

## **ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE**

### **HEAD 704 - DRAINAGE**

**Civil Engineering - Drainage and erosion protection**

**64CD - Rural Drainage Rehabilitation Scheme**

Members are invited to recommend to Finance Committee -

- (a) the upgrading of part of **64CD**, entitled “Rural Drainage Rehabilitation Scheme, stage 2, phase 1 - Nam Hang drainage improvement”, to Category A at an estimated cost of \$16.9 million in money-of-the-day prices; and
- (b) the retention of the remainder of **64CD** in Category B.

### **PROBLEM**

Nam Hang, south of Yuen Long Town, is a low-lying area with no proper stormwater drainage system. It is susceptible to local flooding during typhoons and heavy rainstorm.

**/PROPOSAL .....**

## PROPOSAL

2. The Director of Drainage Services, with the support of the Secretary for Works, proposes to upgrade part of **64CD** to Category A at an estimated cost of \$16.9 million in money-of-the-day (MOD) prices for the provision of a proper stormwater drainage system for the Nam Hang area and the provision of proper access for future maintenance.

## PROJECT SCOPE AND NATURE

3. Project **64CD** comprises two stages of works for the rehabilitation of a number of watercourses in the North-east and North-west New Territories and the provision of proper maintenance access. We now propose to upgrade part of the stage 2 works to Category A which covers the drainage improvement works at Nam Hang as shown at Enclosure 1. The scope of works comprises the following -

- (a) construction of a 350-metre long box culvert between Tai Tong Road and Tai Shu Ha Road West;
- (b) construction of a 350-metre long access road and associated footpath;
- (c) ancillary drainage works; and
- (d) environmental mitigation works.

4. The remainder of **64CD** for retention in Category B comprises the construction of the remaining stage 1 works (at Ping Yuen River) and stage 2 works (at Mo Fan Heung Stream and Sha Po Tsuen Stream). A drawing showing the Rural Drainage Rehabilitation Scheme is at Enclosure 2.

## JUSTIFICATIONS

5. Nam Hang, located at the south of Yuen Long Town, is a low-lying area. The surface runoff is collected in small channels formed by local residents and is conveyed into local streams. With the filling of ponds and agricultural land for village houses and storage areas in Nam Hang and also in the areas upstream in recent years, the surface runoff flowing into the Nam Hang area has increased. This has resulted in flooding during heavy rainstorms. We

/therefore .....

therefore propose to construct a box culvert to intercept the surface runoff at Nam Hang and divert it to the Yuen Long Main Nullah, next to Tai Shu Ha Road West. The proposed box culvert will improve the existing drainage system and reduce the risk of flooding in the Nam Hang area, including Nam Hang Tsuen, Shui Tsui Lo Wai, and Sham Chung Tsuen.

6. We will construct a 3.5-metre wide access road on top of the box culvert to facilitate routine maintenance. The proposed one-way access road will be open for public use as a connection between Tai Tong Road and Tai Shu Ha Road West.

7. We will implement the environmental mitigating measures recommended in the environmental impact assessment (EIA) study for the project to ensure compliance with established environmental standards and guidelines.

8. If we do not implement the proposed works, local flooding will remain a serious problem in the area.

## FINANCIAL IMPLICATIONS

9. We estimate the capital cost of the project to be \$16.9 million in MOD prices (see paragraph 10 below), made up as follows -

	<b>\$ million</b>	
(a) Box culvert with covered rectangular channels and catchpits	11.0	
(b) Access road and footpath	1.6	
(c) Environmental mitigation works	1.7	
(d) Contingencies	1.2	
	<hr/>	
Sub-total	15.5	(at December 1998 prices)
(e) Provision for price adjustment	1.4	
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Total	16.9	(in MOD prices)
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/10. ....

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

Year	\$ million (Dec 1998)	Price adjustment factor	\$ million (MOD)
2000 – 2001	5.6	1.05814	5.9
2001 – 2002	8.4	1.11104	9.3
2002 – 2003	1.5	1.16660	1.7
	15.5		16.9

11. We have derived the MOD estimates on the basis of the Government's latest forecasts of trend labour and construction prices for the period 2000 to 2003. We will tender the works under a lump sum contract because we can clearly define the scope of the proposed works. We will provide price adjustments in the contract because the contract period will exceed 21 months.

12. We estimate the annually recurrent expenditure arising from the proposed works to be \$129,000.

## **PUBLIC CONSULTATION**

13. We consulted the Environmental Improvement Committee of the Yuen Long District Board and the Shap Pat Heung Rural Committee on 7 October 1996 and 6 March 1997 respectively on the proposed works and the environmental mitigation measures recommended in the Environmental Impact Assessment (EIA) report. Members of the District Board and the Rural Committee supported the proposal.

