

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Law and Order – Correctional services

74LC – Redevelopment of Lo Wu Correctional Institution

Members are invited to recommend to the Finance Committee the upgrading of **74LC** to Category A at an estimated cost of \$1,376.3 million in money-of-the-day prices for the redevelopment of Lo Wu Correctional Institution.

PROBLEM

We need to redevelop the Lo Wu Correctional Institution (LWCI) to alleviate the problems of prison overcrowding and aging penal facilities.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Security, proposes to upgrade **74LC** to Category A at an estimated cost of \$1,376.3 million in money-of-the-day (MOD) prices to redevelop the LWCI into three new penal institutions with a total capacity of 1 400.

PROJECT SCOPE AND NATURE

3. The scope of the proposed works comprises –

- (a) demolition of the LWCI (with an existing capacity of 182 penal places) and the adjacent Lo Wu Saddle Club;

/(b)

- (b) redevelopment of the site into three new penal institutions of 76 940 square metres (m²) in construction floor area (CFA), with two medium security institutions each with a capacity of 400 and one minimum security institution with a capacity of 600. The facilities of the institutions will include –

Major facilities

- (i) dormitories
- (ii) dining halls and kitchens
- (iii) workshops
- (iv) laundry
- (v) hospital
- (vi) visit rooms
- (vii) recreation area
- (viii) rehabilitation area
- (ix) administration offices

Support facilities

- (i) a visitor registration centre
- (ii) a barrack of 200 bed spaces and 536 locker spaces
- (iii) an officers' mess and a canteen
- (iv) vehicle parking spaces

A site layout plan is at Enclosure 1. We plan to start the proposed works in April 2007 for completion in December 2009.

JUSTIFICATION

4. We are facing the problems of prison overcrowding, particularly in female, maximum security and remand institutions, and aging penal facilities.

5. As at 4 May 2006, the total penal population in the 23 penal institutions was 11 476, against a total of 10 726 certified penal places. The occupancy rate is therefore 107%. In the case of male institutions, while the overall occupancy rate is 97%, there is a shortfall of 458 places in remand

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facilities and maximum security prisons¹. In the case of female institutions, the occupancy rate is 174%, the shortfall of female penal places at the aggregate level is 991 places. Of these 991 places, 464 are shortfall in remand facilities and maximum security prisons¹.

6. Looking ahead, the penal population is projected to grow to 13 330 by 2010, and to 14 250 by 2015. Taking into account the current certified penal places (10 726) and the 794 places to be provided by two smaller scale projects² in the near term, at the aggregate level there will still be a shortfall of 1 810 places in 2010, and 2 730 in 2015. Overcrowding would persist in maximum security prisons, remand facilities and female institutions.

7. Of the 23 existing penal institutions, nine will be over 40 years old by 2010 and nine were converted from buildings previously used for other purposes. If we do not make improvements to these institutions, their environment and facilities would make it difficult to maintain our standards in prison management, security, and rehabilitation work. As our existing penal institutions are already overcrowded, it would be difficult to carry out major in-situ improvement or redevelopment works without additional facilities for decanting prisoners.

8. The proposal to redevelop the LWCI will provide 1 400 penal places by the end of 2009. Taking into account the projected shortfall and the more acute demand for female penal facilities, we plan to accommodate mainly female prisoners in the new institutions at Lo Wu to alleviate the overcrowding situation in female penal institutions. The design of the new institutions at Lo Wu will provide the flexibility of accommodating either male or female prisoners to meet actual demand in due course.

FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$1,376.3 million in MOD prices (see paragraph 10 below), made up as follows –

/(a)

¹ As some remand institutions are also maximum security facilities and vice versa, we are presenting the combined shortfall of these two types of institutions to avoid double-counting.

² The two projects are : (a) the new Lai Chi Kok Correctional Institution (a medium security prison) to be opened in July 2006, providing 650 female places, and (b) a minor extension project at the Lai Chi Kok Reception Centre to be completed by end 2006, providing 144 remand places for male.

