

**For discussion  
on 23 October 2018**

**Legislative Council Panel on Development**  
**Strengthening Cost Management and**  
**Uplifting Performance of Public Works Projects**

**PURPOSE**

This paper seeks Members' views on the proposal to strengthen cost management and uplift the performance of public works projects. We propose to establish the Project Strategy and Governance Office (PSGO) to take forward the relevant initiatives on 1 April 2019.

**PROBLEM**

2. The Government is implementing development programme<sup>1</sup> to enhance people's living environment and to sustain Hong Kong's long term competitiveness. In the next few years, the annual capital works investment is expected to rise to over \$100 billion and the annual total construction output will increase to over \$300 billion. In addition to this substantial workload, we are facing the challenges of extremely high construction cost<sup>2</sup> and fast ageing construction work force<sup>3</sup>. Moreover, there have been rising aspirations from the general public for better performance of public works projects in recent years. We need to tackle these challenges to ensure satisfactory delivery of public works projects for the community. We will also need to devise and promote relevant strategies to uplift the construction industry's delivery capacity as well as improving the overall productivity.

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<sup>1</sup> e.g. land and housing supply projects, such as the Lantau Tomorrow Vision, the Hospital Development Plan, the Healthcare Facilities Development Programme, and various initiatives to improve people's livelihood and district environment, enhancing transportation networks to boost connectivity, etc.

<sup>2</sup> construction cost in Hong Kong has been ranked 3<sup>rd</sup> in the world in 2018 by several international reports

<sup>3</sup> the median age of skilled construction workers is 52, which is 9 years older than the median age of the overall labour force in Hong Kong

## **PROPOSED ACTIONS**

3. As announced in the 2018 Policy Address, we will upgrade the Project Cost Management Office (PCMO)<sup>4</sup> and expand its establishment and functions. We propose to establish the Project Strategy and Governance Office (PSGO) for implementing strategic initiatives and enhancing capabilities in cost surveillance and project governance.

4. We will adopt a comprehensive approach for strengthening cost management and uplifting the performance of public works projects. The major new initiatives are:

- (i) Strengthening the existing gateway process for cost management
- (ii) Enhancing project delivery capability
- (iii) Leading strategic developments to boost productivity and cost-effectiveness
- (iv) Collaborating with international counterparts and local industry stakeholders

### ***Strengthening the existing gateway process for cost management***

5. Due to resources constraints, PCMO has been focusing on projects which are due for submission to the Legislative Council for funding approval. This snap-shot approach at such late stage is effective, but the room for design optimisation is quite limited and hence less room for project cost saving, as the project design is often maturely developed for funding application.

6. We will tighten up project cost management and control throughout the implementation programme of public works projects to capitalise on all opportunities for cost saving, step up control on project budget and expenditure to curb cost overrun and programme delay, as well as conduct the project vetting process starting from inception stage with regular reviews and follow-up actions to track the development of projects through detailed design and till funding application stage.

7. We will also expand the scope of cost control to projects at construction stage, and monitor the performance of the projects using a newly

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<sup>4</sup> the Project Cost Management Office was established in June 2016 to carry out cost management for public works projects, with its term of office to be expired on 31 March 2019.

established system, namely Project Surveillance System (PSS)<sup>5</sup>, on a continuous basis until project completion. With the aid of PSS, we aim to facilitate works departments to foresee challenges or potential problems of on-going projects and provide early warning signals to the senior management for necessary early step-in.

8. To enhance the cost-effectiveness of public works projects, we will draw on overseas experience to develop a comprehensive benchmarking system for various major types of works, e.g. tunnelling, site formation, buildings, roadworks etc. This can enable benchmarking of performance as well as establishing targets for progressive improvement.

### ***Enhancing Project Delivery Capability***

9. We will devise and implement initiatives to enhance project delivery capability to improve the performance of public works projects.

10. In particular, we will provide high-level training for major project leaders for uplifting project delivery capability and hence leading to better project delivery performance and more cost-effective investment of public money under the Capital Works Programme. Many jurisdictions, including Australia, Singapore and the United Kingdom, have already taken a proactive approach towards providing major project leadership training for personnel responsible for the implementation of major public projects.

