## ITEM FOR ESTABLISHMENT SUBCOMMITTEE OF FINANCE COMMITTEE

### HEAD 60 - HIGHWAYS DEPARTMENT Subhead 001 Salaries

Members are invited to recommend to Finance Committee the creation of the following supernumerary posts for a period of six years -

1 Government Engineer (D2) (\$116,650 - \$123,850);

2 Chief Engineer (D1) (\$98,250 - \$104,250).

#### **PROBLEM**

The Highways Department (HyD) needs to strengthen its directorate support for managing major highway projects.

### **PROPOSAL**

- 2. We propose to create -
  - (a) one supernumerary post of Government Engineer (GE) (D2) for a period of six years to head a new office in the Major Works Project Management Office (MWPMO); and
  - (b) two supernumerary posts of Chief Engineer (CE) (D1) for a period of six years, each to head a new division responsible for a package of major highway projects.

/JUSTIFICATION .....

### **JUSTIFICATION**

3. The Chief Executive announced in his 1997 Policy Address that the Administration is committed to implementing transport infrastructure projects to support and enhance economic development, land use and housing development in the territory. The Finance Committee approved on 20 March 1998 the creation of six directorate posts - one Principal Government Engineer (PGE), one GE and four CEs - to set up the nucleus of a dedicated project management team in the MWPMO. At present, the MWPMO is headed by a PGE, designated as the Project Manager/Major Works (PM/MW). It consists of two offices, Major Works Office (1) and Major Works Office (2), with a total staff establishment of 215 officers of different grades and ranks. Enclosure 1 shows the existing organisation chart of the MWPMO and the distribution of work among the existing two offices. We envisaged at the time that the project team would require expansion as the major road projects advanced to the design and construction phases.

- 4. To complete the construction and improvement work for over 100 kilometres of strategic routes in the next ten years, we are pressing on with the implementation of a number of major highway projects, including the Tsing Yi North Coastal Road, widening of the Tolo and Fanling Highways, the Central-Wan Chai Bypass and the Island Eastern Corridor Link, Route 9 Tsing Yi to Cheung Sha Wan and Cheung Sha Wan to Sha Tin (the latter section previously named as Route 16 Sha Tin to West Kowloon), Route 10 North Lantau to Yuen Long Highway, widening of Yuen Long Highway, Route 7 Kennedy Town to Aberdeen and Central Kowloon Route. Details are set out in Enclosure 2. A programme chart for these projects and a map showing the alignment of the roads and highways involved are at Enclosures 3 and 4 respectively.
- 5. The scope, scale and complexity of these projects far exceed those of the Airport Core Programme highway projects. The strategic highway projects are now moving from preliminary study to the detailed design and site investigation stages. With this comes a heavy workload on traffic management; route alignment; reprovisioning of facilities and land resumption; briefings for and consultation meetings with provisional district boards and local committees; resolution of public objections; handling of complaints; managing consultants and contractors; vetting of technical reports; management of environmental, traffic, drainage and heritage impact assessments; funding and gazetting of projects; and documentation for tenders and contracts of construction works. This necessitates adequate directorate level input to ensure these projects are taken forward in a timely and well managed way.

Encl. 1

Encl. 2

Encls.3&4

6. The Director of Highways (D of Hy) has reviewed the current directorate structure and manpower of the MWPMO. He found that the current directorate officers of the MWPMO are already stretched to their limits and will not be able to cope with the increasing workload. He has explored various options, including redeploying other directorate officers in the department to strengthen the MWPMO. He came to the conclusion that these options are impracticable as all existing directorate officers are already fully engaged with their respective responsibilities. To ensure smooth progress and effective budget control of the strategically important highway projects and to meet the target completion dates, additional posts are necessary. Accordingly, we propose to create one GE (D2) and two CE (D1) posts on a supernumerary basis for a period of six years.

Subject to Members' approval of the above additional posts, we propose to establish a third Works Office in the MWPMO, entitled "Major Works Office (3)", to be responsible for the major projects relating to Route 9 from Tsing Yi to Cheung Sha Wan and from Cheung Sha Wan to Sha Tin, widening of Yuen Long Highway, and Tsing Yi North Coastal Road. Upon the establishment of the new Office, the organisation and span of control of the MWPMO will be restructured and the distribution of workload and responsibilities rationalised. The proposed organisation chart of the MWPMO is at Enclosure 5. The roles of the three proposed supernumeray posts are briefly set out below.

