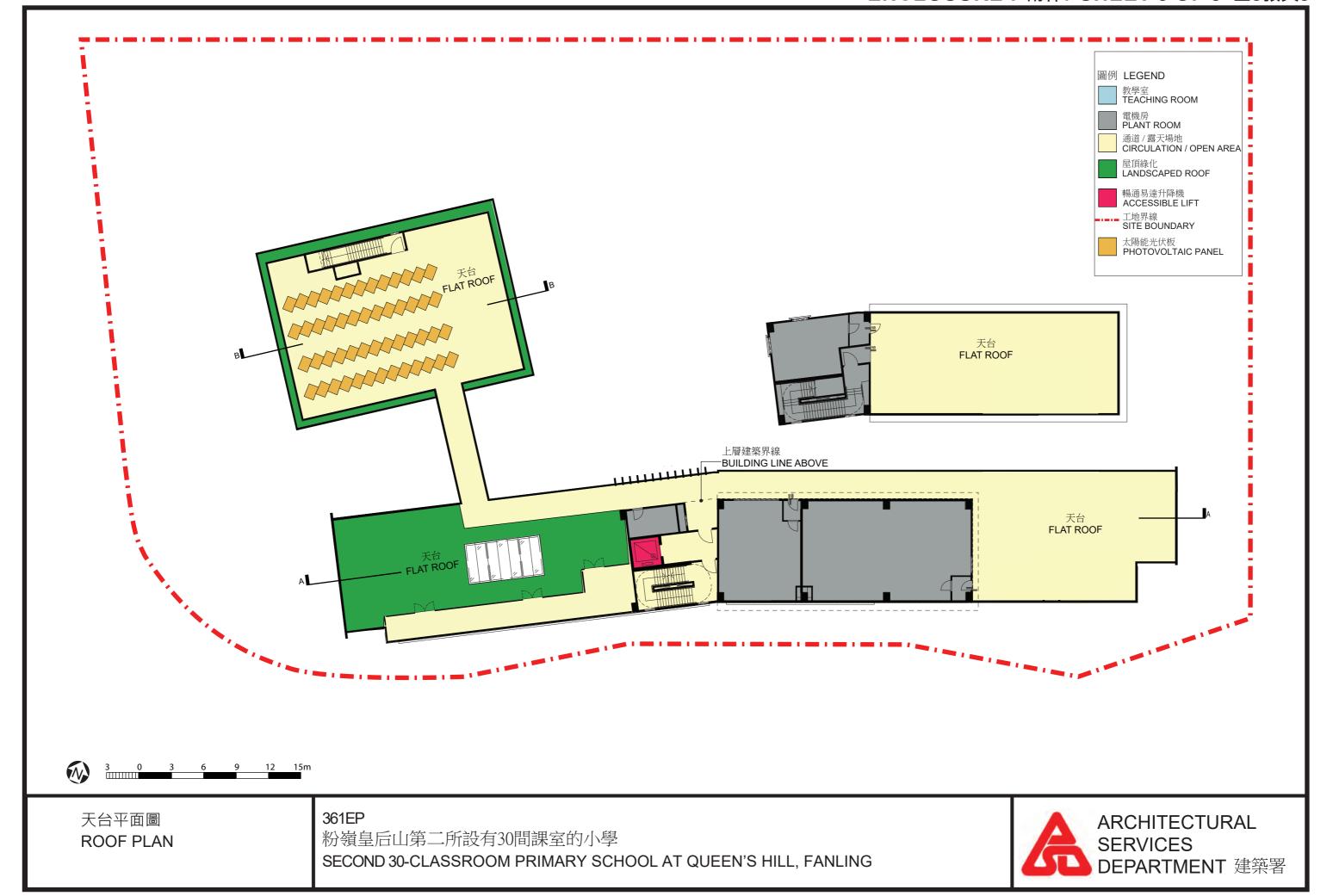


ENCLOSURE 7 附件7 SHEET 7 OF 8 全8張其7

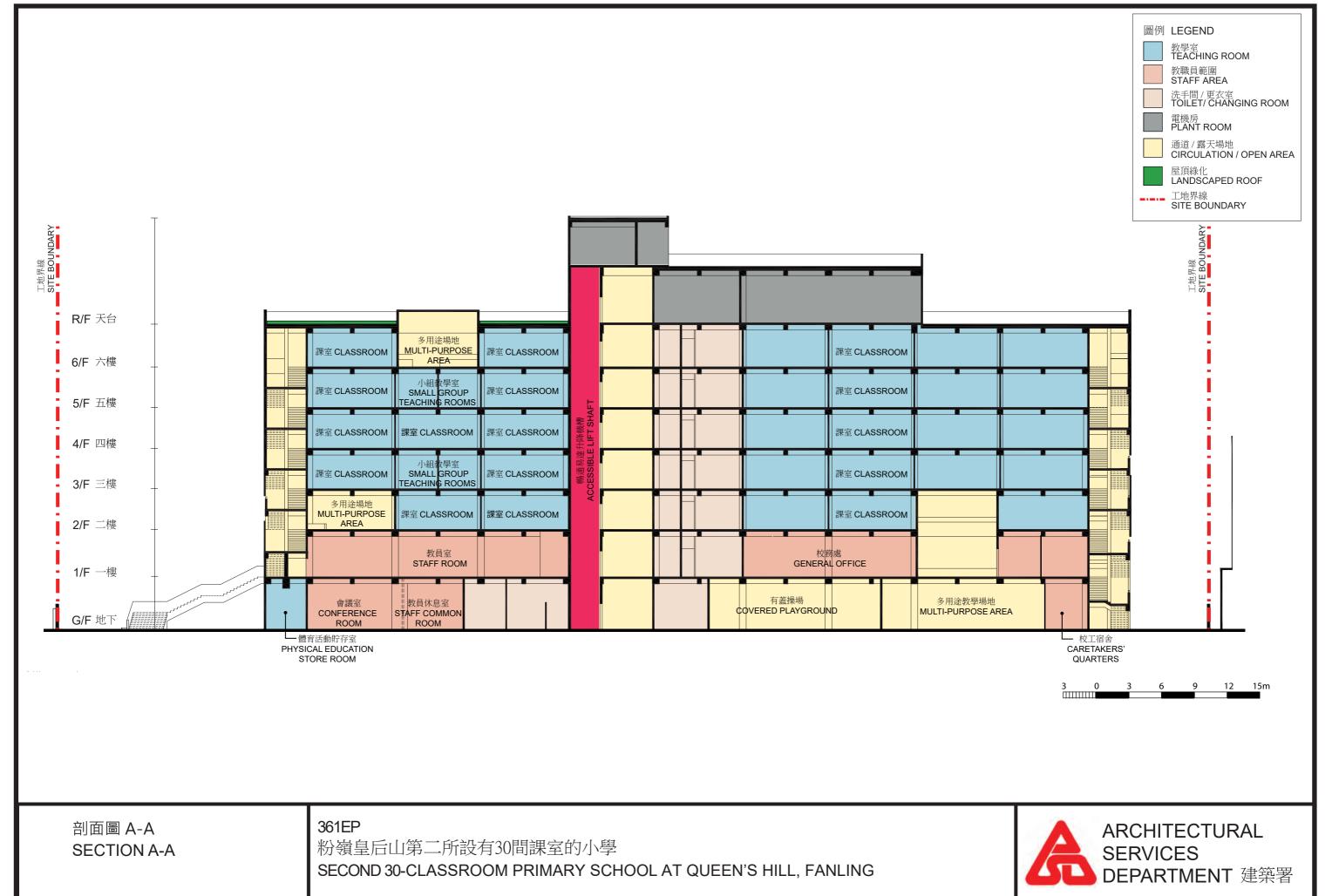




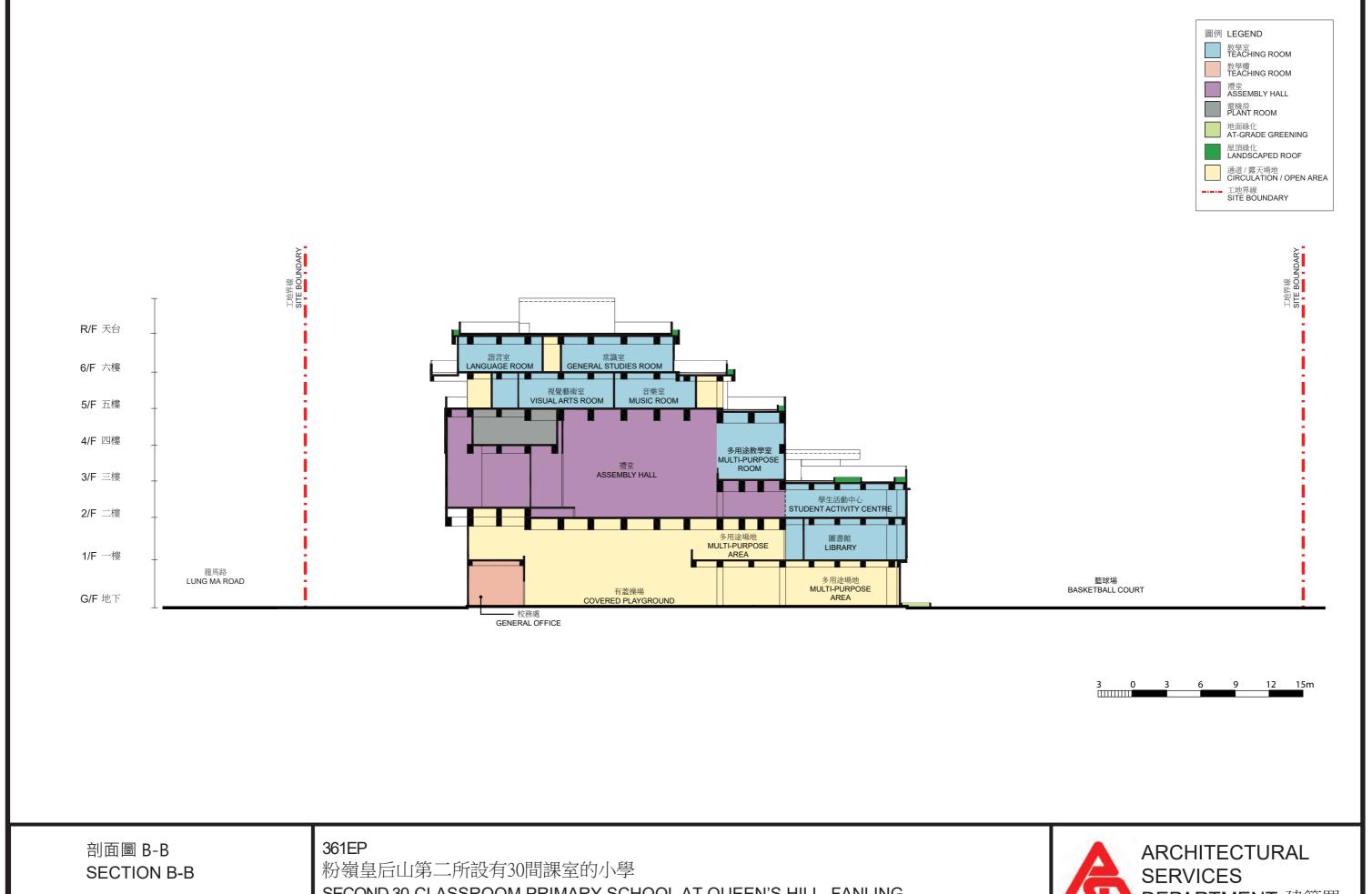
ENCLOSURE 7 附件7 SHEET 8 OF 8 全8張其8



ENCLOSURE 8 附件8 SHEET 1 OF 2 全2張其1



ENCLOSURE 8 附件8 SHEET 2 OF 2 全2張其2







從東北面望向小學的構思透視圖 PERSPECTIVE VIEW OF THE PRIMARY SCHOOL FROM NORTHEAST DIRECTION

構思圖 ARTIST'S IMPRESSION 361EP

粉嶺皇后山第二所設有30間課室的小學 SECOND 30-CLASSROOM PRIMARY SCHOOL AT QUEEN'S HILL, FANLING



ENCLOSURE 10 附件10

圖例 **LEGEND** N 工地界線 新圍軍營 SITE BOUNDARY SAN WAI * BARRACKS 無障礙通道 **BARRIER-FREE ACCESS** 無障礙出入口 BARRIER-FREE **ENTRANCE / EXIT** 擬建巴士站 PROPOSED BUS STOP 馬料水新村 MA LIU SHUI 擬建小巴站 SAN TSUEN PROPOSED MINIBUS STOP 擬建的士站 PROPOSED TAXI STOP 現有巴士站 **EXISTING BUS STOP** 現有小巴站 **EXISTING MINIBUS STOP** 皇后山一號 擬建行人過路處 ONE QUEEN'S HILL PROPOSED