For information

Legislative Council Panel on Development

118CD – Drainage improvement in Northern New Territories – package B

PURPOSE

This paper briefs Members on the Administration's proposal to upgrade part of **118CD** entitled "Drainage improvement in Northern New Territories – package B" to Category A, at an estimated cost of about $221.7 million in money-of-the-day (MOD) prices, for improving the existing drainage systems in Ki Lun Tsuen, Ma Tso Lung, Ying Pun, Shek Tsai Leng and Sha Ling in New Territories.

PROJECT SCOPE

2. The scope of the part of 118CD which we propose to upgrade to Category A comprises the construction of -

(a) about 1 kilometre (km) of drainage channels of width ranging from 8 metres (m) to 13 m in Ki Lun Tsuen;

(b) about 500 m of drainage channels of width ranging from 5 m to 8 m in Ma Tso Lung;

(c) about 800 m of drainage channels of width ranging from 5 m to 8 m in Ying Pun;

(d) about 400 m of drainage channels of 4 m wide in Shek Tsai Leng;

(e) about 400 m of stormwater drains of diameter ranging from 900 mm to 1 500 mm in Sha Ling; and

(f) provision of ancillary works including greening works, footpaths and maintenance accesses.

Plans showing the locations of the proposed works and typical sections of the drainage channels and stormwater drains are at **Enclosure 1**. We plan to start the construction in mid 2008 for completion in mid 2010.

JUSTIFICATION

3. Owing to developments and changes in land use in the Northern New Territories over the years, large tracts of natural ground have been replaced by impermeable pavings. Rain water can no longer dissipate naturally through ground infiltration as in the past. This has led to increase in surface run-off and overloading of the existing drainage systems and streamcourses. As such, many areas of the northern part of the New Territories are susceptible to flooding during heavy rainstorms.

4. To alleviate the flooding risks in the northern part of the New Territories and to meet the community's rising expectation for better flood protection, we propose to carry out the drainage improvement works as mentioned in paragraph 2 above. Upon completion of the proposed works, the drainage system in Ma Tso Lung would be improved to withstand rainstorms with a return period[1] of one in ten years. The drainage systems in Ki Lun Tsuen, Ying Pun, Shek Tsai Leng and Sha Ling, which are main drainage systems, would be improved to withstand rainstorms with a longer return period of one in 50 years.

FINANCIAL IMPLICATIONS

5. We estimate the cost of the proposed works to be $221.7 million (in MOD prices), made up as follows-

			$ million
(a)	Construction works		178.4
	(i) drainage channels in Ki Lun Tsuen	73.1	
	(ii) drainage channels in Ma Tso Lung	28.2	
	(iii) drainage channels in Ying Pun	47.1	
	(iv) drainage channels in Shek Tsai Leng	13.8	
	(v) stormwater drains in Sha Ling	7.7	
	(vi) ancillary works	8.5	

[1] "Return period" is the average number of years during which a certain severity of flooding will occur once, statistically. A longer return period means a rarer chance of occurrence of a more severe flooding.

(b)	Environmental mitigation measures		4.0	
(c)	Consultants' fees		19.4	
	(i) contract administration	1.6		
	(ii) site supervision	17.8		
(d)	Contingencies		19.9	
	Total		221.7	(in MOD prices)

PUBLIC CONSULTATION

Ki Lun Tsuen

6. We consulted Yuen Long District Council Town Planning and Development Committee on 15 September 2004. Members supported the proposed works and requested us to further consult San Tin Rural Committee (STRC).

7. We consulted STRC on 29 July 2004 and 10 January 2005. STRC had no comment on the proposed works subject to the provision of vehicular access along the proposed channel at Ki Lun Tsuen for public use. We explained that in line with current practice we will re-provide the existing vehicular accesses and footpaths affected by the proposed works.

8. We gazetted the proposed works in Ki Lun Tsuen under the Roads (Works, Use and Compensation) Ordinance on 13 May 2005 and received a total of ten objections. Seven objectors with concerns on land resumption agreed to withdraw their objections subject to our amendments to the proposed works to reduce or exclude their lands from resumption. The remaining three objectors with concerns either on land resumption or on possible environmental impact did not withdraw their objections. These objections were considered unresolved. The amended works were subsequently gazetted on 24 March 2006 and we did not receive any further objection. After considering the three unresolved objections, the Chief Executive in Council authorised the proposed works without modifications on 17 October 2006.

Ma Tso Lung, Ying Pun and Shek Tsai Leng

9. We consulted North District Council District Development & Environmental Improvement Committee (NDC DD&EIC) on 20 September 2004

regarding the proposed works in Ma Tso Lung and Ying Pun, and on 26 September 2005 regarding the proposed works in Shek Tsai Leng. Members supported the proposed works.

