

**For Discussion
on 26 March 2004**

Legislative Council Panel on Transport

Staffing Proposal related to the Hong Kong-Zhuhai-Macao Bridge Project

PURPOSE

This paper briefs Members on the Administration's proposal to create two supernumerary posts of one Principal Government Engineer (PGE) (D3) and one Chief Engineer (CE) (D1); and to temporarily redeploy one permanent CE post in the Highways Department (HyD). We plan to submit the proposal to the Establishment Subcommittee (ESC) of the Finance Committee (FC) for consideration at its meeting on 28 April 2004.

PROPOSAL

2. HyD needs to establish a project management office to take up the planning and implementation of the proposed Hong Kong-Zhuhai-Macao Bridge (HZMB) and related highway infrastructure projects. We propose to create two supernumerary posts of one PGE (D3) and one CE (D1); and to temporarily redeploy one permanent CE post of the Major Works Project Management Office (MWPMO) for a period of six years with effect from 1 July 2004 to plan and implement the HZMB and related highway infrastructure projects.

JUSTIFICATION

Establishment of HZMB Project Management Office in HyD

3. In August 2003, an HZMB Advance Work Co-ordination Group (AWCG) was established by the governments of the Hong Kong Special Administrative Region (HKSAR), Guangdong and Macao Special Administrative Region to co-ordinate and take forward the advance work for the HZMB, including studies on alignment, environmental impact and hydrology. Director of Highways is one of the three representatives from the HKSAR sitting on the AWCG. The first and second meetings of the AWCG have agreed to proceed with the planning work of the HZMB project urgently. As a first step, it has decided to set up a HZMB AWCG Office in Guangzhou (the AWCG Office); and to jointly commission a design institute to take forward the feasibility study for the HZMB. In February 2004, the AWCG commissioned the China Highway Planning and Design Institute to conduct the joint feasibility study, which is scheduled for completion by end 2004.

4. In parallel, the respective governments would plan for the connecting roads in their respective territories. On the Hong Kong side, we sought and obtained funding approval from the FC on 5 December 2003 to conduct an investigation study for the section of HZMB between the boundary of HKSAR and the landing point at Northwest Lantau, i.e. the Hong Kong Section (HKS), and the connecting road with the North Lantau Highway, i.e. the North Lantau Highway Connection (NLHC), and to develop a conceptual design for the HKS of HZMB as well as a preliminary design for the NLHC. The Investigation and Preliminary Design (I&PD) Study will commence in end March 2004 for completion by end 2004.

5. HyD is tasked to provide professional support in steering and monitoring both the joint feasibility study and the I&PD study, and in the further deliberation of the HZMB project, including the detailed planning for the implementation of the HKS and the NLHC. It is also responsible for developing the overall development strategy for the transport infrastructure of the North West New Territories (NWNT) in the light of the decision to go ahead with the HZMB project. In order to take up the duties associated with the planning and implementation of the above, HyD needs to establish a HZMB Project Management Office with the creation of two supernumerary directorate posts of one PGE and one CE and temporary redeployment of one CE from MWPMO, together with the necessary supporting staff.

6. The HZMB and its connecting infrastructure within the boundary of Hong Kong are complicated mega projects. Pending the availability of further details from the various studies, our rough estimate is that the total cost of HZMB and its connecting infrastructure could be in the region of some \$30 billion. As the project has to proceed from inception to detailed planning and project implementation, we estimate that it will take no less than six years to complete. Based on the present estimate, dedicated service of the three directorate posts will be required until end 2009. We therefore propose to create one PGE (D3) and one CE (D1) posts on a supernumerary basis and to temporarily redeploy one CE (D1) post from MWPMO for a period of six years to take forward the HZMB and related highway infrastructure projects. We will review the continued need for the posts, taking into account the progress of the projects and the projected workload, before the end of the period.

Project Manager/Hong Kong-Zhuhai-Macao Bridge (PM/HZMB) (D3)

7. As the head of the HZMB Project Management Office, PM/HZMB is to

take charge of all the professional, technical, contractual and interface issues related to the planning and implementation of the HZMB and related highway infrastructure projects.

8. Externally, PM/HZMB will represent the Government of the HKSAR at the joint working-level meetings with the Guangdong and Macao authorities regarding the planning, design and implementation of the project. He will assist, and on a need basis, deputise for the Director of Highways in the AWCG in taking forward the HZMB project from a conceptual scheme to reality. PM/HZMB has to provide expert advice on the procurement strategy (such as the Build-Operate-Transfer approach) for the delivery of the HZMB project and the planning and design standards to be adopted. While the exact composition and modus operandi of the AWCG Office will be subject to further discussion by the AWCG, we expect PM/HZMB will have to work in the AWCG Office in Guangzhou on a regular basis with representatives of the other two governments to monitor and supervise the progress of the joint feasibility study (paragraph 3 above), and to plan for the future implementation of the project.

9. Internally, PM/HZMB is responsible for the investigation, planning, design and implementation of the approach transport infrastructure for the HZMB. He will also take charge of the development of the strategy for the transport infrastructure in NWNT in the light of the decision to go ahead with the HZMB project. The NWNT Traffic and Infrastructure Review has identified four packages of mega highway infrastructure projects in the NWNT and Lantau, totalling an estimated cost of about \$65 billion. PM/HZMB is to spearhead the formulation of the development strategy for these highway infrastructure packages taking into account, inter alia, the traffic demand generated by the HZMB to ensure their timely implementation. He is also expected to provide expert advice and technical support to the policy bureau, liaise with parties concerned and resolve any problems arising

from the HZMB project and other related new highway projects.