### **Government Engineer/Major Works (3)**

Encl. 5

8. The proposed GE post, to be designated as Government Engineer/Major Works (3) (GE/MW(3)), will head the new Major Works Office (3) in the MWPMO, supervise the work of three CEs and their teams of professional staff, and oversee four supporting units, namely Project Technical Support Unit, Contract Advisory Unit, Electrical and Mechanical Engineering Coordination Unit, and Programme, Planning and Control Unit. The officer will be responsible for four major highway projects: Route 9 - Tsing Yi to Cheung Sha Wan and Cheung Sha Wan to Sha Tin, widening of Yuen Long Highway, and Tsing Yi North Coastal Road, at a total estimated cost of \$22.64 billion at December 1997 price level. The initial findings of the Third Comprehensive Transport Study (CTS-3) project the requirement for some major highway projects such as Eastern Highway and East-West Route, now under conceptual planning, to advance to the construction stage in 2005. Substantial planning and design works are expected to be carried out upon the finalisation of the CTS-3 in April 1999.

9. GE/MW(3) will have a pivotal role in steering and guiding these committed projects from conception to completion on time, within budget, safely and to the required standards. His role will be commensurate with that of the other two GEs in the MWPMO in terms of the scope and level of responsibilities and professional input required. As the implementation of most of the mega-scale highway projects will last up to 2004/2005, we propose to create the GE/MW(3) post on a supernumerary basis for a period of six years. We will review the continued need for the post in the light of the findings of the CTS-3 and the future transport network expansion plan, work progress and projected workload before the end of this period.

### Chief Engineer/Major Works 2-3 and Chief Engineer/Major Works 3-3

- 10. The two proposed CE (D1) posts, to be designated as CE/MW2-3 and CE/MW3-3 and reporting to the existing GE/Major Works (2) and the proposed GE/MW(3) respectively, will each head a new division overseeing the planning, design and construction aspects of the projects described below -
  - (a) CE/MW2-3: five major capital projects, including widening of Tolo and Fanling Highways, road improvement works in Sha Tin, Tsuen Wan and Tuen Mun Districts, improvement to Fan Kam Road, widening of T6 Bridge, Kam Tin Bypass and other capital works projects. Since the implementation of these highway projects will last up to 2004/2005, we propose to create the CE/MW2-3 post on a supernumerary basis for a period of six years.
  - (b) CE/MW3-3: four major capital projects, including Tsing Yi North Coastal Road, Yuen Long Highway Widening, Eastern Highway and East-West Route. Based on the work programmes for these projects, we propose to create the CE/MW3-3 post on a supernumerary basis for a period of six years.

We will review the continued need for these two CE posts before the end of the period, having regard to the results of the CTS-3, the future transport network expansion plan, work progress and projected workload.

11. Upon the creation of the three proposed directorate posts, the existing Major Works Office (1) will focus on the planning, design and construction of Route 10 from North Lantau to Yuen Long and Hong Kong Lantau Link, and Route 7 from Kennedy Town to Aberdeen. The Major Works Office (2) will take charge of the planning and implementation of Central

/Kowloon .....

Highways, road improvement works in Sha Tin, Tsuen Wan and Tuen Mun Districts, improvement works to Castle Peak Road and Tuen Mun Road, improvement to Fan Kam Road, Gascoigne Road viaduct widening, widening of T6 Bridge, Kam Tin Bypass and other major capital works projects. The level and scope of responsibilities of the existing GEs and CEs will remain unchanged. The job descriptions of the three proposed directorate posts in the MWMPO are at Enclosures 6 to 8.

Encls.6to8

#### FINANCIAL IMPLICATIONS

12. The additional notional annual salary cost at mid-point and the full annual average staff cost of the proposal, including salaries and staff on-costs, are -

	Notional Annual Salary Cost at Mid-point \$	Full Annual Average Staff Cost \$	No. of Posts
GE	1,443,000	2,377,080	1
CE	2,426,400	4,321,152	2
	3,869,400	6,698,232	3

13. In addition, the D of Hy will need to create 58 non-directorate posts in various professional, technical, secretarial and clerical grades to support the expanded MWPMO, amounting to \$23,940,420 at a notional annual salary cost at mid-point and a full annual average staff cost of \$38,518,566. The posts will be created through the normal Departmental Establishment Committee machinery. We have included sufficient provision in the 1999-2000 draft Estimates to meet the cost of this proposal.