11. As announced in the 2018 Policy Address, we will establish a Centre of Excellence for Major Project Leaders (CoE) to equip officers with innovative minds and world-class leadership skills in the delivery of public works projects. We have earmarked funding for operating the CoE for three years and will strive to reduce the cost significantly by adopting suitable procurement approach and by developing synergy with our working partners. We intend to commence the programme in mid-June 2019. Given the current portfolio of the Capital Works Programme of over \$1,000 billion, we anticipate the CoE will bring huge benefit to the implementation of public works projects.

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<sup>5</sup> The Project Surveillance System is a web-based application. It is established based upon the cashflow data of over 600 projects completed in the past 20 years, and has taken into account all the typical characteristics of the projects under the Capital Works Programme. It is a powerful tool for monitoring project progress and can provide predictive analysis for forecasting the cost and time performance of on-going projects.

12. We will continue to devise and promote other initiatives to enhance the performance of public works projects.

***Leading strategic developments to boost productivity and cost-effectiveness***

13. To enable the long-term development of Hong Kong and to ensure the sustainability of the construction industry, we are promoting the “Construction 2.0 - Time to Change”<sup>6</sup> to reform and upgrade the construction industry. Under the three pillars of innovation, professionalisation and revitalisation, we aim to boost the overall productivity and cost-effectiveness of the industry. In recent years, we have been promoting the use of innovative construction methods and the adoption of advanced technologies in construction, e.g. Building Information Modelling, Modular Integrated Construction, smart construction, etc. We have also established the \$1 billion Construction Innovation and Technology Fund to promote the use of innovation and advanced technology in the construction industry. We will continue to develop and promote these initiatives to enhance productivity and cost-effectiveness.

14. The development of innovation and technologies nowadays is swift and conducive to uplifting the industry’s overall productivity and cost-effectiveness. To capitalise on this, we will further devise and promote relevant strategies to ensure benefits to the public works projects. We will coordinate inter-department efforts, set up working groups and task forces to steer research and development, and promote the use of more innovative and cost-effective processes.

***Collaborating with international counterparts and local industry stakeholders***

15. The preceding paragraphs cover the proposed initiatives for strengthening cost management and uplifting the performance of public works projects. To devise and take forward these initiatives, we will have to strengthen our collaboration with the local industry stakeholders, including the Construction Industry Council, professional institutions, universities, trade unions, etc. This will not only enable better performance of public works projects but will also create synergy and bring about impact to the construction industry at large.

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<sup>6</sup> Construction 2.0 - Time to Change, <https://www.hkc2.hk/en/index.php>

16. The challenges facing the implementation of public works projects are not unique to Hong Kong. In the past few years, we have been liaising with authorities in other places, including the Mainland, Australia, Singapore and the United Kingdom, and noted that they have formulated effective measures to tackle the challenges. We will draw on relevant practice and experience when devising policies for adoption in Hong Kong for enhancing the performance of public works projects.

## **ESTABLISHMENT OF THE PROJECT STRATEGY AND GOVERNANCE OFFICE (PSGO)**

17. To take forward the proposal for strengthening cost management and enhancing performance of public works projects, we will establish a dedicated office to carry out the tasks as deliberated in the preceding paragraphs. Similar authorities have also been established in other places to safeguard the performance of public works projects, eg. the Centre for Public Projects Management in Singapore, the Infrastructure and Projects Authority in UK and the Office of Projects Victoria in Australia.

18. We propose to upgrade and expand PCMO to PSGO on 1 April 2019. PSGO will remain under the establishment of the Development Bureau and with regular direct reporting to the Financial Secretary. Apart from the tasks deliberated in the preceding paragraphs, PSGO will also continue the work of PCMO which include the overseeing of the implementation of the Capital Works Programme.

19. PSGO will be a multi-disciplinary office<sup>7</sup> to be headed by a Principal Government Engineer (PGE) and assisted by a Government Engineer (GE). As all the existing PGEs and GEs are fully occupied with their existing duties, we will seek the recommendation of the Establishment Subcommittee and the Finance Committee's approval to create one permanent PGE post and to convert a time-limited GE post<sup>8</sup> in PCMO to a permanent GE post accordingly. Justifications for the creation of the directorate posts and details of the proposed PSGO are attached in **Enclosure 1**.

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<sup>7</sup> including architects, engineers, quantity surveyors, etc.