14. We gazetted the proposed road works ancillary to the drainage works under the Roads (Works, Use and Compensation) Ordinance on 28 August 1998 and did not receive any objection. The Secretary for Transport authorized the road scheme on 24 December 1998.

**ENVIRONMENTAL IMPLICATIONS**

15. We completed an EIA for the Rural Drainage Rehabilitation Scheme in July 1996. The EIA study concluded that with the implementation of the recommended mitigation measures, the environmental impacts arising from the project could be mitigated to within established standards and guidelines. The Advisory Council on the Environment endorsed the EIA report on 20 January 1997.

16. For long term impact, we will implement the necessary environmental protection measures according to the recommendations in the EIA study. For short term impact during the construction stage, we will control noise, dust and site run-off in accordance with established standards and guidelines. We will formulate an Environmental Monitoring and Audit Programme to ensure timely and effective implementation of the recommended mitigation measures. We estimate the cost of implementing the environmental mitigation measures to be \$1.7 million. We have included this cost in the overall project estimate.

17. At the planning and design stages, we considered how to reduce the generation of construction and demolition material (C&DM) as much as possible. As a result of this project, about 30 cubic metres of C&D waste will be disposed of at landfills and 5 000 cubic metres of public fill will be delivered to public filling areas. We shall require the contractor under the contract to submit a waste management plan to the Engineer for approval, with appropriate mitigation measures including the allocation of an area for waste segregation. We shall ensure that the day-to-day operations on site comply with the waste management plan submitted. We shall require the contractor to separate public fill from C&D waste for disposal at appropriate locations and to sort the C&DM by category on site to facilitate re-use/recycling in order to reduce the generation of waste. The recycled materials shall include paper/cardboard, timber and metal. We shall also encourage contractors to use excavated materials as filling materials on their own sites or other sites by arrangement prior to exercising the option of disposing of such materials at public filling areas. To further minimize the generation of C&DM, we shall encourage the contractor to use steel instead of timber in formwork and temporary works. We shall record the disposal, re-use and recycling of C&DM for monitoring purposes.

**/LAND .....**

**LAND ACQUISITION**

18. We will resume about 0.7 hectares of agricultural land for the implementation of the proposed works. The land acquisition will affect 59 temporary structures, 16 of which are domestic structures. It is estimated that 14 families with about 56 persons will be affected. The Director of Housing will offer the eligible families accommodation in public housing in line with the prevailing policy. We will charge the costs of land acquisition and clearance, estimated at \$12 million, to **Head 701** - Land Acquisition.