10. In view of the important role and responsibilities and to ensure the speedy delivery of this significant project, the PM/HZMB post is ranked at PGE level (D3). The HZMB project is unprecedented in that it involves three different jurisdictions and different levels of governments. On the Mainland side, the municipal, provincial and central governments are all involved. As convener of the AWCG, the Government of the HKSAR plays a leading role in coordinating views of the three sides, resolving differences and conflicts, proposing compromised agenda and formulating workable action plans acceptable to all. To ensure that the advance work for the HZMB progresses as a matter of priority as agreed by the AWCG, we need a dedicated PM/HZMB at a sufficiently high level to secure ready and direct access to his counterparts who are highly ranked in their respective governments. A dedicated PM/HZMB would also allow him to develop over a short period of time a sound working knowledge of the practices and considerations of the other sides, and be able to make speedy decisions and responses and propose workable solutions to problems identified. The proposed job description of PM/HZMB is at Enclosure 1. PM/HZMB will be assisted by two CEs, one being responsible for the HZMB and the other for the related highway infrastructure projects on the Hong Kong side.

Encl. 1

Chief Engineer/Hong Kong Zhuhai-Macao Bridge 1 (CE/HZMB1) (D1)

11. The proposed CE post, to be designated as CE/HZMB 1, will head a Division and provide technical support and professional advice on matters relating to the planning and implementation of the HZMB project.

12. CE/HZMB 1 will be responsible for liaison and attending meetings with the Mainland and Macao authorities on matters relating to the HZMB project and is expected to spend considerable time in the Mainland and Macao in discharging these duties. He will take part in any joint technical groups to be formed at the

working level among the three governments and will vet the studies and reports from the consultants commissioned in respect of the HZMB project. He will be responsible for providing input to and vetting the project briefs and procurement tender documents for the HZMB project. He will also handle the statutory procedures and administer consultancies for the delivery of the HZMB project. The proposed job description of CE/HZMB 1 is at Enclosure 2.

Encl. 2

Chief Engineer/Hong Kong Zhuhai-Macao Bridge 2 (CE/HZMB2) (D1)

13. The other proposed CE post, to be designated as CE/HZMB 2, will head a Division and be responsible for the planning, design and timely implementation of the NLHC and other local highway network related to the HZMB. He will assist PM/HZMB in the planning of the highway infrastructure packages identified in the NWNT Traffic and Infrastructure Review.

14. For the implementation of the NLHC, CE/HZMB 2 will be responsible for handling all the statutory procedures and approval processes, land issues, public consultations and discussions with the interfacing parties including the Airport Authority, Civil Aviation Department, Marine Department, Transport Department, Environmental Protection Department etc. He will initiate the project briefs for all consultancies, selection of consultants and their management. He will initiate preparation of tender documents, procurement of contractors for construction of the highway infrastructures and the subsequent contract administration. The proposed job description of CE/HZMB 2 is at Enclosure 3.

Encl. 3

Existing Manpower in HyD

15. We have carefully reviewed the existing manpower in HyD.

Headquarters (HQ) and Regional Offices (ROs)

16. The HQ and ROs have recently undergone restructuring in order to cope with the additional workload upon the implementation of the Land (Miscellaneous Provisions) (Amendment) Ordinance. Details are set out in EC(2003-04)17 endorsed by the FC at the meeting on 27 February 2004. The manpower in the HQs and ROs are fully committed and there is no spare capacity for them to undertake the work of the HZMB Project Management Office.

Railway Development Office (RDO)

17. The RDO, headed by the Principal Government Engineer/Railway Development (PGE) (D3), is responsible for the planning and implementation of railway projects. In the coming six years or so when the HZMB project is under planning and construction, RDO will be fully committed to the implementation of the on-going East Rail Extension to Tsim Sha Tsui, Ma On Shan to Tai Wai Rail Link, Sheung Shui to Lok Ma Chau Spur Line and Penny's Bay Rail Link. It will also be responsible for the planning and implementation of new railway lines recommended in Railway Development Strategy 2000, such as the Kowloon Southern Link, Shatin to Central Link, Regional Express Line and South Hong Kong Island Line. With the commissioning of the West Rail and finalisation of the majority of its accounts, one supernumerary CE post (D1) in the West Rail Division will lapse on 1 May 2004. Members were informed of the lapse of this supernumerary CE post vide ECI(2003-04)6.

MWPMO

18. The MWPMO, headed by the Project Manager/Major Works (PM/MW) (PGE) (D3), is responsible for the planning, design and implementation of major

highway infrastructure projects. With an average expenditure on the projects handled by the MWPMO for the next five years amounting to about \$9 billion per year, PM/MW has a heavy workload in the next five years. These projects are being implemented through three major project teams, each headed by a Deputy Project Manager/Major Works (GE) (D2), and the three teams are supported by a total of eight CEs (D1).

19. Team One (MW1) is responsible for the implementation of major projects including the Route 8 (previously known as Route 9) from Tsing Yi to Cheung Sha Wan of which the Stonecutters Bridge forms a part, Route 8 from Cheung Sha Wan to Shatin, Improvement to Tung Chung Road between Lung Tseng Tau and Cheung Sha, and Reconstruction and Improvement of Tuen Mun Road. These projects are being implemented for completion from 2006 to 2010. Intensive input at the directorate level is imperative to their successful implementation.