	\$ million	
(a) Site works & demolition	12.1	
(b) Site formation & geotechnical works	46.3	
(c) Piling	127.3	
(d) Building	489.3	
(e) Building services	277.8	
(f) Drainage & sewage treatment plant	62.3	
(g) External works	66.2	
(h) Furniture and equipment ³	107.0	
(i) Consultants' fees	6.0	
(i) quantity surveying services	4.0	
(ii) landscape services	1.0	
(iii) risk management services	1.0	
(j) Contingencies	<u>107.9</u>	
Sub-total	1,302.2	(in September 2005 prices)
(k) Provision for price adjustment	<u>74.1</u>	
Total	<u>1,376.3</u>	(in MOD prices)

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³ This estimate is based on an indicative list of furniture and equipment items required, including furniture and operational equipment, security systems, trunk radio system, workshop equipment, medical equipment, kitchen equipment, telephone system, etc.

We propose to engage consultants to undertake quantity surveying, landscape and risk management services. A breakdown of the estimate for consultants' fees by man-months is at Enclosure 2. The CFA of **74LC** is 76 940 m². The estimated construction unit cost, represented by the building and the building services costs, is \$9,970 per m² of CFA in September 2005 prices. We consider this unit cost reasonable as compared to that of other government design-and-build projects.

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

Year	\$ million (Sep 2005)	Price adjustment factor	\$ million (MOD)
2007 – 08	95.0	1.03023	97.9
2008 – 09	465.0	1.04568	486.2
2009 – 10	525.0	1.06136	557.2
2010 – 11	175.0	1.07728	188.5
2011 – 12	42.2	1.10152	46.5
	<u>1,302.2</u>		<u>1,376.3</u>

11. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2007 to 2012. We will tender the project as a design-and-build contract. We will deliver the works through a lump-sum contract with price fluctuations because the contract will exceed 21 months.

12. We estimate the additional annual recurrent expenditure arising from the project to be \$84 million.

PUBLIC CONSULTATION

13. We consulted the North District Council (NDC) on 8 December 2005 on the LWCI redevelopment project. We have also consulted representatives from the Sheung Shui Rural Committee and local villages (including Ho Sheung Heung and Kwu Tung) on the project. The NDC and local

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community representatives in general supported the proposal, but had raised concerns about the existing condition of Ho Sheung Heung Road (the access road to LWCI). The village representatives of Ho Sheung Heung also expressed concerns about the project's impact on local fung shui.

14. We have conducted a Traffic Impact Assessment which concluded that the operation of the future institutions would not have significant impact on the traffic flow of Ho Sheung Heung Road, but some local widening at bends near the institution are necessary to ensure smooth and safe operation of large vehicles (e.g. 50-seater buses) that may be used by the future institutions.

15. As regards the on-going concerns of the local community about a few other bends and the width at some sections of the road, the Transport Department, District Office (North) and the Correctional Services Department (CSD) will continue to liaise with local representatives to see how necessary and practical improvement works could be carried out (e.g. improving certain road bends and widening certain road sections).

16. Regarding the concern about the impact on local fung shui, District Lands Office (North) will try to resolve the issue in accordance with the established policy. We have had a meeting with the local representatives to discuss the matter, and District Office (North) will continue to help facilitate the liaison and discussion.

17. During the public consultation, the local community has also mentioned the need to improve the drainage conditions of the Ho Sheung Heung area. The Drainage Services Department already has two projects in hand for this purpose. The first project is to construct a drainage across the Shek Tsai Leng area and the second project is to construct another drainage in the area between Tsung Yuen and LWCI. Subject to funding approval, construction works will commence in 2007 for completion in 2009.

18. We consulted the Legislative Council Panel on Security on 4 April 2006. Members generally had no objection to the proposed works, but had some questions about the penal population projection, rehabilitation facilities and services to be provided by the future institutions at Lo Wu and the preliminary proposal for the redevelopment of the institutions at Chi Ma Wan. We have addressed these issues during the meeting and through a written reply on 27 April 2006.

/ENVIRONMENTAL

ENVIRONMENTAL IMPLICATIONS

19. 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 May 2006. The PER concluded that, with mitigation measures in place, the project would not cause insurmountable environmental impacts. Details of the mitigation measures will be developed through further environmental assessment during the detailed design stage. We will incorporate the mitigation measures recommended in the PER and the further environmental assessment into the relevant contracts for implementation.