<sup>8</sup> the time-limited GE post will expire on 31 March 2019

## FINANCIAL IMPLICATIONS

20. We have earmarked \$69.5 million for establishing and operating the CoE from 2019-2022 as well as conducting consultancy studies on enhancing performance and delivery capability of public works projects.

21. For the proposed PSGO, the proposed creation of one PGE (D3) post and one GE (D2) post will entail an additional notional annual salary cost at mid-point of \$2,530,800 and \$2,179,800 respectively. The additional full annual average staff costs, including salaries and staff on-cost, are around \$6,681,100.

22. We will include the necessary provision in the draft Estimates of the relevant financial years from 2019-20 onwards to meet the cost of the proposals.

## BACKGROUND

### *The Project Cost Management Office*

23. We established PCMO in June 2016 as a dedicated multi-disciplinary<sup>9</sup> office with its term to be expired on 31 March 2019 to take forward various cost management initiatives for public works projects and promote cost management in the private construction sector. In assuming the overall cost management role, PCMO also oversees the implementation of the Capital Works Programme.

### *PCMO's Major Achievements*

24. Since its establishment, PCMO has been implementing cost management for public works projects through the three-prong approach<sup>10</sup>. In particular, **PCMO has managed to achieve a cost saving of \$27 billion** after scrutinising 130 projects with estimated cost of \$260 billion. PCMO has also instigated measures which are conducive to the successful delivery of public works projects in a timely and cost-effective manner.

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<sup>9</sup> 1 Government Engineer, 1 Chief Engineer and 7 multi-disciplinary professional officers

<sup>10</sup> namely (i) project-by-project scrutiny; (ii) comprehensive review of works requirements and policies; and (iii) enhancing project management performance

25. PCMO has been collaborating with local industry stakeholders and maintaining dialogue with overseas counterparts<sup>11</sup> and is also recognised as the authority in Hong Kong for spearheading project cost management. In March 2018, we signed a Memorandum of Understanding with the Infrastructure and Projects Authority<sup>12</sup> which marks the beginning of a rather thorough and lasting international collaboration in the quest for better cost-effectiveness for the construction industry at large.

## **ADVICE SOUGHT**

26. Members are invited to provide views on our proposal to strengthen cost management and uplift performance of public works projects. In particular, we will seek the recommendation of the Establishment Subcommittee and the approval of the Finance Committee on the creation of directorate posts for the establishment of PSGO as soon as possible.

**Development Bureau**  
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<sup>11</sup> such as the Office of Projects of Victoria of the Australian Government, the Centre for Public Projects Management of the Singapore Government and the Infrastructure and Projects Authority of the UK Government

<sup>12</sup> for improving financial and cost management of infrastructure projects; uplifting the productivity and performance of construction industry, as well as improving the project delivery capability of the public sector by enhancing the training and knowledge of project leaders

## Establishment of the Project Strategy and Governance Office

### PROPOSAL

As announced in the 2018 Policy Address, Government will upgrade the Project Cost Management Office (PCMO) and expand its establishment and functions. We propose to establish the Project Strategy and Governance Office (PSGO) for implementing strategic initiatives and enhancing capabilities in cost surveillance and project governance. For the directorate posts in PSGO, we propose to –

- (a) create 1 permanent Principal Government Engineer (PGE) (D3) post on 1 April 2019 to head PSGO; and
- (b) convert the existing time-limited post<sup>1</sup> of Government Engineer (GE) (D2) in PCMO to a permanent GE on 1 April 2019 to assist the PGE to carry out the related tasks under PSGO.

### JUSTIFICATIONS

#### Need for Establishing a Dedicated Office

2. The Government is implementing various development programme and initiatives<sup>2</sup> to enhance people's living environment and to sustain Hong Kong's long term competitiveness. In the next few years, the annual capital works investment is expected to rise to over \$100 billion and the annual total construction output will increase to over \$300 billion. In addition to this substantial workload, we are facing the challenges of extremely high construction cost<sup>3</sup> and fast ageing construction work force<sup>4</sup>. Moreover, there have been rising aspirations from the general public for better performance of public works projects in recent years. We need to tackle

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<sup>1</sup> the time limited post will expire on 31 March 2019

<sup>2</sup> e.g. land and housing supply projects, such as the Lantau Tomorrow Vision, Hospital Development Plan, Healthcare Facilities Development Programme, and various initiatives to improve people's livelihood and district environment, enhancing transportation networks to boost connectivity, etc.

