For information

Legislative Council Panel on Development

112CD – Drainage improvement in Northern New Territories – package A

PURPOSE

This paper informs Members of a proposal to upgrade part of **112CD** to Category A, at an estimated cost of $26.8 million in money-of-the-day (MOD) prices, for constructing a box culvert underneath Castle Peak Road at San Tin.

PROJECT SCOPE AND NATURE

2. The part of **112CD** which we propose to upgrade to Category A comprises the construction of –

(a) about 15 metres (m) long three-cell box culvert with internal cell dimensions of 2.7 m in height and 4 m in width;

(b) about 50 m long retaining wall of 3 m high; and

(c) provision of ancillary works including greening works and roadworks.

Site plan and typical section of the box culvert are at **Enclosure**.

3. The proposed part-upgrading is the first stage of works for the drainage improvement at San Tin West and Shek Wu Wai. We will retain the remainder of **112CD** in Category B, which covers the improvement of San Tin Western Main Drainage Channel from Castle Peak Road to Shenzhen River and two drainage channels in Shek Wu Wai. Funding for the remainder of **112CD** will be sought in phases at a later date when it is ready to take forward the implementation of the works.

4. Subject to the approval of the Finance Committee, we plan to commence construction of the proposed works under paragraph 2 in April 2011 for completion in February 2014.

JUSTIFICATION

5. The existing box culvert across the San Tin section of Castle Peak Road was constructed nearly forty years ago. It conveys runoff from Shek Wu Wai across Castle Peak Road to the downstream. There have been cumulative changes in land use and developments in the upstream areas of Shek Wu Wai over the years involving paving of natural ground with impermeable materials. As a result, less rainwater can dissipate naturally through ground infiltration and this has led to an increase in surface run-off entering the box culvert. The capacity of the box culvert becomes inadequate during heavy rainstorms and it forms a bottleneck to the flow aggravating the flooding situation in Shek Wu Wai area. There are records of continuous flooding complaints for the area. There is an urgent need to increase the hydraulic capacity of the existing box culvert by enlarging it from the existing internal cell dimensions of 2.2 m (height) and 1.8 m (width) to 2.7 m and 4 m. When the improvement works are completed, the flooding risk in Shek Wu Wai will be alleviated.

FINANCIAL IMPLICATIONS

6. We estimate the cost of the proposed works to be $26.8 million in MOD prices –

			$ million	
(a)	Construction works		21.3	
	(i) box culvert	13.0		
	(ii) retaining walls	6.0		
	(iii) ancillary works	2.3		
(b)	Environmental mitigation measures		0.4	
(c)	Contingencies		2.1	
	Sub-total		23.8	(in September 2010 prices)
(d)	Provision for price adjustment		3.0	
	Total		26.8	(in MOD prices)

PUBLIC CONSULTATION

7. We consulted the San Tin Rural Committee through exchange of correspondence in June 2009. The San Tin Rural Committee supported the construction of the box culvert underneath Castle Peak Road together with associated road works. We further consulted the Yuen Long District Council (YLDC) on the project at its meeting on 25 June 2009. Members supported the proposed box culvert construction and urged the early implementation of drainage improvement to San Tin West and Shek Wu Wai areas by phases. YLDC also raised concerns on the possible impact on traffic that might bring about during the construction stage and requested Drainage Services Department (DSD) to seek the views of the Traffic and Transport Committee (T&TC) of YLDC on the traffic diversion plan upon commencement of construction. DSD agreed with the recommendation and would follow up during the construction stage.

ENVIRONMENTAL IMPLICATIONS

8. The proposed works to be part-upgraded under **112CD** are not a designated project under Schedule 2 of the Environmental Impact Assessment Ordinance (Cap 499). The proposed works would not cause unacceptable long-term environmental impact as they only involve constructing a new drainage structure and associated works to replace an existing box culvert underneath public road.

9. For short-term impacts during construction, we will control noise, dust and site run-off within established standards and guidelines through implementation of mitigation measures such as the use of temporary noise barriers and silenced construction plant to reduce noise generation, water-spraying and covering loads on trucks to reduce emission of fugitive 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. We have included $0.4 million (in September 2010 prices) in the project estimates for implementing the environmental mitigation measures.

10. We have considered optimizing the size and shape of the box culvert in the planning and design stages to reduce the generation of construction waste where possible. 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[1]. We will encourage the contractor to maximize the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimize the generation of construction waste.

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1 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.

11. 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.

12. We estimate that the project will generate in total about 1 400 tonnes of construction waste. Of these, we will reuse about 400 tonnes (29%) of inert construction waste on site and deliver 900 tonnes (64%) of inert construction waste to public fill reception facilities for subsequent reuse. In addition, we will dispose of 100 tonnes (7%) 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 $37,000 for this project (based on a unit cost of $27/tonne for disposal at public fill reception facilities and $125/tonne[2] at landfills).

HERITAGE IMPLICATIONS

13. 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.

TRAFFIC IMPLICATIONS

14. To minimise disturbance to the traffic flow during construction, the box culvert will be constructed in short sections such that the same number of traffic lanes on Castle Peak Road could be maintained. We will establish a Traffic Management Liaison Group (TMLG) under the contract and invite representatives from Transport Department, Hong Kong Police Force, Highways Department, the relevant District Office, public transport operators and utility undertakings to attend the TMLG meeting, and every temporary traffic arrangement will have to be agreed by TMLG and the T&TC of YLDC before implementation.

LAND ACQUISITON

2 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.