20. During demolition and construction periods, 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 contracts. These include the use of silencers, mufflers, acoustic lining or shields for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities. We completed a preliminary asbestos survey and identified some potential asbestos-containing materials on site which can be handled through due care in the demolition process. In addition, we will require our contractor to implement further precautionary measures related to the handling and disposal of asbestos, if additional asbestos is encountered.

21. We have considered measures in the planning and design stages to reduce the generation of construction and demolition (C&D) materials where possible. In addition, we will require the contractors to reuse inert C&D materials on site or in other suitable construction sites as far as possible, in order to minimise the disposal of C&D materials to public fill reception facilities. We will encourage the contractors to maximise the use of recycled or recyclable C&D materials, as well as the use of non-timber formwork to further minimise the generation of construction waste.

22. We will require the contractor to submit a waste management plan (WMP) for approval. The WMP will include appropriate mitigation measures to avoid, reduce, reuse and recycle C&D materials. We will ensure that the day-to-day operations on site comply with the approved WMP. We will control the disposal of public fill, C&D materials and C&D waste to public fill reception

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facilities⁴, sorting facilities⁴ and landfills respectively through a trip-ticket system. We will require the contractor to separate public fill from C&D waste for disposal at appropriate facilities. We will record the disposal, reuse and recycling of C&D materials for monitoring purposes.

23. We estimate that the project will generate about 199 700 tonnes of C&D materials. Of these, we will reuse about 127 600 tonnes (63.9%) on site, deliver 52 400 tonnes (26.2%) to public fill reception facilities for subsequent reuse, and 500 tonnes (0.3%) to sorting facilities in order to retrieve the inert portion for reuse as public fill. In addition, we will dispose of 19 200 tonnes (9.6%) at landfills. The total cost for accommodating C&D materials at public fill reception facilities and landfill sites, together with the cost for handling the materials at sorting facilities is estimated to be \$3.9 million for this project (based on a unit cost of \$27/tonne for disposal at public fill reception facilities, \$100/tonne at sorting facilities and \$125/tonne⁵ at landfills).

LAND ACQUISITION

24. The proposed project does not require any land acquisition. The proposed redevelopment will include a site adjacent to LWCI currently leased to the Lo Wu Saddle Club by the Government under a short-term tenancy. In addition to this site, the tenancy also includes two other sites nearby. The Club has agreed to move out of the site adjoining the LWCI and continue their activities at the other two sites nearby. CSD and other relevant government departments have been providing necessary assistance to the Club to facilitate its relocation.

BACKGROUND INFORMATION

25. We upgraded **74LC** to Category B in September 2005. We engaged a term contractor to carry out ground investigations in 2005. We also appointed consultants to carry out a geological assessment and preliminary natural terrain hazard study, a tree survey, a topographical survey, a preliminary sewerage and

/sewage

⁴ Sorting facilities and public fill reception facilities are specified in Schedule 3 and Schedule 4 respectively of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of public fill in public fill reception facilities requires a licence issued by the Director of Civil Engineering and Development.

⁵ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90/m³), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

sewage treatment assessment, a traffic impact assessment, utilities mapping, pre-contract quantity surveying (QS) services and the PER which includes a preliminary asbestos survey in 2005 and 2006. The total cost of the above consultancy services and works is about \$2.7 million. We charged this amount to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The term contractor and consultants have completed the ground investigations, geological assessment and preliminary natural terrain hazard study, tree survey, topographical survey, preliminary sewerage and sewage treatment assessment, traffic impact assessment, utilities mapping and PER. The consultant is carrying out the pre-contract QS. We are finalising the project requirements with in-house staff resources and the consultant is also preparing tender documents of the project.