20. Team Two (MW2) is responsible for the implementation of major projects including four Castle Peak Road improvement projects (between Area 2 and Sham Tseng, between Sham Tseng and Ka Loon Tsuen, between Ka Loon Tsuen and Siu Lam, and between Siu Lam and So Kwun Tan), the Central Wanchai Bypass and Island Eastern Corridor Link, and the Improvement to Island Eastern Corridor between North Point and Causeway Bay. The above projects are in active progress for completion from 2004 to 2012. In particular, works on the improvement of Castle Peak Road between Ka Loon Tsuen and Siu Lam are scheduled to commence in March 2004 under a Design-and-Build contract for completion in May 2007. This will need more intensive involvement at the directorate level.

21. Team Three (MW3) is responsible for the implementation of major projects including the Hong Kong-Shenzhen Western Corridor, Deep Bay Link, Widening of Yuen Long Highway between Lam Tei and Shap Pat Heung Interchange,

Kam Tin Bypass, Retrofitting of Noise Barriers on Fanling Highway near Choi Yuen Estate and near Fanling Centre, and New Boundary Bridge between Lok Ma Chau and Huanggang. These projects are in active progress for completion by 2006. The team is also planning for other noise barrier retrofittings, the Central Kowloon Route and Gascoigne Road Flyover Widening. Nonetheless, with the expected completion of Kam Tin Bypass and the New Boundary Bridge projects this year, it will be possible to redeploy one CE, viz Chief Engineer/Major Works 3-2 (CE/MW3-2), to take up the duties of CE/HZMB2 in the new HZMB Project Management Office for a period of six years.

Encls 4
& 5

22. Subsequent to the temporary redeployment, the duties currently handled by CE/MW3-2 will be shared by the two other CEs in Team 3. The existing and proposed work schedules of the three Teams in MWPMO are at Enclosures 4 and 5 respectively.

23. Having critically examined the manpower situation in HyD, we consider that the proposed creation of 1 PGE and 1 CE supernumerary posts and temporary redeployment of the CE/MW3-2 post of the MWPMO the only viable arrangement. The creation of the two supernumerary posts will be offset by the corresponding deletion of two permanent posts of 1 PGE and 1 Chief Geotechnical Engineer in the Territory Development Department (TDD) and Civil Engineering Department (CED) respectively upon the amalgamation of these two departments with effect from 1 July 2004. In the light of the urgency of the planning work of the HZMB project, and to tie in with the gap pending the FC/ESC's formal approval for the present staffing proposal, approval under delegated authority from FC has been obtained with effect from 16 February 2004 to create a supernumerary PGE (D3) post for not more than 12 months holding against a vacant permanent PGE post in TDD. This post will lapse when the proposed supernumerary PGE post for six years is approved by FC/ESC.

24. To support the new HZMB Project Management Office, HyD will need to redeploy, in phases, 8 non-directorate time-limited posts to provide support to PM/HZMB and CEs/HZMB.

25. The existing and proposed organization charts of HyD are set out at Enclosures 6 and 7 respectively.

Encls 6
& 7

FINANCIAL IMPLICATIONS

26. The proposed creation of two supernumerary directorate posts will bring about an additional notional annual mid-point salary cost of \$2,761,260 and in full annual average staff cost of \$4,039,000. The cost of the two posts will be met by savings from the amalgamation of CED and TDD. The temporary redeployment of one CE post and 8 non-directorate posts from within HyD is cost neutral.

ADVICE SOUGHT

27. Members are invited to give their views on this paper and indicate support for the staffing proposal.

Environment, Transport and Works Bureau
March 2004

**Job Description for
Project Manager/Hong Kong-Zhuhai-Macao Bridge**

Rank : Principal Government Engineer (D3)

Responsible to : Director of Highways (D6)

Main Duties and Responsibilities –

1. Planning, administering and directing the work of the Hong Kong-Zhuhai-Macao Bridge (HZMB) Project Management Office to ensure that the HZMB and related highway infrastructure projects are completed on time and within budget;
2. Providing expert advice and technical support to the policy bureau on the implementation of the HZMB and related highway infrastructure projects;
3. Liaising with the Mainland and Macao authorities and consultants engaged on matters relating to the planning, design and implementation of the HZMB project;
4. Leading the HKSAR team in any technical groups to be formed with the Mainland and Macao authorities for the HZMB project;
5. Giving support to and, where necessary, deputising for the Director of Highways in the HZMB Advance Work Co-ordination Group and the HZMB and Connecting Infrastructure Project Implementation Steering Group;
6. Taking forward the planning of the four highway infrastructure packages identified in the North West New Territories Traffic and Infrastructure Review;
7. Formulating strategies and procedures in respect of the HZMB and related highway infrastructure projects;
8. Recommending the selection of consultants, overseeing the consultants engaged in the project studies, evaluating and advising on the selection of schemes for the HZMB related highway infrastructure projects and acting as the Director's Representative under the consultancy agreements;
9. Chairing the technical assessment panels on tender submissions and the assessment panels for consultants selection, and recommending the tenders for construction of projects; and
10. Overseeing the construction contracts and acting as the Employer's Representative under the contracts.