<sup>3</sup> construction cost in Hong Kong has been ranked 3rd in the world by several international reports

<sup>4</sup> the median age of skilled construction workers is 52, which is 9 years older than the median age of 43 of the overall labour force in Hong Kong



these challenges to ensure satisfactory delivery of public works projects for the community.

3. The challenges are complex and common to all projects implemented by any bureaux and works departments as well as the private construction sector. In order to adopt coordinated approaches, create synergies and steer concerted efforts, we will establish a dedicated office to take forward the initiatives for strengthening cost management and enhancing the performance of public works projects. We will establish the Project Strategy and Governance Office (PSGO) for implementing strategic initiatives and enhancing capabilities in cost surveillance and project governance. In fact, similar authorities have been established in other places to safeguard the performance of public works projects, eg. the Centre for Public Projects Management in Singapore, the Infrastructure and Projects Authority in UK and the Office of Projects Victoria in Australia. We propose to establish PSGO under the Development Bureau on 1 April 2019 and with regular direct reporting to the Financial Secretary.

4. PSGO will be a multi-disciplinary office to be headed by a PGE and assisted by a GE. As all the existing PGEs and GEs are fully occupied with their existing duties, we will create one permanent PGE post and convert a time-limited GE post<sup>5</sup> in PCMO to a permanent GE post accordingly.

### **Need for a Principal Government Engineer Post**

5. The initiatives of enhancing cost management and uplifting performance of public works projects require concerted high-level effort from bureaux and departments as well as construction industry stakeholders. To enable successful implementation of the initiatives, PSGO needs to have high-level leadership who can provide professional, strategic and overarching steering for devising, developing and promoting the relevant measures.

6. The Head of PSGO (H/PSGO) will be required to collaborate and lead senior management of bureaux and departments to drive for reforms and cultural changes for which major substantive efforts will be called for. H/PSGO will also be tasked to maintain effective collaboration and dialogues with other international organisations, and public authorities of

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<sup>5</sup> the time-limited GE post will expire on 31 March 2019

other places. Given the extensive expertise in implementation and management of public works projects, we consider it necessary for a PGE to be H/PSGO. As H/PSGO will also need to report directly to the senior management, we consider it appropriate to be pitched at D3 rank.

### **Need for a Government Engineer Post**

7. We also propose to convert a time-limited GE post<sup>6</sup> in PCMO to a permanent GE post. This GE post is proposed to lead a multi-disciplinary professional team to oversee several major initiatives, including the establishment and management of the Centre of Excellence for Major Project Leaders, the enhancement of project capabilities, steering and coordination of research and development efforts, the formulation and promotion of major strategies to enhance project cost-effectiveness and productivities, etc. Given the extensive expertise in implementation and management of public works projects, we consider it necessary for a GE to carry out the related tasks.

8. In view of the extensive scope of the work to be shouldered by the H/PSGO and considerable local and international collaboration work requiring high-level representation from PSGO, the GE will provide staunch support for H/PSGO to carry out relevant tasks.

### **Organisation Structure**

9. The existing organisation chart of Works Branch of the Development Bureau (DEVB(WB)) and the proposed one after the establishment of PSGO are at **Annex A** and **Annex B** respectively.

### **Additional non-directorate professional staff**

10. PSGO will be a multi-disciplinary dedicated office for strengthening cost management and enhancing project performance. On top of the above proposed directorate posts and the existing 4 number of permanent professional staff in PCMO, we will create 7 additional non-directorate professional staff posts of various professional disciplines.

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<sup>6</sup> The time-limited GE post will expire on 31 March 2019

## **ALTERNATIVES CONSIDERED**

11. As deliberated in paragraphs 5 and 6 above, it is necessary for a PGE to be H/PSGO. We have looked into the feasibility of redeploying existing PGEs within DEVB(WB) or to head PSGO. As all the existing PGEs are already fully engaged in their respective duties, it is operationally not possible for them to head PSGO without adversely affecting the discharge of their current duties.

12. We have also looked into the feasibility of redeploying existing GEs within DEVB(WB) to PSGO. As all the existing GEs are already fully engaged in their respective duties, it is operationally not possible for them to perform the duties of the GE post in PSGO without adversely affecting the discharge of their current duties.