10. We gazetted the proposed works in Ma Tso Lung, Ying Pun and Shek Tsai Leng under the Roads (Works, Use and Compensation) Ordinance on 11 August 2006 and received a total of nine objections. Three objectors with concerns on possible impacts due to land resumption and clearance withdrew their objections unconditionally upon our explanation of the proposed works. One objector with similar concerns agreed to withdraw his objection subject to our amendment to the proposed works to exclude his land from resumption. Another objector agreed to withdraw his objection subject to re-provisioning of a vehicular access. The remaining four objectors with concerns either on effectiveness of the project or on impact of land resumption and clearance did not withdraw their objections. These four objections were therefore considered unresolved. The amended works were subsequently gazetted on 22 June 2007 and we did not receive any further objection. After considering the four unresolved objections, the Chief Executive in Council authorised the proposed works without modifications on 4 December 2007.

Sha Ling

11. We proposed to improve the drainage system in Sha Ling initially by way of constructing drainage channel along existing streamcourse, and consulted NDC DD&EIC on 20 September 2004. Members supported the proposed drainage improvement works.

12. In February 2006, we amended the design of the proposed works in Sha Ling from drainage channel to drainage pipe while maintaining the same flood protection level in order to obviate the need for extensive land resumption.

13. For the revised proposed works in Sha Ling, we have consulted Ta Kwu Ling Rural Committee and circulated a consultation paper to NDC DD&EIC in March 2007, and members had no comment on the revision.

ENVIRONMENTAL IMPLICATIONS

14. The proposed works is not a designated project under the Environmental Impact Assessment Ordinance. We completed an Environmental Study (ES) which concluded that with implementation of the recommended mitigation measures and environmental monitoring and audit programme, there would not be any long term adverse environmental impacts arising from the proposed works. We would incorporate the ES recommendations into the works contract for implementation. For short-term impacts caused by the works during construction, we will control noise, dust and site run-off to within established standards and guidelines through implementation of mitigation measures such as the use of temporary noise barriers and silenced construction equipment to reduce noise

generation, water-spraying to reduce emission of dust and working in dry environment with barriers to control water pollution during excavation. We will also carry out regular site inspections to ensure that these recommended mitigation measures and good site practices will be properly implemented on site.

15. We have considered ways in the planning and design stages to reduce the generation of construction waste where possible. For example, we have determined the alignments of the proposed drainage channels such that excavation and demolition of existing structures would be minimised, and adopted standardized sections of reinforced concrete structures to minimise the use of timber formwork. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste to public fill reception facilities[2]. We will encourage the contractor to maximise the use of recycled and recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

16. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will 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 to public fill reception facilities and landfills respectively through a trip-ticket system.

17. We estimate that the project will generate in total about 237 500 tonnes of construction waste. Of these, we will reuse about 150 200 tonnes (63%) of inert construction waste on site and deliver 60 100 tonnes (25%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 27 200 tonnes (12%) 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 about $5.0 million for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[3] at landfills).

HERITGATE IMPICATION

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

[3] 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/m^3), nor the cost to provide new landfills (which is likely to be more expensive) when the existing ones are filled.

18. The project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings, sites of archaeological interests and Government historic sites identified by the Antiquities and Monuments Office.

TRAFFIC IMPACT

19. We have carried out a traffic impact assessment (TIA) for the proposed works. The TIA concluded that the proposed works would not cause unacceptable traffic impact.

BACKGROUND INFORMATION

20. In November 2001, we included **118CD** "Drainage improvement in Northern New Territories – package B" in Category B to cover drainage improvement works in Fu Tei Au, Kwu Tung, Ma Tso Lung and Ki Lun Tsuen.

21. In June 2002, we upgraded part of **118CD** to Category A as **129CD** entitled "Drainage improvement in Northern New Territories – package B – consultants' fees and investigations" at an estimated cost of $15.1 million in MOD prices for engaging consultants to undertake site investigations, impact assessments and detailed design for the proposed drainage improvement works under the project. The consultancy commenced in November 2002 for completion in June 2009**.**

22. The proposed drainage improvement works under **118CD** are implemented in four phases.

23. The phase 1 works involving drainage improvement of a watercourse located to the north of the junction between Fu Tei Au Road and Man Kam To Road in Sheung Shui was completed in January 2007. The works was funded under the block allocation **Subhead 4100DX** "Drainage works, studies and investigations for items in Category D of Public Works Programme" at an approved project cost of $3.97 million in MOD prices.