AT-GRADE **PROPOSED** COMMUNITY PEDESTRIAN CROSSING PROPOSED **PUBLIC** 第一所設有30間 TRANSPORT **PROPOSED** PUBLIC HOUSING 課室的小學 TERMINUS **DEVELOPMENT AT** FIRST 30-CLASSROOM QUEEN'S HILL PRIMARY SCHOOL 工地 SITE 擬建皇后山公營房屋發展 **PROPOSED PUBLIC HOUSING DEVELOPMENT AT** QUEEN'S HILL

無障礙通道平面圖 PLAN OF BARRIER-FREE ACCESS 361EP 粉嶺皇后山第二所設有30間課室的小學 SECOND 30-CLASSROOM PRIMARY SCHOOL AT QUEEN'S HILL, FANLING



360EP – First 30-classroom primary school at Queen's Hill, Fanling 361EP – Second 30-classroom primary school at Queen's Hill, Fanling

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

			Estimated man- months (for both schools)	Average MPS* salary point	Multiplier (Note 1)	Estim fe (\$ mil	e
(a)	Consultants' fees for contract administration (Note 2)	Professional Technical	_ _	_ _	_ _	360EP 5.5 2.4	361EP 5.5 2.4
					Sub-total	7.9#	_ 7.9#
(b)	Resident site staff (RSS) costs (Note 3)	Professional Technical	24 240	38 14	1.6 1.6	1.6 5.5	1.6 5.5
					Sub-total	7.1	7.1
	Comprising -						
((i) Consultants' fees for management of RSS				0.2#	0.2#	
(ii) Remuneration of RSS				6.9#	6.9#	
					Total	15.0	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 = \$81,975 per month and MPS salary point 14 = \$28,725).
- 2. The consultants' staff cost for contract administration is calculated in accordance with the existing consultancy agreement for the design and construction of **360EP** and **361EP**. The assignment will only be executed subject to FC's funding approval to upgrade the two projects to Category A.
- 3. The actual man-months and actual costs will only be known after completion of the construction works.

Remarks

The figures in this Enclosure are shown in constant prices correlate with the MPS salary point of the same year. The figures marked with # are shown in MOD prices in paragraph 9 of the main paper.

360EP – First 30-classroom primary school at Queen's Hill, Fanling 361EP – Second 30-classroom primary school at Queen's Hill, Fanling

Breakdown of land acquisition cost

			\$ million
(I)	Estimated cost for land acquisition (resumption of private land)		4.93
(II)	Estimated cost for land clearance		0.16
(a)	Ex-gratia allowances for business undertakings	0.16	
(III)	Interest and Contingency Payment		0.51
(a)	Interest payment on land compensations and ex-gratia allowances	0.01	
(b)	Contingency on the estimated land acquisition cost	0.50	
	Tota	ıl	5.6

Note

The above estimated land acquisition cost is based on the prevailing rates as at November 2018.