## **FINANCIAL IMPLICATIONS**

13. The proposed creation of one PGE (D3) post and one GE (D2) post will bring about an additional notional annual salary cost at mid-point of \$2,530,800 and \$2,179,800 respectively. The additional full annual average staff costs, including salaries and staff on-cost, are around \$6,681,100.

14. The additional notional annual salary cost at mid-point for the 12 additional non-directorate posts will not exceed \$11,332,800 and the full annual average staff cost, including salaries and staff on-cost, is around \$16,580,800.

15. We will include the necessary provision in the draft Estimates of the relevant financial years from 2019-20 onwards to meet the cost of the proposals upon the Finance Committee's approval.

## **ESTABLISHMENT CHANGES**

16. The establishment changes in DEVB(WB) for the past two years are as follows –

Establishment (Note)	Number of posts			
	Existing (As at 1 October 2018)	As at 1 April 2018	As at 1 April 2017	As at 1 April 2016
A	24 + (4) #	24 + (4)	24 + (4)	24 + (3)
B	105	99	96	93
C	136	131	127	124
<b>Total</b>	<b>265 + (4) #</b>	<b>254 + (4)</b>	<b>247 + (4)</b>	<b>241 + (3)</b>

Note:

A – ranks in the directorate pay scale or equivalent

B – non-directorate ranks, the maximum pay point of which is above MPS point 33 or equivalent

C – non-directorate ranks, the maximum pay point of which is at or below MPS point 33 or equivalent

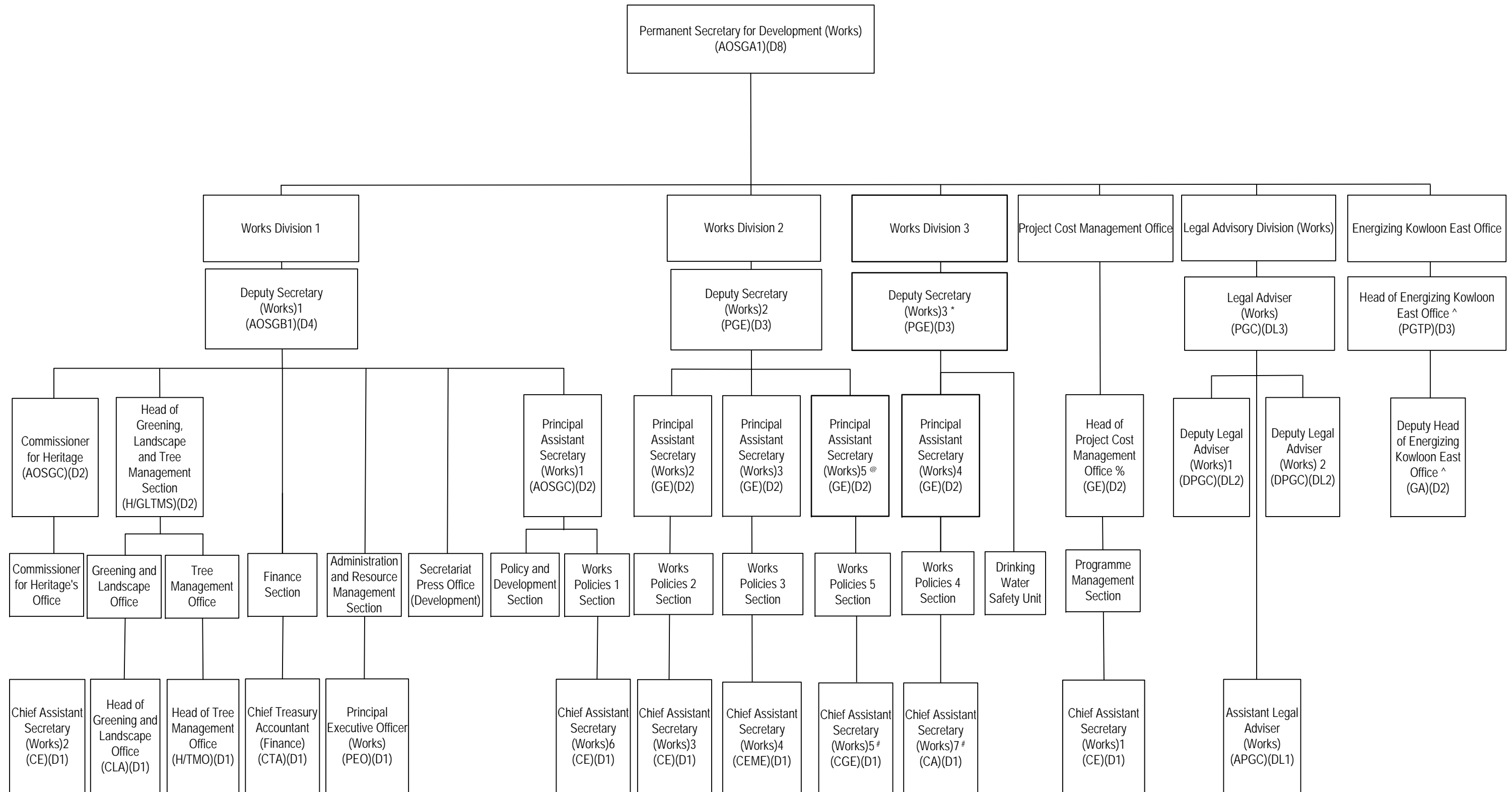
() – number of supernumerary directorate posts