15. The proposed works do not require any land acquisition.

BACKGROUND INFORMATION

16. In September 2000, we upgraded **112CD** "Drainage improvement in Northern New Territories – package A" to Category B of the Public Works Programme for the drainage improvement works in San Tin North, Fanling, Sheung Shui and Tai Po North.

17. In June 2001, we upgraded part of **112CD** to Category A as **116CD** "Drainage improvement in Northern New Territories – package A – consultants' fees and investigations" at an estimated cost of $23.4 million in MOD prices for engaging consultants to carry out preliminary design, environmental and traffic impact assessments and investigation works. The consultancy commenced in March 2002.

18. In March 2005, we upgraded part of **112CD** to Category A as **137CD** "Drainage improvement for Ma Wat River at Kau Lung Hang" at an estimated cost of $232.6 million in MOD prices for improving the drainage capacity of Ma Wat River at Kau Lung Hang. The construction works commenced in June 2005 and was completed in September 2008.

19. In February 2006, we upgraded part of **112CD** to Category A as **145CD** "Upgrading of stormwater drains in Sheung Shui and Fanling" at an estimated cost of $92.2 million in MOD prices for improving the capacity of the drainage system in the urban areas of Sheung Shui and Fanling. The construction works commenced in March 2006 and was completed in September 2009.

20. In December 2006, we upgraded part of **112CD** to Category A as **148CD** "Drainage improvement works in Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas" at an estimated cost of $260.5 million in MOD prices for improving the capacity of the drainage system in Ping Kong, Kau Lung Hang, Yuen Leng, Nam Wa Po and Tai Hang areas. The construction works commenced in December 2006 for completion in April 2011.

21. DSD is currently undertaking a review of the Drainage Master Plans for Yuen Long and North District. Under this review, we will examine in a holistic manner the latest flooding situation of the catchment of San Tin Western Main Drainage Channel and will formulate further drainage improvement measures under the remaining works of **112CD** for implementation in the next stage.

22. Of the 105 trees within the project boundary, 80 trees will be preserved. The proposed works will involve the removal of 25 trees. All trees to be removed are not important trees[3]. We will incorporate planting proposals as part of the project, including planting about 48 trees.

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[3] "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 –

23. We estimate that the proposed works will create about 12 jobs (10 for labourers and another 2 professional/technical staff) providing a total employment of 350 man-months.

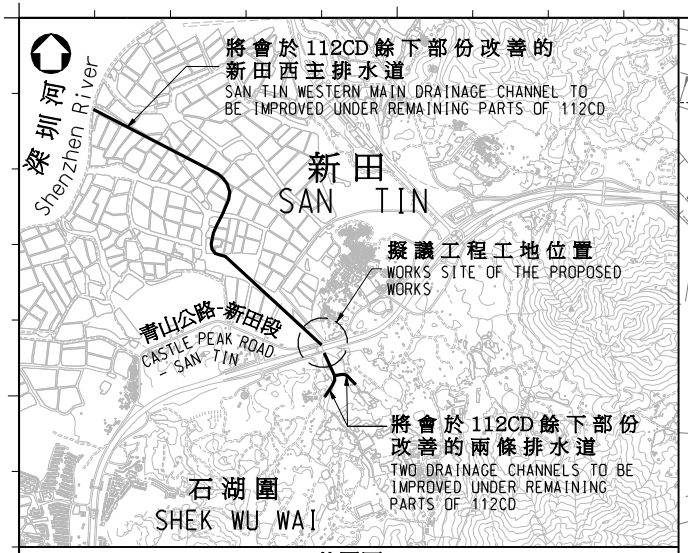
WAY FORWARD

24. We plan to seek the support of the Public Works Subcommittee for upgrading part of **112CD** to Category A in January 2011.

Development Bureau
December 2010

(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 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.

附件 ENCLOSURE



位置圖
KEY PLAN
1 : 50 000

839 600N

839 500N

825 500E

825 600E

新田村路
SAN TIN TSUEN ROAD

青山公路 - 新田段
CASTLE PEAK ROAD - SAN TIN

新田公路
SAN TIN HIGHWAY

CUL

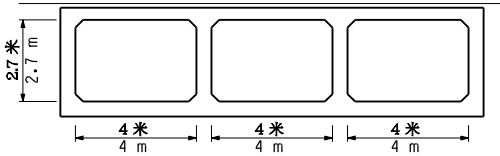
LEGEND 圖例:

擬建三管道箱形暗渠
PROPOSED THREE-CELL BOX CULVERT

擬建護土牆
PROPOSED RETAINING WALL

工地範圍
SITE BOUNDARY

青山公路 - 新田段
CASTLE PEAK ROAD - SAN TIN



擬建三管道箱形暗渠之典型切面
TYPICAL SECTION FOR PROPOSED THREE-CELL BOX CULVERT
SCALE 1:250

圖則名稱 drawing title

工務工程計劃編號112CD
新界北部雨水排放系統改善計劃 - A部分
建造青山公路新田段路下箱形暗渠

PWP ITEM No. 112CD
DRAINAGE IMPROVEMENT IN NORTHERN NEW TERRITORIES - PACKAGE A
CONSTRUCTION OF BOX CULVERT UNDERNEATH CASTLE PEAK ROAD AT SAN TIN

繪畫 drawn	C. K. WONG	日期 date
核對 checked	S. S. POON	日期 date
審核 vetted	Y. M. CHU	日期 date

部門 office
排 水 工 程 部
DRAINAGE PROJECTS DIVISION

圖則編號 drawing no. DDN8770

比例 scale 1 : 1 000 OR AS SHOWN

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

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