**Job Description for
Chief Engineer/Hong Kong-Zhuhai-Macao Bridge 1**

Rank : Chief Engineer (D1)

Responsible to : Project Manager/Hong Kong-Zhuhai-Macao Bridge
(PM/HZMB) (D3)

Main Duties and Responsibilities –

1. Executing the strategies and procedures as formulated by the PM/HZMB in respect of the HZMB project;
2. Leading and directing his/her subordinates in providing technical support and professional advice relating to the planning and implementation of the HZMB project;
3. Liaising with the Mainland and Macao officials and consultants engaged on the HZMB project and attending meetings as and when required for the implementation of the HZMB project;
4. Serving as a member of any technical groups to be formed with the Mainland and Macao authorities for the HZMB project;
5. Vetting studies and reports from the Mainland and Macao authorities and consultants engaged in relation to the HZMB project;
6. Assisting in the procurement process for the delivery of the HZMB project;
7. Handling statutory procedures and preparing project briefs relating to the procurement and operation of the HZMB project;
8. Consulting and coordinating with the policy bureau and other departments in preparing the project briefs for investigation and preliminary design studies for the Hong Kong Section and the North Lantau Highway Connection; and
9. Procuring and administering consultancies for the delivery of the HZMB project.

**Job Description for
Chief Engineer/Hong Kong-Zhuhai-Macao Bridge 2**

Rank : Chief Engineer (D1)

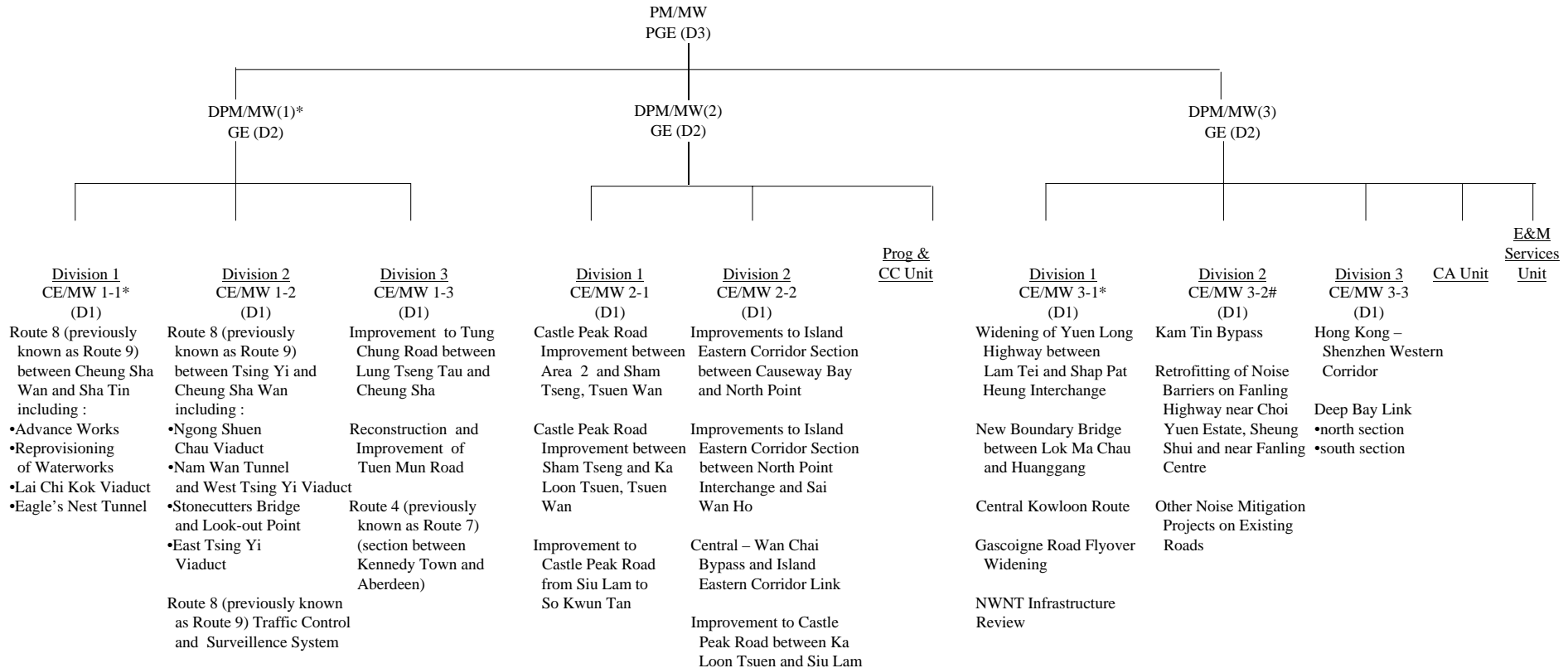
Responsible to : Project Manager/Hong Kong-Zhuhai-Macao Bridge
(PM/HZMB) (D3)

Main Duties and Responsibilities –

1. Assisting the PM/HZMB in taking forward the planning of the four highway transport infrastructure project packages identified in the North West New Territories Traffic and Infrastructure Review;
2. Executing the strategies and procedures as formulated by the PM/HZMB in respect of the highway infrastructure projects related to the HZMB project;
3. Leading and directing his/her subordinates in the planning, design and construction of the highway infrastructure projects related to the HZMB project;
4. Consulting and coordinating with the policy bureau and other departments in preparing the project briefs for feasibility, preliminary design and detailed design studies, as well as the documents for the construction contracts;
5. Attending the District Council and other meetings as and when required;
6. Procuring and administering consultancies;
7. Assisting in statutory procedures relating to the Environmental Impact Assessment Ordinance, Roads (Works, Use and Compensation) Ordinance and handling objections for the HZMB related highway infrastructure projects;
8. Initiating preparation of tender documents for construction contracts, managing the invitation of tenders, selection of contractors, award of construction contracts and the subsequent contract administration;
9. Managing the performance of contractors engaged in construction contracts, overseeing construction progress and ensuring the compliance with the approved schedules, government procedures and standards;
10. Handing over completed works to maintenance authorities and ensuring as-constructed records are accurate and complete;

11. Resolving claims and disputes raised by the contractors; and
12. Co-ordinating land matters and resolving interface issues arising from the HZMB and related highway infrastructure projects.