# – as at 1 October 2018, there is no unfilled directorate post in DEVB(WB)

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**Development Bureau  
October 2018**

Existing Organisation Chart of the Works Branch of the Development Bureau



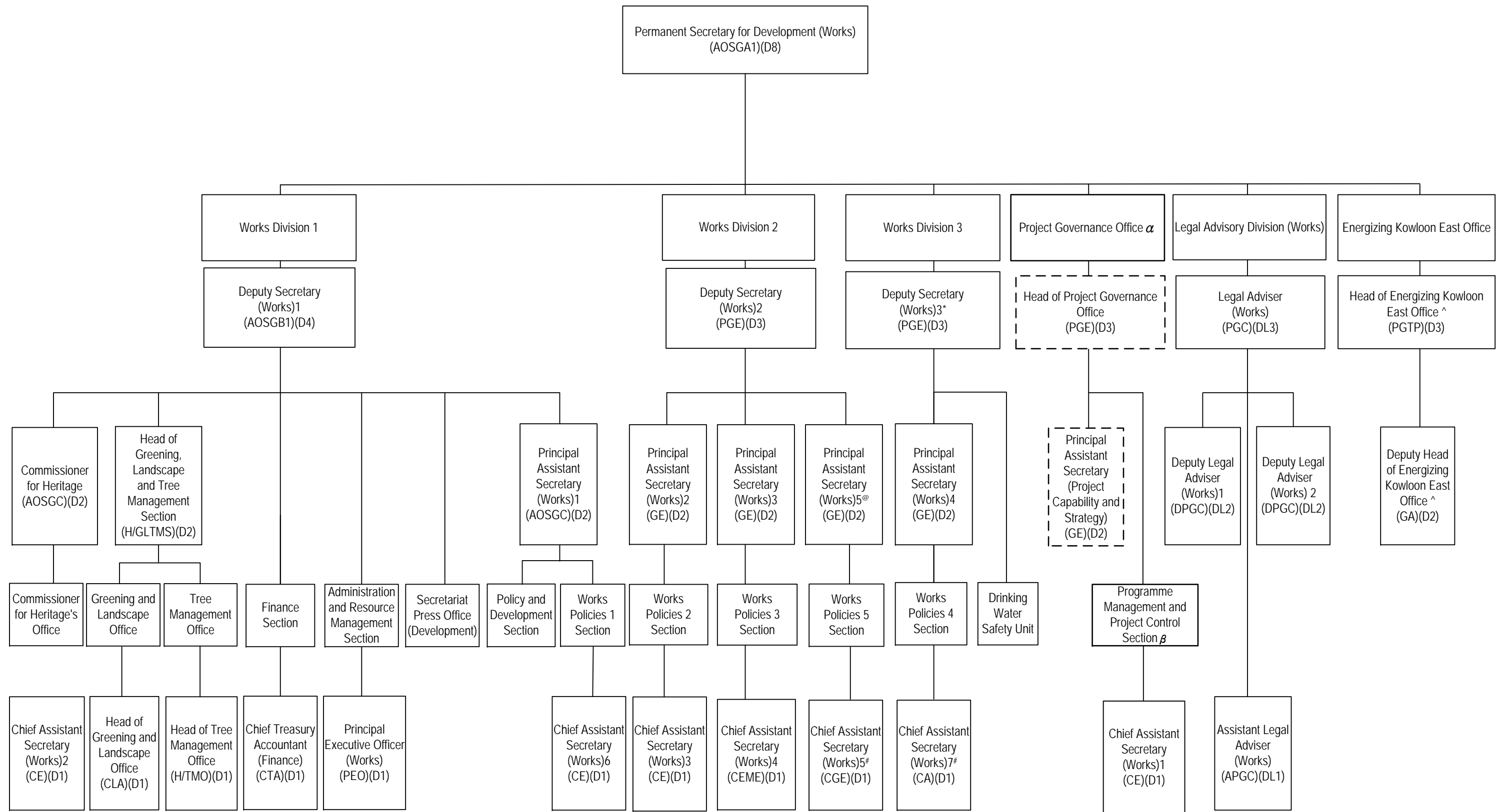
Legend

AOSGA1 — Administrative Officer Staff Grade A1  
 AOSGB1 — Administrative Officer Staff Grade B1  
 AOSGC — Administrative Officer Staff Grade C  
 APGC — Assistant Principal Government Counsel  
 CA — Chief Architect  
 CE — Chief Engineer  
 CEME — Chief Electrical and Mechanical Engineer  
 CGE — Chief Geotechnical Engineer  
 CIO — Chief Information Officer  
 CLA — Chief Landscape Architect

CTA — Chief Treasury Accountant  
 DPGC — Deputy Principal Government Counsel  
 GA — Government Architect  
 GE — Government Engineer  
 H/GLTMS — Head of Greening, Landscape and Tree Management Section  
 H/TMO — Head of Tree Management Office  
 PEO — Principal Executive Officer  
 PGC — Principal Government Counsel  
 PGE — Principal Government Engineer  
 PGTP — Principal Government Town Planner

^ Supernumerary posts created for Energizing Kowloon East Office from 1 July 2012 to 31 March 2022  
 % Supernumerary post created for Project Cost Management Office from 28 June 2016 to 31 March 2019  
 \* New post pending approval by Finance Committee at meeting on 19 October 2018  
 @ Supernumerary post conversion to permanent post pending approval by Finance Committee at meeting on 19 October 2018  
 # Posts redeployment pending approval by Finance Committee at meeting on 19 October 2018

Proposed Organisation Chart of the Works Branch of the Development Bureau



Legend

- |        |  |         |   |   |   |
|--------|--|---------|---|---|---|
