

Legislative Council Panel on Planning, Lands and Works

Supplementary Note on 120CD – Drainage improvement in Sai Kung 126CD – Drainage improvement in East Kowloon – package B phase 2

INTRODUCTION

Two information papers on the proposed upgrading of **120CD** and **126CD** to Category A were circulated to the Panel on Planning, Lands and Works on 20 November 2006. On the advice of the Panel Chairman, the Administration is requested to provide the following supplementary information on **120CD** and **126CD** –

- (a) details on the estimated annual recurrent expenditures; and
- (b) whether underground tunnelling methods can be used instead of the open trench excavation method so as to minimize the traffic and environmental impacts of the project works.

THE ADMINISTRATION'S RESPONSE

(A) Details on the estimated annual recurrent expenditures

2. The estimated annual recurrent expenditures of drainage works are based on the latest annual costs of repair and maintenance spent on our drainage infrastructure. The costs essentially cover three elements, namely, repair and maintenance, staff cost and associated departmental expenses.

3. For **120CD**, which involves about 0.9 kilometres (km) of proposed drainage channels with width ranging from 17 metres (m) to 45 m, and about 300 m of box culvert 11 m wide, the estimated annual recurrent expenditure is about \$470,000, comprising about \$350,000 of repair and maintenance cost, \$113,000 of staff cost and \$7,000 of departmental expenses.

4. For **126CD**, the project involves about 3.7 km of drainage pipes with diameter ranging from 600 millimetres (mm) to 2 100 mm, out of which about 1.4 km would serve to improve existing drains. The net increase in the estimated annual recurrent expenditure is for the maintenance of about 2.3 km of drain pipes at about \$130,000, which comprises about \$97,000 of repair and maintenance cost, \$31,000 of staff cost and \$2,000 of departmental expenses.

(B) *Open trench excavation method versus underground tunneling methods*

120CD

5. **120CD** mainly covers the construction of about 1.2 km of drainage channels and box culvert. Nearly all of the construction activities under this project, except for a section of box culvert (about 20 m long and 11 m wide) crossing Tai Mong Tsai Road, will be away from roads and will not affect existing traffic. Underground tunneling method is not feasible for the box culvert across Tai Mong Tsai Road due to its size, which is a triple-cell culvert with each cell measuring 3 m x 3 m. We have also considered the alternative option of pipe jacking of pipelines across Tai Mong Tsai Road. As small diameter drain pipes have much smaller hydraulic capacity than a box culvert, we would need a large number of pipelines to achieve the same hydraulic capacity as the box culvert. Hence, the land intake involved in this option would be exceedingly large when compared with the box culvert option. We therefore decide to adopt the box culvert scheme as it could satisfy other important criteria of cost effectiveness, least land resumption and minimum disturbance to the public.

6. To mitigate traffic impact on Tai Mong Tsai Road, we have carried out traffic impact assessments (TIA) for the proposed works. The TIA conclude that by adopting staged construction of the crossroad box culvert as well as appropriate temporary traffic arrangement, the proposed works would not cause unacceptable traffic impact. We will also implement suitable mitigation measures to minimize environmental impact due to construction works.

126CD

7. We have considered the use of underground tunneling technique but found that the method is not feasible due to shallow ground cover to the proposed drainage pipes. For underground tunneling method to be feasible, in the absence of other site constraints such as obstruction by underground utilities, the proposed drain should be at least 3 to 4 m below ground. Under **126CD**, the gradient and flow direction of the existing drainage network in the area dictate that the deepest section of the proposed drains comes only to a depth of about 2.5 m below ground, whereas the ground cover along most of the pipes is quite shallow ranging from 1 to 2 m. The proposed pipes are therefore at an insufficient depth for underground tunneling method to be adopted. However, we will minimize the traffic and environmental impacts by other methods such as carrying out the works at non-peak hours and/or night-time and implementing mitigation measures for noise, dust and odour.

(C) *Follow-up action*

8. As suggested by the Panel Chairman, we will send a copy of this Supplementary Note to the Sai Kung and Kwun Tong District Councils for their information.

**Environment, Transport and Works Bureau
December 2006**