### **BACKGROUND INFORMATION**

14. Currently, the HyD has five dedicated project management offices, namely the Lantau Fixed Crossing Office (LFCO), Airport and Port Access Office (APAO), Route 3 (Country Park Section) Office, Airport Railway Division and the MWPMO. APAO and Route 3 (Country Park Section) Office have been subsumed under the MWPMO since 1 April 1998.

The LFCO and APAO are downsizing following the completion of the Airport Core Programme projects and settlement of claims and final accounts. Their total establishment has been reduced from 114 at the peak construction stage to 33 in April 1998 and will be further trimmed down to seven by 1 April 1999. By then, a total of 11 directorate posts and 96 non-directorate posts will have been deleted, including the Project Director/Lantau Fixed Crossing (D4), Project Manager/Airport & Port Access (D3), three GEs (D2) and six CEs (D1). The Route 3 (Country Park Section) Office and the Airport Railway Division will be dissolved also in April 1999 and a further two CEs and eight non-directorate posts will be deleted.

16. The department has considered carefully alternative means to cope with the increasing workload bearing in mind the need for greater efficiency and productivity under the Enhanced Productivity Programme but considers this proposal the most appropriate way to proceed. It should be noted that the majority of project management staff in HyD are project-based. That is to say, the posts created for managing specific projects will lapse upon the completion of the projects and new posts will have to be created for managing major new projects. Also, in order to build up and retain in-house expertise in the management of major projects, the need for civil service posts cannot be entirely substituted by the use of consultants.

### CIVIL SERVICE BUREAU COMMENTS

17. Having regard to the reasons put forward, Civil Service Bureau considers the proposal to be justified and the grading, ranking and duration of the proposed posts to be appropriate.

### ADVICE OF THE STANDING COMMITTEE ON DIRECTORATE SALARIES AND CONDITIONS OF SERVICE

18. As the posts are proposed on a supernumerary basis, their creation, if approved, will be reported to the Standing Committee on Directorate Salaries and Conditions of Service in accordance with the agreed procedure.

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### **Planned Major Highway Projects**

### (I) Tsing Yi North Coastal Road

The proposed Tsing Yi North Coastal Road is a 2.2 km long dual 2-lane road mainly on viaducts connecting North West Tsing Yi Interchange with Tsing Tsuen Bridge. It forms part of the principal access to the New Airport and will be integrated into the existing Tsing Ma Control Area. Construction will commence in early 1999 for completion in 2002 at an estimated cost of \$1.09 billion.

### (II) Widening of Tolo Highway and Fanling Highway

The Tolo Highway and Fanling Highway are scheduled for widening from the existing dual 3-lane to dual 4-lane in order to relieve traffic congestion and cope with future traffic demand. Construction will commence in 1999 for target completion in stages by 2005 at an estimated cost of \$4.99 billion.

### (III) Central - Wan Chai Bypass and Island Eastern Corridor Link

The Central - Wan Chai Bypass and Island Eastern Corridor Link is a 4 km long trunk road linking the Rumsey Street Flyover in Central and the Island Eastern Corridor in Causeway Bay. It comprises a 2.3 km long dual 2-lane tunnel between Central and Causeway Bay, two adjoining 0.7 km long single 2-lane tunnels between Wan Chai and Causeway Bay, interchanges in Central and Causeway Bay and slip roads in Wan Chai. On completion, the trunk road will not only provide essential relief for traffic using the existing main east-west road link along Gloucester Road, Harcourt Road and Connaught Road Central on the north shore of Hong Kong Island, but will also cater for the additional traffic generated by future developments in Central and Wan Chai. Construction is scheduled to commence in 2000 for completion in stages by 2010 at an estimated cost of \$10.55 billion.

### (IV) Route 9 - Cheung Sha Wan to Sha Tin (previously named as Route 16 - Sha Tin to West Kowloon)

Route 9 - Cheung Sha Wan to Sha Tin will provide an additional road link between Tai Wai and Cheung Sha Wan and will significantly alleviate traffic

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congestion between Sha Tin and other urban areas. Its configuration has been expanded to a dual 3-lane configuration including 2 sections of tunnel of total length 3.7 km, a toll plaza in between and 1.8 km of approach roads in the form of viaducts and open road. The changes have substantially increased the complexity of the project. The detailed design work will start in mid 1999 for construction to commence in 2001 and completion in 2005 at an estimated cost of \$7.65 billion.