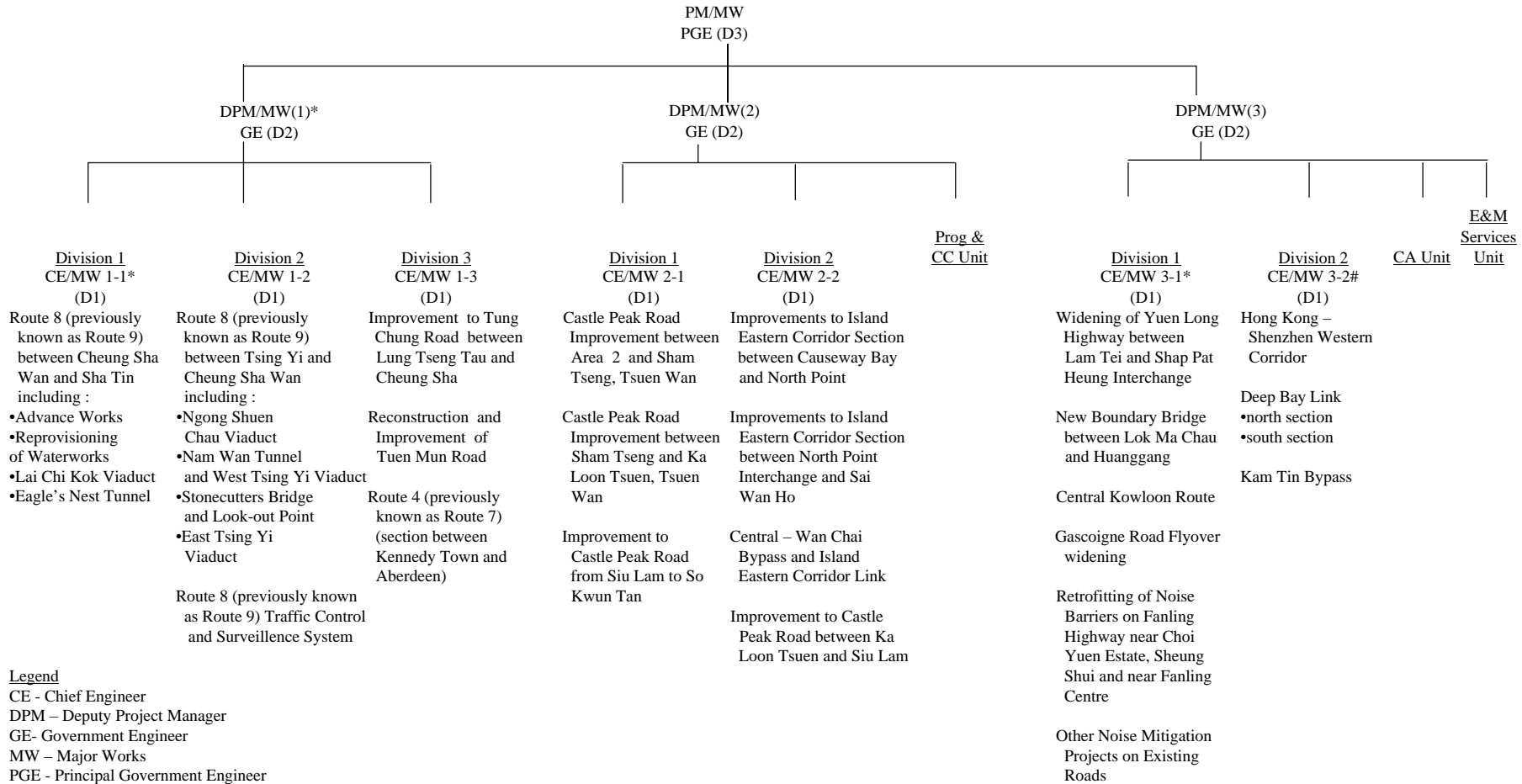
Existing Work Schedules of the Three Teams in Major Works Project Management Office