| AOSGA1 | — Administrative Officer Staff Grade A1    | CTA     | — Chief Treasury Accountant                               | ^ | Supernumerary posts created for Energizing Kowloon East Office from 1 July 2012 to 31 March 2022                    |
| AOSGB1 | — Administrative Officer Staff Grade B1    | DPGC    | — Deputy Principal Government Counsel                     | * | New post pending approval by Finance Committee at meeting on 19 October 2018  |
| AOSGC  | — Administrative Officer Staff Grade C     | GA      | — Government Architect                                    | @ | Supernumerary post conversion to permanent post pending approval by Finance Committee at meeting on 19 October 2018 |
| APGC   | — Assistant Principal Government Counsel   | GE      | — Government Engineer                                     | # | Posts redeployment pending approval by Finance Committee at meeting on 19 October 2018                              |
| CA     | — Chief Architect                          | H/GLTMS | — Head of Greening, Landscape and Tree Management Section | α | Proposed new office   |
| CE     | — Chief Engineer                           | H/TMO   | — Head of Tree Management Office                          | β | Renaming of the existing "Programme Management Section"   |
| CEME   | — Chief Electrical and Mechanical Engineer | PEO     | — Principal Executive Officer                             | ▭ | Proposed new post   |
| CGE    | — Chief Geotechnical Engineer              | PGC     | — Principal Government Counsel                            |   |   |
| CIO    | — Chief Information Officer                | PGE     | — Principal Government Engineer                           |   |   |
| CLA    | — Chief Landscape Architect                | PGTP    | — Principal Government Town Planner                       |   |   |