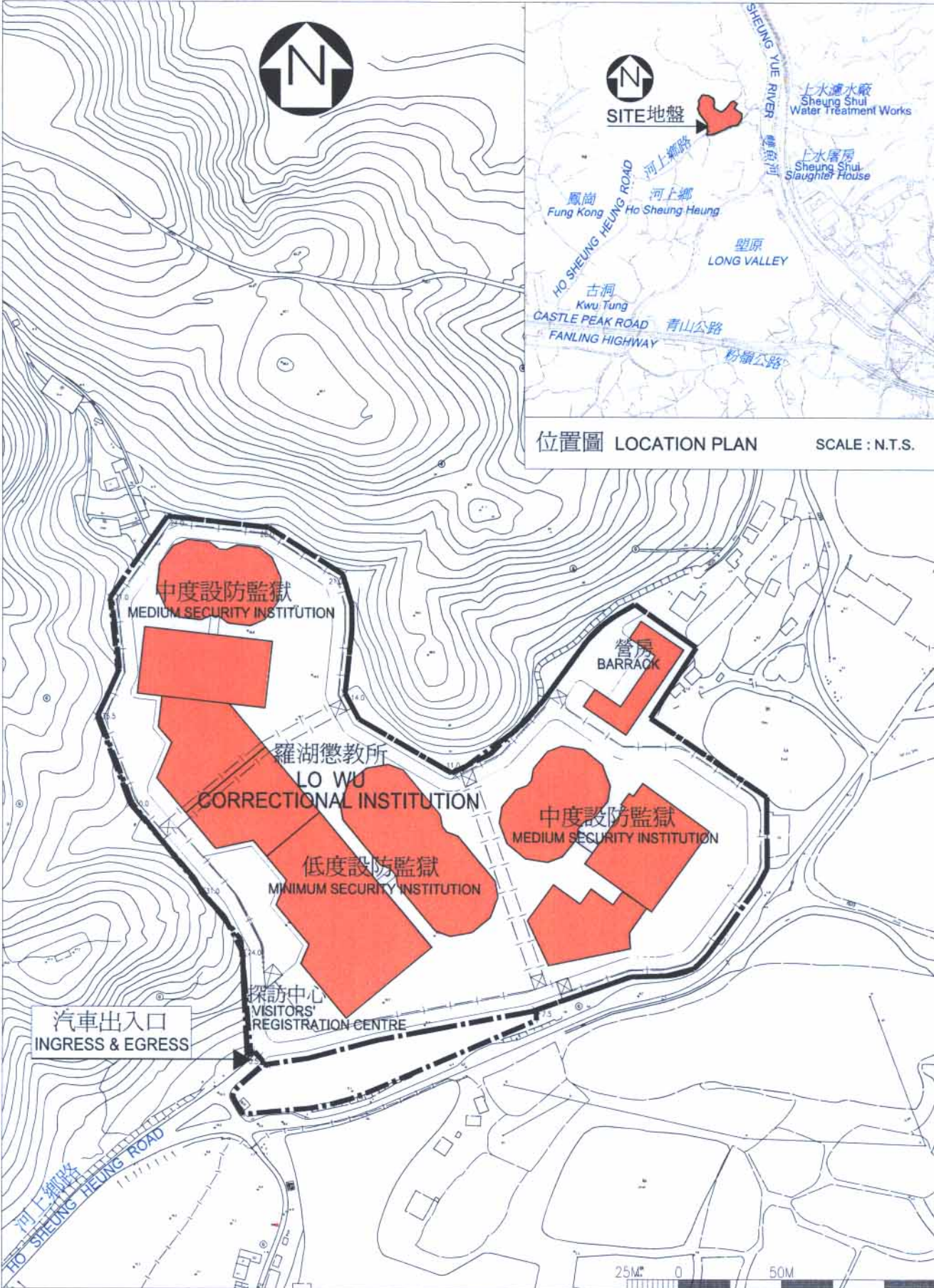
26. The proposed redevelopment project will involve removal of 196 trees, including 25 trees (11 of them are already dead) to be felled and 171 trees to be transplanted elsewhere. Only eight trees to be removed are important trees⁶. A summary of these eight trees is provided at Enclosure 3. We will incorporate planting proposals as part of the project, including estimated quantities of 76 trees, 11 510 shrubs and 800m² of grassed area.

27. We estimate that the proposed works will create about 779 jobs (709 for labourers and another 70 for professional/technical staff) providing a total employment of 19 640 man-months.