24. For phase 2, we upgraded part of **118CD** to Category A as **147CD "**Drainage improvement works in Kwu Tung South and Fu Tei Au, Sheung Shui" in July 2006 at an estimated cost of $58.3 million in MOD prices for carrying out the drainage improvement works in Kwu Tung South and upstream of the phase 1 works in Fu Tei Au. The construction works commenced in July 2006 for completion in January 2009.

25. The phase 3 works cover the proposed works as set out in paragraph 2 above.

26. The remaining phase of works involves drainage improvement works to be implemented in Tsung Yuen, Kwu Tung. Design of this phase is in progress.

27. Of the 313 trees within the project boundary, 276 trees will be preserved. The proposed works will involve the removal of 37 common trees including 26 trees to be felled and 11 trees to be replanted within the project site. All trees to be removed are not important trees[4]. We will incorporate planting proposals as part of the project, including estimated quantities of about 1 170 trees, 3 700 shrubs and 16 500 m^2 of grassed area.

28. We estimate that the proposed works will create about 169 jobs (135 for labourers and another 34 for professional/technical staff) providing a total employment of 3 300 man-months.

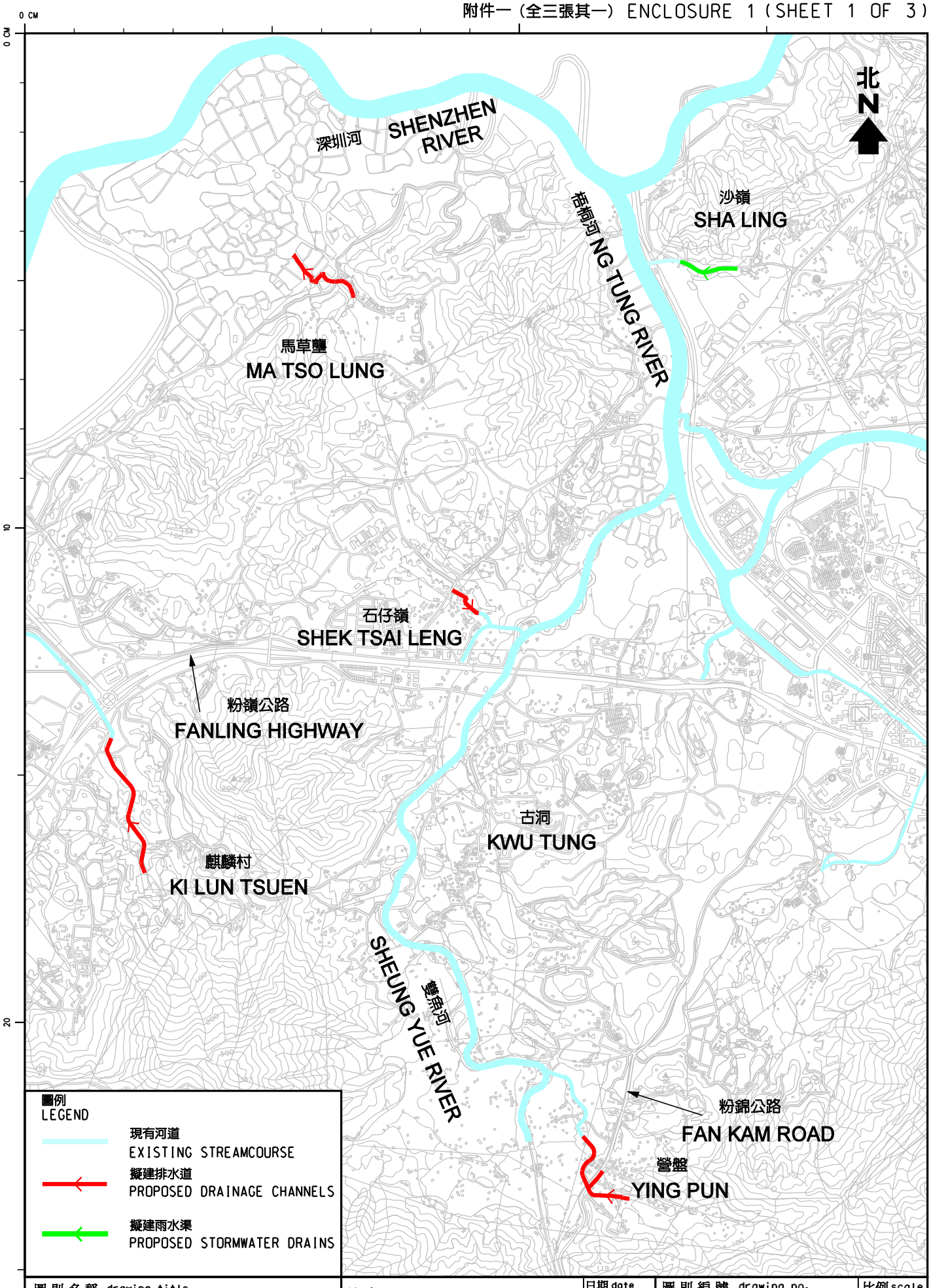
WAY FORWARD

29. Members are invited to support the proposed part-upgrading of **118CD** to Category A for consideration by the Public Works Subcommittee and for funding approval by the Finance Committee in May 2008.