### (V) Route 10 - North Lantau to Yuen Long Highway

Route 10 connects Yuen Long Highway to North Lantau, measuring 17.5 km in length with two tunnels totalling 6.7 km and a 2-km suspension bridge. The project is estimated to cost \$23.35 billion. Preliminary design commenced in March 1998. This will be followed by detailed design in late 1999 with a view to commencing construction in 2002 for completion in 2007.

### (VI) Route 9 - Tsing Yi to Cheung Sha Wan

Route 9 - Tsing Yi to Cheung Sha Wan is a trunk road linking the new airport at Chek Lap Kok with West Kowloon. It consists of the existing North Lantau Highway and Lantau Link and the proposed Tsing Yi to Cheung Sha Wan section. To cater for the future growth in traffic between north-west New Territories, Lantau and urban areas, the section of Route 9 between Tsing Yi and Cheung Sha Wan is needed to provide an alternative route to the existing Tsing Kwai Highway between Tsing Yi and West Kowloon. Upon completion, it will link up with the West Kowloon Highway and the section of Route 9 from Cheung Sha Wan to Sha Tin to the south and the Tsing Ma Bridge and Ting Kau Bridge to the north. The detailed feasibility study for Route 9 - Tsing Yi to Cheung Sha Wan is now being finalized and a detailed design consultancy is being invited. Construction is scheduled to commence in 2002 for completion by 2008 at an estimated cost of \$13.15 billion.

### (VII) Widening of Yuen Long Highway

The existing Yuen Long Highway is an 8 km long dual 2-lane road linking Lam Tei and Pok Oi. The population in the north-west New Territories will further increase in the next decade and generate substantial traffic to the already overloaded Yuen Long Highway. Widening of Yuen Long Highway to dual 3-lane standard with full width hard shoulder is scheduled to commence in 2002 for completion by 2004 at an estimated cost of \$0.75 billion.

### (VIII) Route 7 - Kennedy Town to Aberdeen

Route 7 will run from Belcher Bay Reclamation in Kennedy Town to Aberdeen, measuring 8 km in length with two tunnels totalling 1.1 km at an estimated cost of \$6.03 billion for dual 2-lane design or \$9 billion for 3-lane design. Detailed feasibility study and preliminary design commenced in 1998. Construction is scheduled to commence in 2003 for completion in stages between 2007 and 2010.

### (IX) Central Kowloon Route

Central Kowloon Route will provide a dual 2-lane high capacity segregated trunk road between the West Kowloon Reclamation and the South-East Kowloon Development. It will cater for the projected increase in east-west traffic demand arising from planned developments in Kowloon. The detailed design is targeted to commence in late 1999 for completion by 2003. Construction is scheduled for commencement in 2003 and completion in 2007 at an estimated cost of \$4.67 billion.

# Highways Department Major Works Project Management Office Proposed Job Description

**Post title** : Government Engineer/Major Works (3) (GE/MW(3))

Rank : Government Engineer (D2)
Responsible to : Project Manager/Major Works

### Overall Role and Objectives

GE/MW(3) manages the day-to-day operations of the Divisions under his control. He will provide professional, administrative and policy guidance, support and leadership to his subordinates who are responsible for planning and implementing strategic highway projects relating to Route 9 from Tsing Yi to Cheung Sha Wan and from Cheung Sha Wan to Sha Tin, widening of Yuen Long Highway, Tsing Yi North Coastal Road, Eastern Highway and East-West Route. The officer will also supervise and oversee four supporting units, namely Project Technical Support Unit, Contract Advisory Unit, Electrical and Mechanical Engineering Co-ordination Unit and Programme, Planning and Control Unit.