**BACKGROUND INFORMATION**

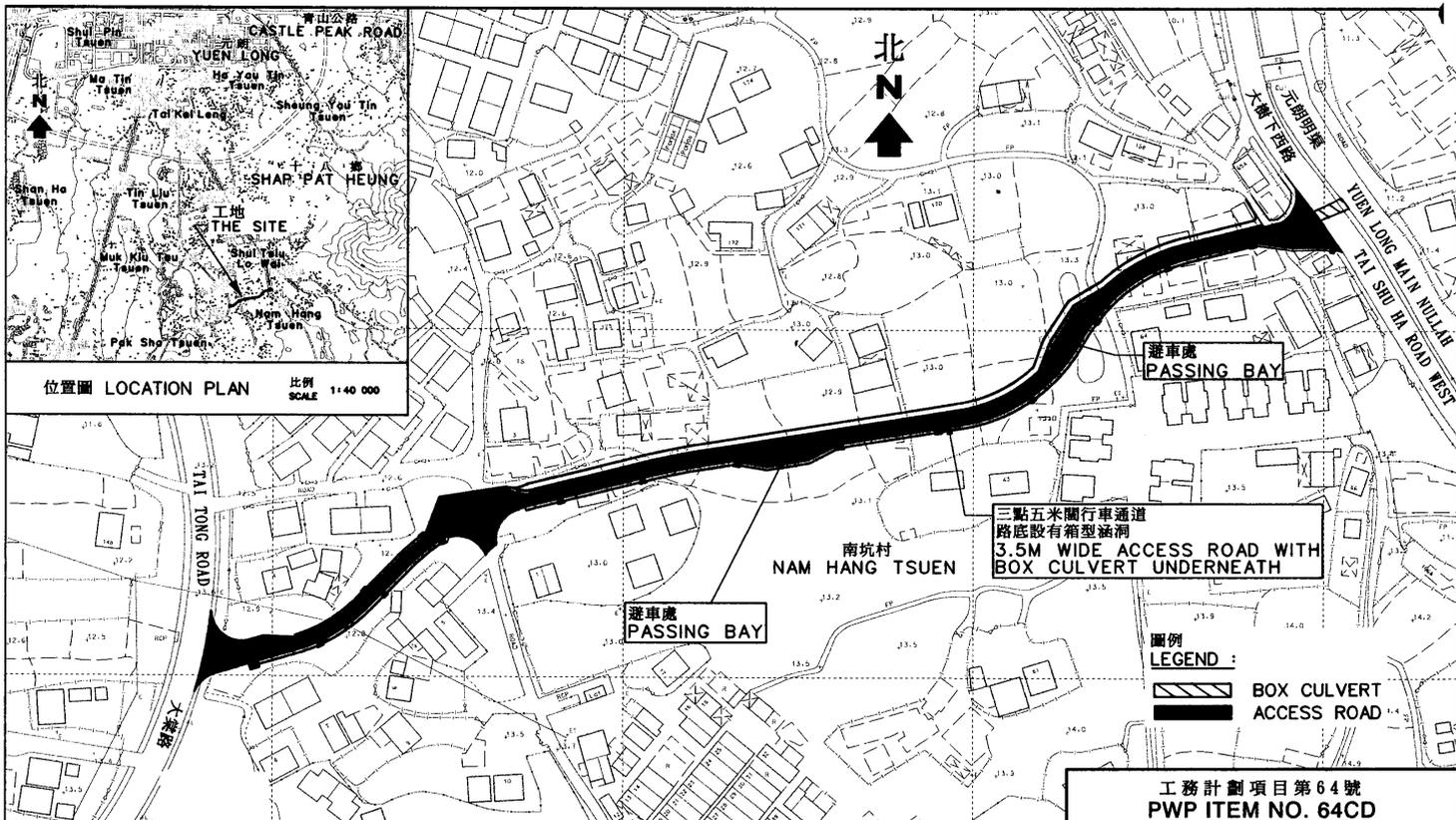
19. In March 1994, we upgraded **64CD** to Category B for the implementation of the rehabilitation works to the watercourses in the North-east New Territories under the stage 1 works and the North-west Territories under the stage 2 works.

20. In November 1994, we upgraded part of **64CD** to Category A as **67CD** "Rural Drainage Rehabilitation Scheme - consultants' fees and investigations" to engage consultants to conduct an EIA study for the whole project and carry out site investigations and detailed design for the stage 1 works.

21. In December 1997, we upgraded part of **64CD** to Category A as **91CD** "Rural Drainage Rehabilitation Scheme, stage 1, phase 1A - rehabilitation works at Ng Tung River" to rehabilitate the upper reaches of the Ng Tung River and its tributaries. The works commenced in November 1998 and are due for completion in December 2000.

22. In October 1998, we further upgraded part of **64CD** to Category A as **93CD** "Rural Drainage Rehabilitation Scheme, stage 1, phase 1B - rehabilitation works at Sheung Yue River" to rehabilitate the upper reaches of the Sheung Yue River and its tributaries. The works commenced in April 1999 and are due for completion in June 2001.

23. We have completed the design for the proposed works using in-house staff. We plan to start construction in May 2000 for completion in May 2002.



圖則名稱 drawing title <b>鄉郊排水修復計劃第二階段第一期          - 南坑村排水改善工程          RURAL DRAINAGE REHABILITATION          SCHEME STAGE 2 PHASE 1          - NAM HANG DRAINAGE IMPROVEMENT</b>		繪圖 drawn by ( SIGNED ) T. CHAN 日期 date 20-7-99		圖則編號 drawing no. <b>DDN/64CD/3808</b> 比例 scale 1 : 1000 OR AS SHOWN	
校核 approved ( SIGNED ) S. H. KWAN 部門 office <b>排水工程處          DRAINAGE PROJECTS DIVISION</b>		日期 date 20-7-99		 香港特別行政區政府渠務署 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION	