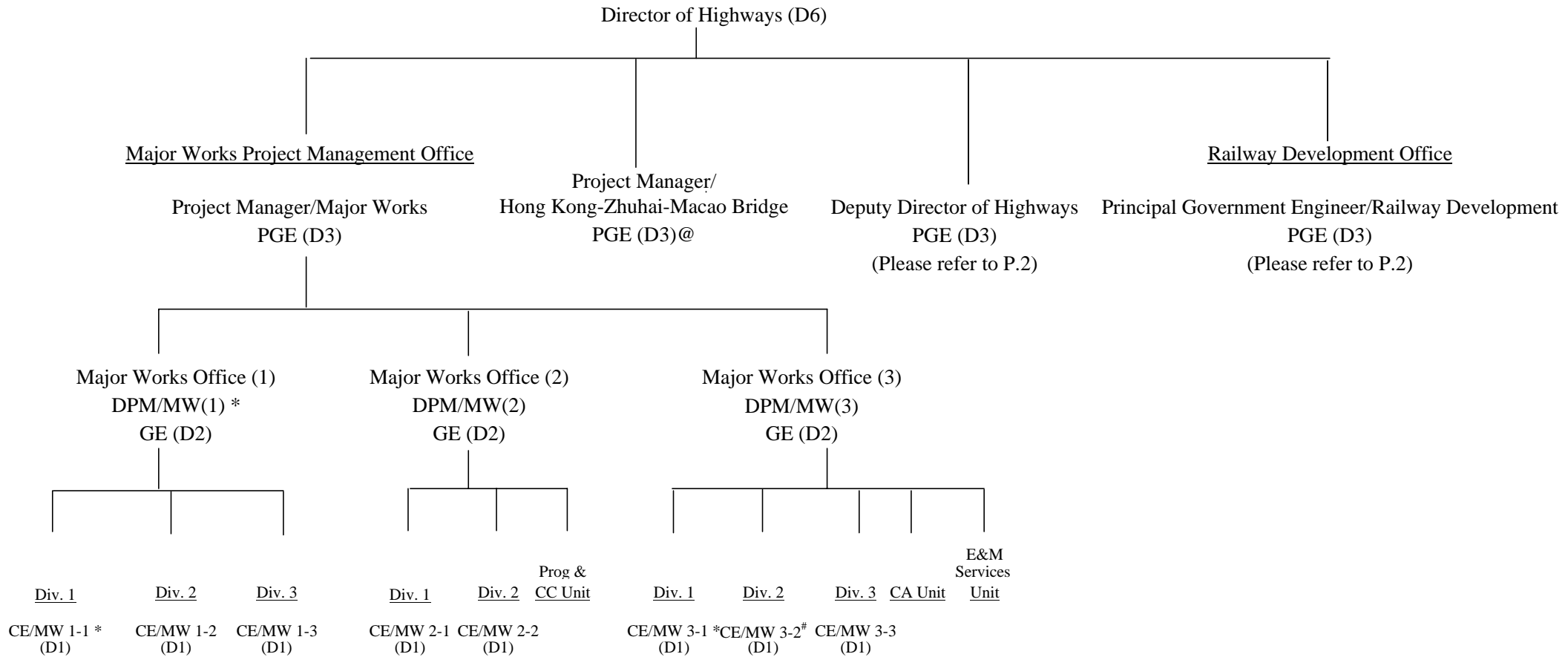
Legend
 CE - Chief Engineer
 DPM – Deputy Project Manager
 GE- Government Engineer
 MW – Major Works
 PGE - Principal Government Engineer
 PM – Project Manager
 Prog & CC - Programme and Cost Control
 CA - Contract Advisory
 E&M - Electrical & Mechanical

* Supernumerary posts to lapse on 12 March 2005
 # Post proposed to be temporarily redeployed to HZMB Project Management Office

Proposed Work Schedules of the Three Teams in Major Works Project Management Office



Existing Organisation Chart of Highways Department



Legend

* - Supernumerary posts to lapse on 12 March 2005

- Post proposed to be temporarily redeployed to HZMB Project Management Office

@ - Supernumerary post created w.e.f. 16.2.2004 under delegated authority for not more than 12 months by holding against a vacant PGE (D3) post in TDD.