### Major Duties and Responsibilities -

- (a) Executing the strategies, policies and procedures as formulated by the Project Manager to control project scope, cost and programme of individual projects;
- (b) monitoring, managing and co-ordinating the work of his Divisions and Units in implementing the approved project plans;
- (c) monitoring and re-distributing the workload of individual Divisions and Units to ensure maximum utilisation of resources:
- (d) setting Divisional programme and cost targets and monitoring performance against the set targets;
- (e) liaising with policy bureaux and other government departments on issues affecting the implementation of projects;
- (f) negotiating and processing consultants agreements through the Consultants Selection Board;
- (g) preparing tender documents and assessing tenders for the strategic highway projects;

- (h) chairing assessment panels for consultants selection and prequalification of tenderers; and
- (i) supervising the management of consultants engaged in the strategic highway projects.

## Highways Department Major Works Project Management Office Proposed Job Description

**Post title** : Chief Engineer/Major Works 2-3 (CE/MW 2-3)

**Rank** : Chief Engineer (D1)

**Responsible to** : Government Engineer/Major Works

### **Overall Role and Objectives**

CE/MW2-3 will head a Division and will be responsible for the planning and implementation of a number of strategic highway projects including widening of Tolo Highway and Fanling Highway, road improvement works in Sha Tin, Tsuen Wan and Tuen Mun Districts, improvement to Fan Kam Road, widening of T6 Bridge, Kam Tin Bypass and other capital works projects.

### Major Duties and Responsibilities -

### General

- (a) Ensuring his Division conducts its work in accordance with the strategies, policies and procedures as formulated by senior management;
- (b) providing leadership, support and direction to his subordinates in the planning, design and construction of strategic highway projects under his charge;
- (c) organizing briefings, information papers and situation reports for senior management; and
- (d) attending District Board and other meetings as and when required.

### Planning and Design

- (a) Consulting and coordinating with other departments in preparing project briefs for feasibility, preliminary design and detailed design studies;
- (b) implementing the selection and award of consultancies;
- (c) controlling the consultancy budget and certifying payments;

- (d) ensuring the consultants fulfill the agreement obligations; and
- (e) ensuring final working drawings, specifications and other documentation comply with government requirements.

### **Construction Management**

- (a) Consulting and coordinating with other departments in preparing the terms and conditions of the construction contracts;
- (b) managing the invitation of tenders, selection of contractors and award of construction contracts;
- (c) managing the performance of contractors engaged in construction contracts, overseeing construction progress and ensuring compliance with the approved schedules, government procedures and standards;
- (d) vetting and certifying payments to contractors;
- (e) handing over completed works to maintenance authorities and ensuring as-constructed records are accurate and complete; and
- (f) resolving claims and disputes raised by the contractors.

## Highways Department Major Works Project Management Office Proposed Job Description

**Post title** : Chief Engineer/Major Works 3-3 (CE/MW3-3)

**Rank** : Chief Engineer (D1)

**Responsible to**: Government Engineer/Major Works

### **Overall Role and Objectives**

CE/MW3-3 will head a Division and will be responsible for the planning and implementation of a number of strategic highway projects including Yuen Long Highway Widening, Tsing Yi North Coastal Road, Eastern Highway and East-West Route.

### Major Duties and Responsibilities -

#### General

- (a) Ensuring his Division conducts its work in accordance with the strategies, policies and procedures as formulated by senior management;
- (b) providing leadership, support and direction to his subordinates in the planning, design and construction of strategic highway projects under his charge;
- (c) organizing briefings, information papers and situation reports for senior management; and
- (d) attending District Board and other meetings as and when required.