**圖例 LEGEND**

**鄉郊排水修復計劃第一階段  
RDRS STAGE 1**

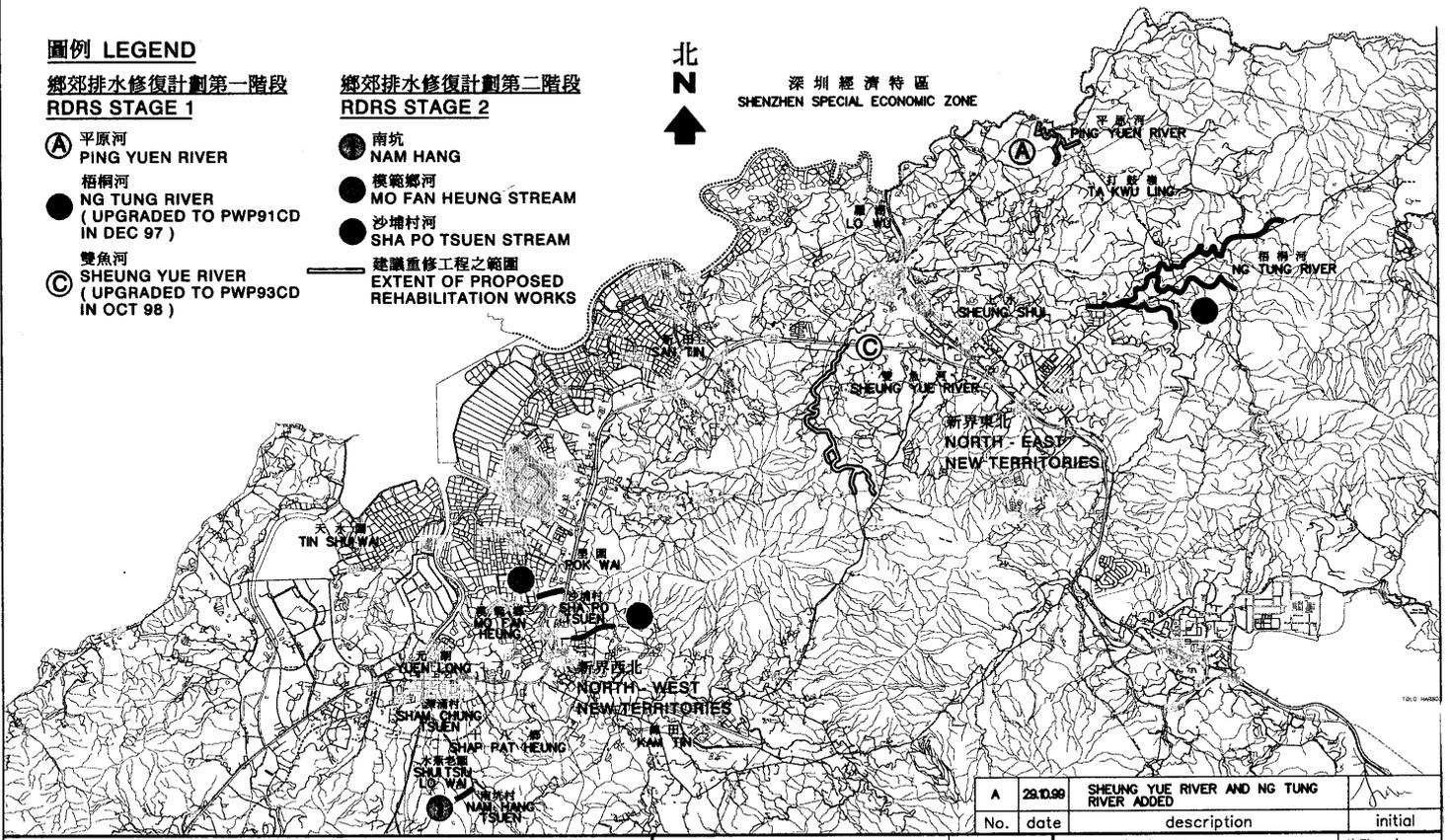
- Ⓐ 平原河  
PING YUEN RIVER
- 梧桐河  
NG TUNG RIVER  
(UPGRADED TO PWP91CD  
IN DEC 97)
- Ⓒ 雙魚河  
SHEUNG YUE RIVER  
(UPGRADED TO PWP93CD  
IN OCT 98)

**鄉郊排水修復計劃第二階段  
RDRS STAGE 2**

- 南坑  
NAM HANG
- 模範鄉河  
MO FAN HEUNG STREAM
- 沙埔村河  
SHA PO TSUEN STREAM
- 建議重修工程之範圍  
EXTENT OF PROPOSED  
REHABILITATION WORKS



深圳經濟特區  
SHENZHEN SPECIAL ECONOMIC ZONE



A	29.10.99	SHEUNG YUE RIVER AND NG TUNG RIVER ADDED	
No.	date	description	initial

圖則名稱 drawing title	繪畫 drawn by (SIGNED)	T. CHAN	日期 date	20-7-99	圖則編號 drawing no.	DDN/64CD/0004A	比例 scale	1 : 100 000
	批准 approved (SIGNED)	S. H. KWAN	日期 date	20-7-99				
<b>鄉郊排水修復計劃 RURAL DRAINAGE REHABILITATION SCHEME</b>			部門 office		香港特別行政區政府渠務署 DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION			
			排水工程處 DRAINAGE PROJECTS DIVISION					

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