CA - Contract Advisory

CE - Chief Engineer

Div. - Division

DPM - Deputy Project Manager

E&M - Electrical & Mechanical

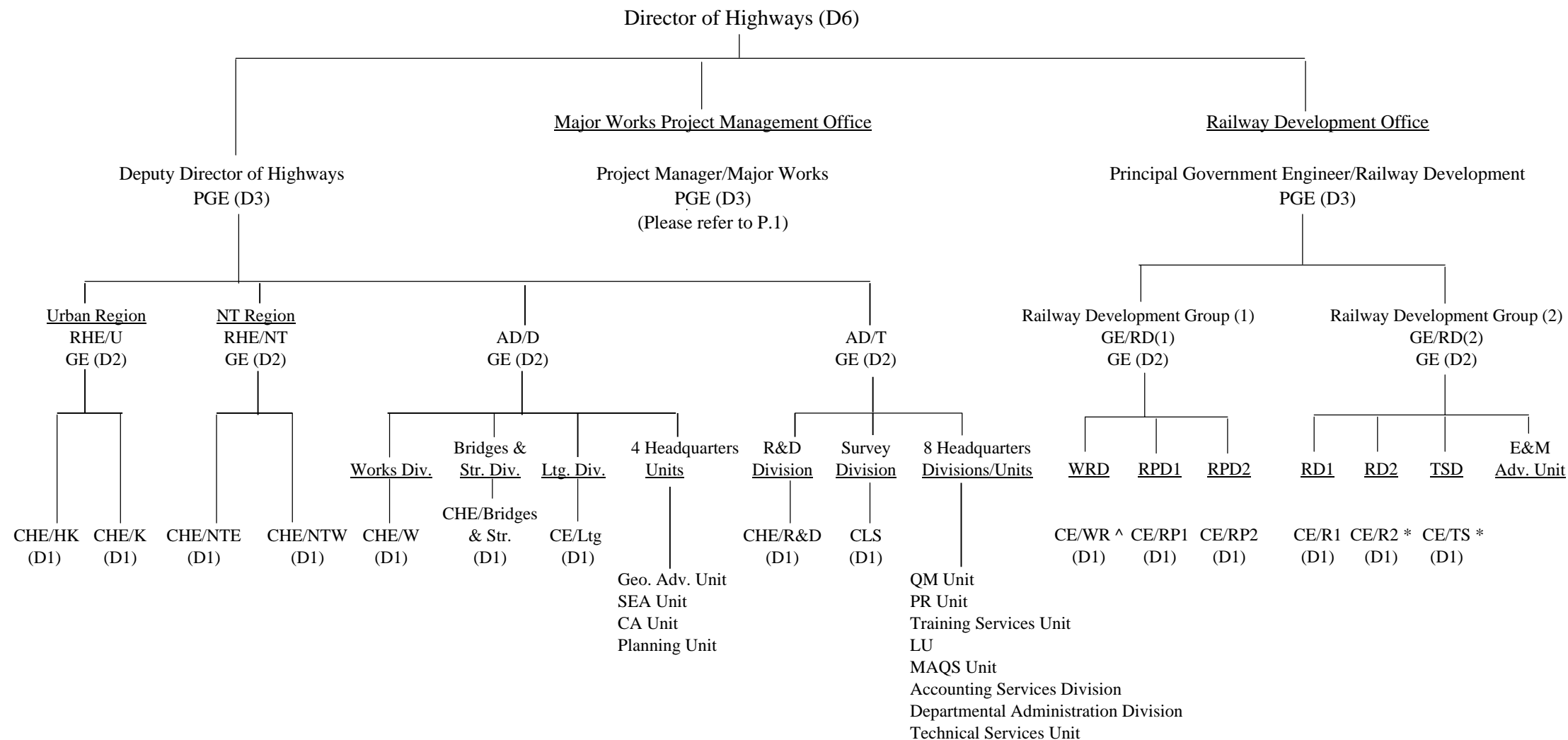
GE - Government Engineer

MW - Major Works

PGE - Principal Government Engineer

Prog & CC - Programme & Cost Control

Existing Organisation Chart of Highways Department



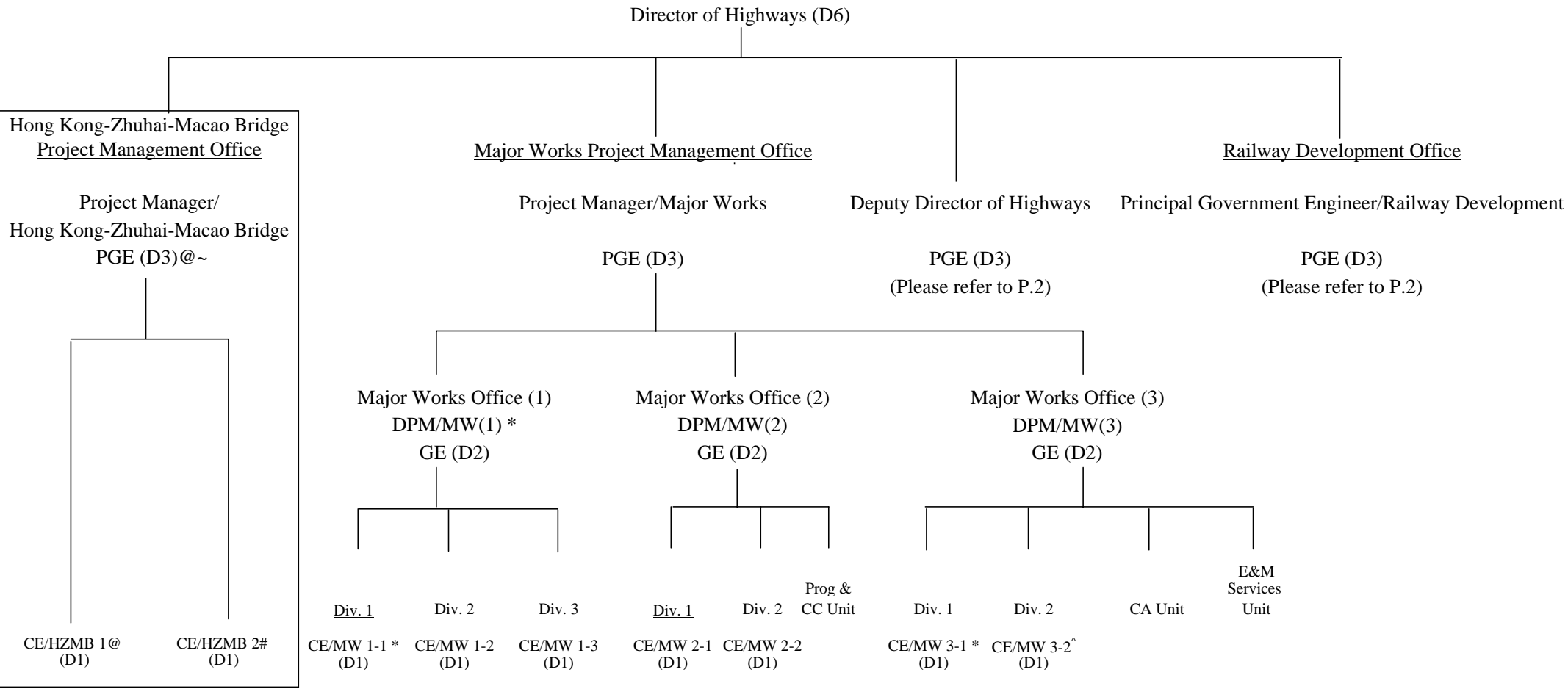
Legend

- ^ - Supernumerary post to lapse on 1 May 2004
- * - Supernumerary posts to lapse on 12 March 2005
- AD/D - Assistant Director/Development
- AD/T - Assistant Director/Technical
- CA - Contract Advisory
- CE - Chief Engineer
- CHE - Chief Highway Engineer
- CLS - Chief Land Surveyor
- Div. - Division
- E&M Adv. - Electrical & Mechanical Advisory
- GE - Government Engineer
- GE/RD - Government Engineer/Railway Development