### Planning and Design

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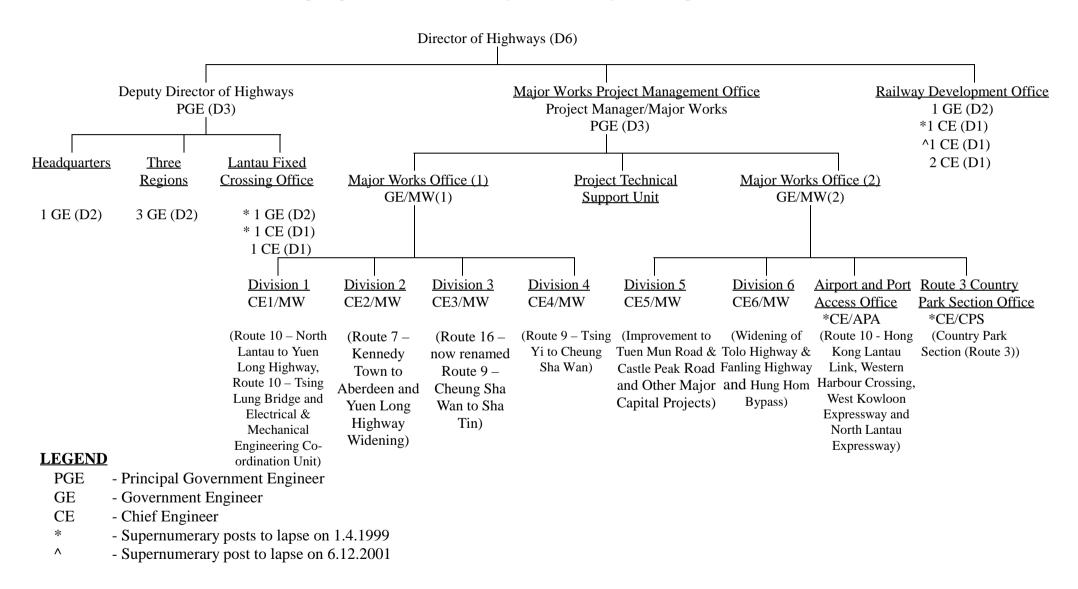
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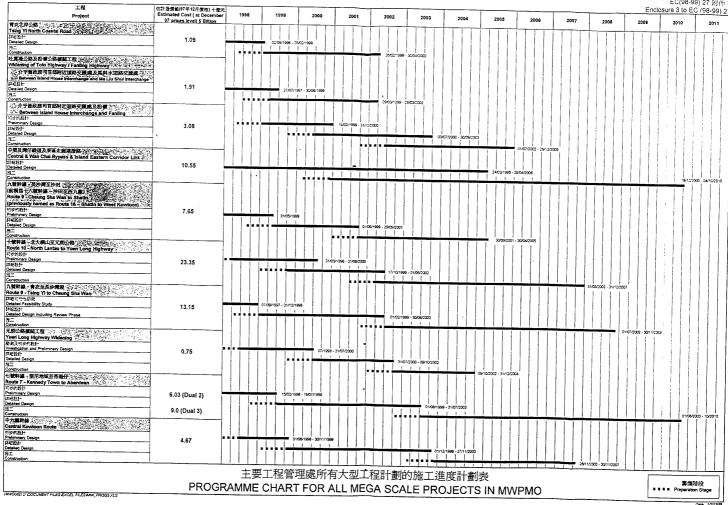
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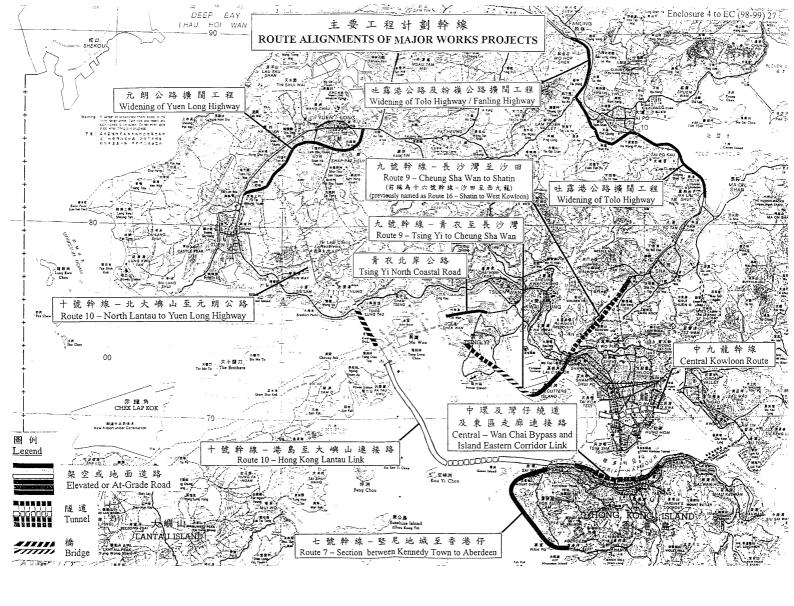
### **Enclosure 1 to EC(98-99)27**

### **Existing Organisation Chart of Major Works Project Management Office**



EC(98-99) 27 附件 3 Enclosure 3 to EC (98-99) 27





### **Proposed Organisation Chart of Major Works Project Management Office**

(as at 1 April 1999)