Security Bureau
May 2006

⁶ Important trees refer to trees on the Register of Old and Valuable Trees, and any other trees which meet one or more of the following criteria -

- (a) trees of over 100 years old;
- (b) trees of cultural, historical or memorable significance;
- (c) trees of precious or rare species;
- (d) trees of outstanding form; or
- (e) trees with trunk diameter exceeding 1.0 metre (measured at one metre above ground level).



位置圖 LOCATION PLAN SCALE : N.T.S.

74LC

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REDEVELOPMENT OF LO WU CORRECTIONAL INSTITUTION

drawn by K.H. CHAN

date 03-06

approved I.B. DICKINSON

date 03-06

drawing no.

AB/7000/XA201

scale

1 : 2500

PROJECT MANAGEMENT BRANCH



ARCHITECTURAL SERVICES DEPARTMENT

Enclosure 2 to PWSC(2006-07)23

74LC– Redevelopment of Lo Wu Correctional Institution

Breakdown of the estimate for consultants' fees

Consultants' staff costs		Estimated man-months	Average MPS* salary point	Multiplier (Note 1)	Estimated fee (\$ million)
(i) Quantity surveying services (Note 2)	Professional	18.4	38	2.0	2.0
	Technical	69.4	14	1.6	2.0
(ii) Landscape services (Note 2)	Professional	9.2	38	2.0	1.0
	Technical	-	-	-	-
(iii) Risk management services (Note 2)	Professional	9.2	38	2.0	1.0
	Technical	-	-	-	-
				Total	6.0

*MPS = Master Pay Scale

Notes

1. A multiplier of 2.0 is applied to the average MPS point to estimate the full staff costs including the consultant's overheads and profit, as the staff will be employed in the consultant's office, while a multiplier of 1.6 is applied to the average MPS point to estimate the cost of site staff supplied by the consultants. (As at 1 January 2005, MPS point 38 = \$54,255 per month and MPS point 14 = \$18,010 per month.)
2. We will only know the actual man-months and actual fees after we have selected the consultant through the usual competitive bidding system.

**Summary of the eight important trees to be affected by
74LC – Redevelopment of Lo Wu Correctional Institution**

Tree ref. no.	Tree species (Botanical names)	Tree size			Form ⁽¹⁾ (Good/Fair/Poor)	Survival rate after transplanting (High/Medium/Low)	Amenity value (High/Medium/Low)	Recommendation (Retain/Transplant/Fell)	Remarks
		Overall height (m)	Trunk diameter ⁽²⁾ (m)	Average crown spread (m)					
8	Delonix Regia	11	1.1	8	Fair	Medium	Medium	Transplant	The tree is located on proposed EVA route and in good health condition, transplant is recommended.
28	Melaleuca leucadendron	14	1.5	7	Good	High	High	Transplant	The tree is located on footprint of proposed Dormitory Block and in good health condition, transplant is recommended.
46	Delonix Regia	13	1.6	13	Good	Medium	High	Transplant	The tree is located on footprint of proposed Dormitory Block and in good health condition, transplant is recommended.
76	Fokienia hoginsii	11	0.66	7	Good	Low	High	Transplant	The tree is located on footprint of proposed Admin. Block and in good health condition, transplant is recommended.
90	Fokienia hoginsii	9	0.43	7	Good	Low	High	Transplant	The tree is located on footprint of proposed Admin. Block and in good health condition, transplant is recommended.
94	Fokienia hoginsii	12	0.53	8	Good	Low	High	Transplant	The tree is located on footprint of proposed Workshop Block and in good health condition, transplant is recommended.
95	Fokienia hoginsii	11	0.45	8	Good	Low	High	Transplant	The tree is located on footprint of proposed Workshop Block and in good health condition, transplant is recommended.
469	Ficus elastica	8	1.8	8	Poor	High	Low	Transplant	The tree is in close proximity to proposed Workshop Block and in fair health condition, transplant is recommended.

(1) Form of a tree will take account of the overall tree size, shape, and any special feature.

(2) Trunk diameter of a tree refers to its diameter at breast height (i.e. measured at 1.3 metre above ground level).