- Geo. Adv. - Geotechnical Advisory
- HK - Hong Kong
- K - Kowloon
- Ltg. - Lighting
- LU - Landscape Unit
- MAQS - Maintenance Accounts & Quantity Surveying
- NT - New Territories
- NTE - New Territories East
- NTW - New Territories West
- PGE - Principal Government Engineer
- PR - Public Relations

- QM - Quality Management
- RD - Railway Division
- R&D - Research and Development
- RHE - Regional Highway Engineer
- RPD - Railway Planning Division
- SEA - Safety and Environmental Advisory
- Str. - Structures
- TSD - Technical Services Division
- U - Urban
- W - Works
- WRD - West Rail Division

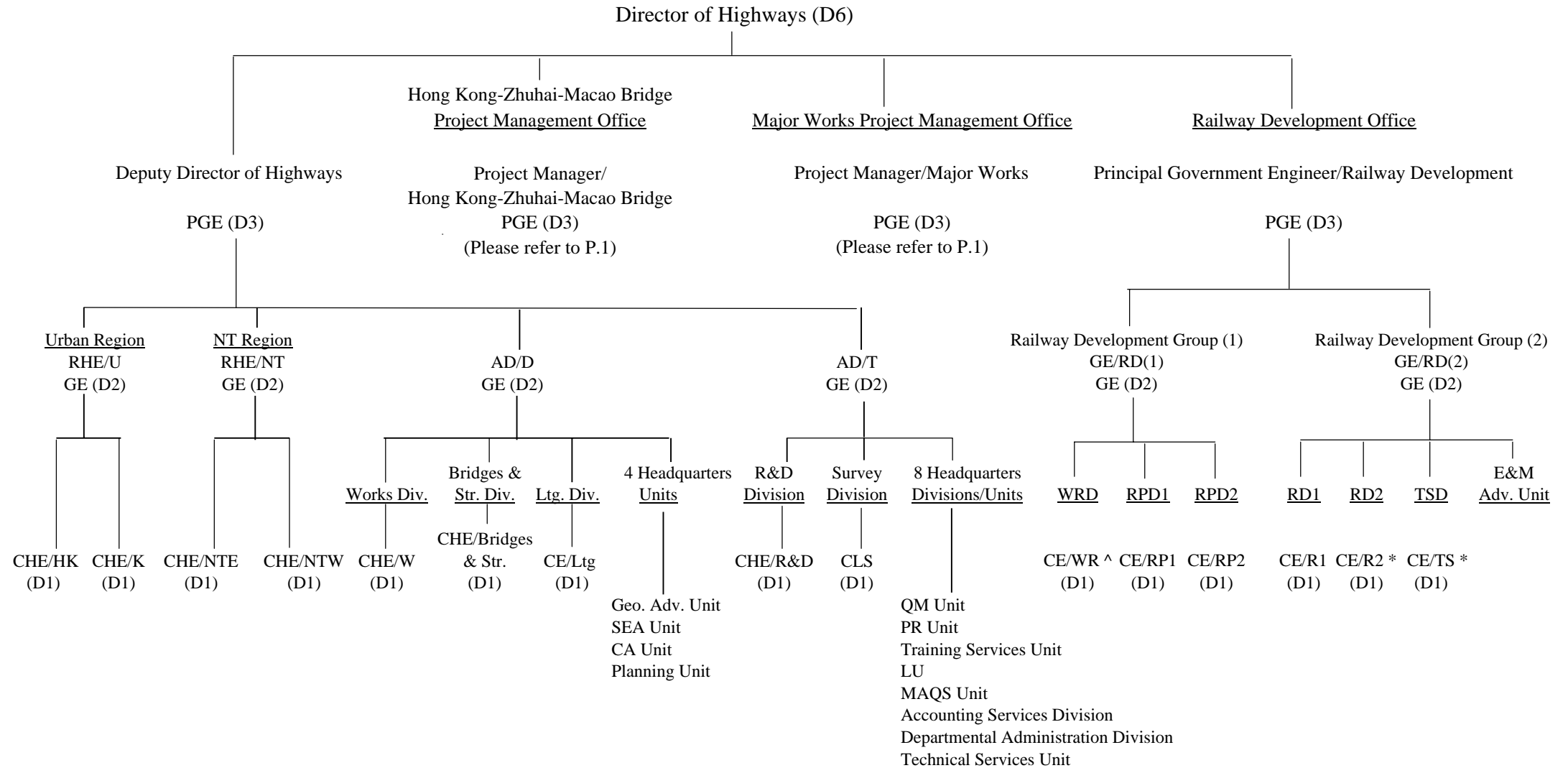
Proposed Organisation Chart of Highways Department



Legend

- - Proposed new office to be set up
- @ - Proposed supernumerary posts to be created.
- ~ - Upon the creation of the post, the supernumerary post created under delegated authority w.e.f. 16.2.2004 will lapse.
- * - Supernumerary posts to lapse on 12 March 2005
- # - Post proposed to be temporarily redeployed from Major Works Office (3)
- ^ - Post retitled from CE/MW3-3
- CA - Contract Advisory
- CE - Chief Engineer
- Div. - Division
- DPM - Deputy Project Manager
- E&M - Electrical & Mechanical
- GE - Government Engineer
- HZMB - Hong Kong-Zhuhai-Macao Bridge
- MW - Major Works
- PGE - Principal Government Engineer
- Prog & CC - Programme & Cost Control

Proposed Organisation Chart of Highways Department



Legend

- ^ - Supernumerary post to lapse on 1 May 2004
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- AD/D - Assistant Director/Development
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