Development Bureau
April 2008

[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 over 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 important persons 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 m (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.



圖則名稱 drawing title

工務工程計劃編號118CD
新界北部雨水排放系統改善計劃—B部分
PWP ITEM No. 118CD - DRAINAGE IMPROVEMENT IN NORTHERN NEW TERRITORIES - PACKAGE B

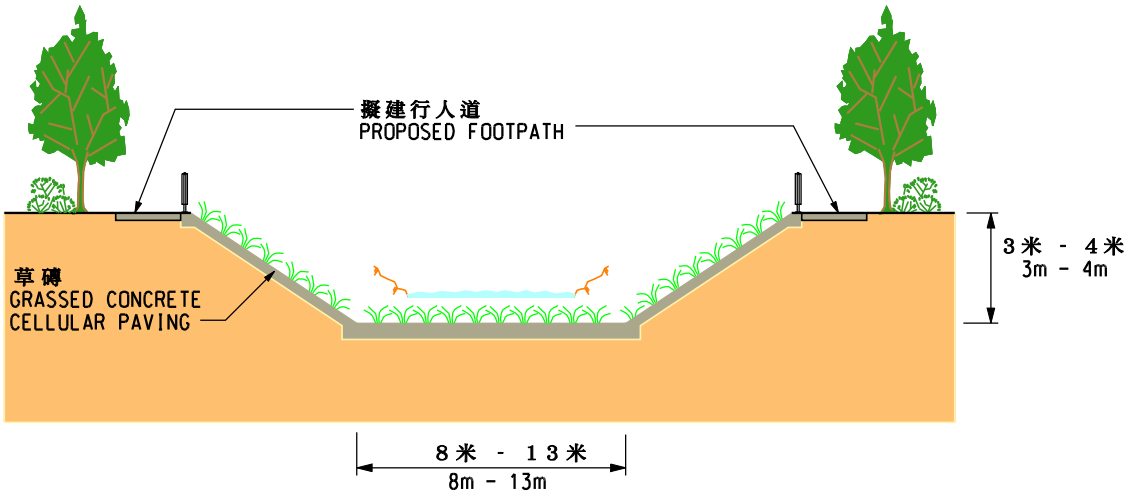
繪畫 drawn	S.Y. WONG	日期 date
核對 checked	S.S. POON	日期 date
批核 approved	B.K. KWOK	日期 date

部門 office 排水工程部 DRAINAGE PROJECTS DIVISION

圖則編號 drawing no. DDN/118CD1/8001

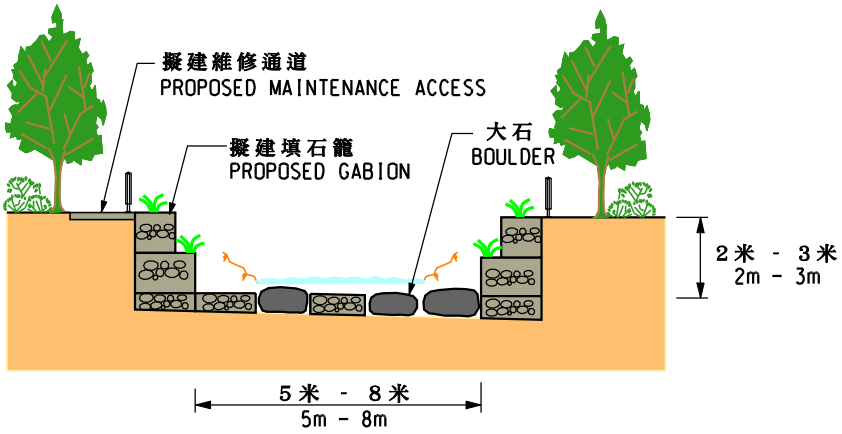
比例 scale 1 : 30000

香港特別行政區政府渠務署
DRAINAGE SERVICES DEPARTMENT
GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION



類型一（擬建麒麟村排水道之典型切面）

TYPE 1（TYPICAL SECTION OF PROPOSED KI LUN TSUEN CHANNEL）



類型二（擬建馬草壟排水道之典型切面）

TYPE 2（TYPICAL SECTION OF PROPOSED MA TSO LUNG CHANNEL）

LEGEND 圖例:

現有河道（闊度不定）
EXISTING STREAMCOURSE (WIDTH VARIES)

擬種植樹木及灌木
PROPOSED TREE AND SHRUBS PLANTING

擬建欄杆
PROPOSED RAILINGS

圖則名稱 drawing title 工務工程計劃編號118CD 新界北部雨水排放系統改善計劃—B部分 PWP ITEM No. 118CD - DRAINAGE IMPROVEMENT IN NORTHERN NEW TERRITORIES - PACKAGE B 排水道典型切面圖 TYPICAL CROSS-SECTION OF DRAINAGE CHANNELS	繪畫 drawn	S. C. TAM	日期 date
	核對 checked	S. S. POON	日期 date
	批核 approved	B. K. KWOK	日期 date
	部門 office	排水工程部 DRAINAGE PROJECTS DIVISION	
圖則編號 drawing no. DDN/118CD1/8002	比例 scale N.T.S.		

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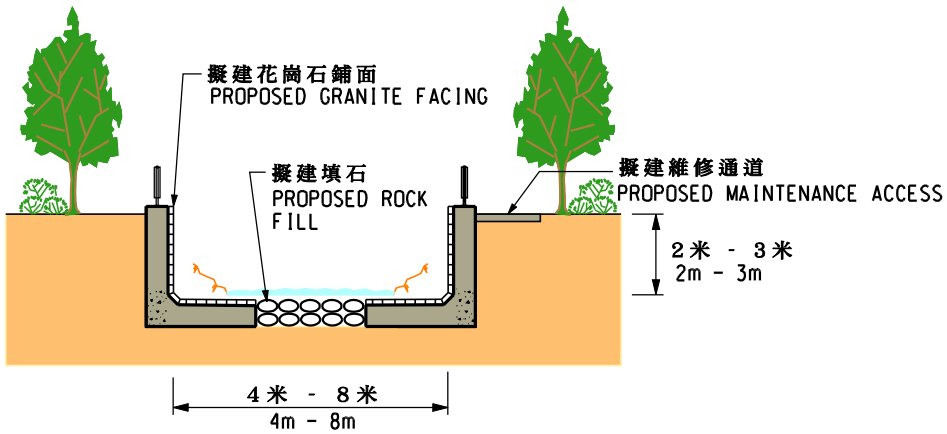
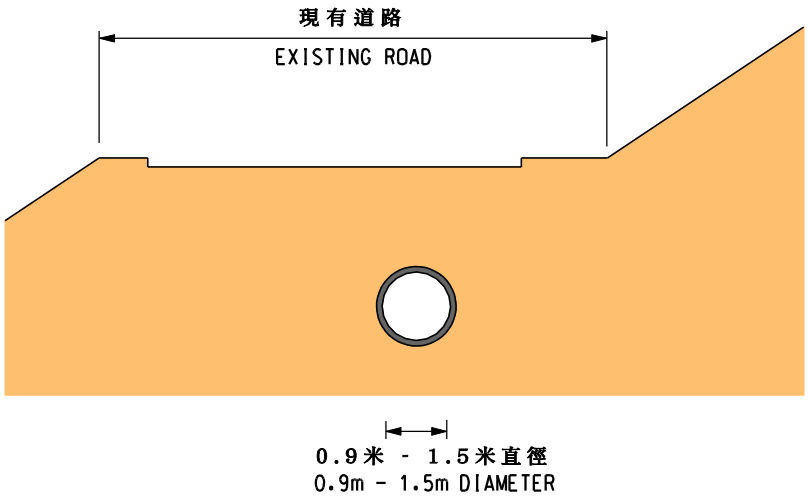
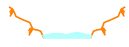


類型三（擬建營盤和石仔嶺排水道之典型切面）
TYPE 3 (TYPICAL SECTION OF PROPOSED YING PUN AND SHEK TSAI LENG CHANNEL)



類型四（擬建沙嶺雨水渠之典型切面）
TYPE 4 (TYPICAL SECTION OF PROPOSED STORMWATER DRAIN IN SHA LING)

LEGEND 圖例:


現有河道
（闊度不定）
EXISTING STREAMCOURSE (WIDTH VARIES)


擬種植樹木及灌木
PROPOSED TREE AND SHRUBS PLANTING

擬建欄杆
PROPOSED RAILINGS

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	核對 checked	S. S. POON	日期 date
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圖則編號 drawing no.	比例 scale
DDN/118CD1/8014	N.T.S.

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