

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

**Controlling officer:** the Director of Civil Engineering and Development will account for expenditure under this Head.

**Estimate 2016–17** ..... **\$2,607.2m**

**Establishment ceiling 2016–17** (notional annual mid-point salary value) representing an estimated 1 769 non-directorate posts as at 31 March 2016 rising by 72 posts to 1 841 posts as at 31 March 2017 ..... **\$939.1m**

In addition, there will be an estimated 57 directorate posts as at 31 March 2016 rising by five posts to 62 posts as at 31 March 2017.

**Commitment balance** ..... **\$1.1m**

### Controlling Officer's Report

#### Programmes

|  |   |
|--|---|
| <b>Programme (1) Tourism and Recreational Development</b>                | This programme contributes to Policy Area 5: Travel and Tourism (Secretary for Commerce and Economic Development).  |
| <b>Programme (2) Port and Marine Facilities</b>                          | This programme contributes to Policy Area 3: Air and Sea Communications and Logistics Development (Secretary for Transport and Housing) and Policy Area 21: Land and Waterborne Transport (Secretary for Transport and Housing).  |
| <b>Programme (3) Provision of Land and Infrastructure</b>                | This programme contributes to Policy Area 18: Recreation, Culture, Amenities and Entertainment Licensing (Secretary for Home Affairs), Policy Area 21: Land and Waterborne Transport (Secretary for Transport and Housing) and Policy Area 22: Buildings, Lands, Planning, Heritage Conservation, Greening and Landscape (Secretary for Development). |
| <b>Programme (4) Slope Safety and Geotechnical Standards</b>             | This programme contributes to Policy Area 24: Water Supply, Drainage and Slope Safety (Secretary for Development).  |
| <b>Programme (5) Greening and Technical Services</b>                     | This programme contributes to Policy Area 22: Buildings, Lands, Planning, Heritage Conservation, Greening and Landscape (Secretary for Development).  |
| <b>Programme (6) Supervision of Mining, Quarrying and Explosives</b>     | This programme contributes to Policy Area 24: Water Supply, Drainage and Slope Safety (Secretary for Development).  |
| <b>Programme (7) Management of Construction and Demolition Materials</b> | This programme contributes to Policy Area 23: Environmental Protection, Conservation, Power and Sustainable Development (Secretary for the Environment).  |
| <b>Programme (8) Advice on Development Proposals</b>                     | This programme contributes to Policy Area 22: Buildings, Lands, Planning, Heritage Conservation, Greening and Landscape (Secretary for Development).  |

#### Detail

##### Programme (1): Tourism and Recreational Development

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)             |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------------------|
| Financial provision (\$m) | 44.5                | 45.4                  | 47.2<br>(+4.0%)      | 47.7<br>(+1.1%)                   |
|                           |                     |                       |                      | (or +5.1% on<br>2015–16 Original) |

#### Aim

2 The aim is to plan, design and implement the supporting engineering works for the tourism and recreational developments in Lei Yue Mun, to undertake the remaining dredging works for the second berth of Kai Tak Cruise Terminal, as well as to provide engineering input to the development plans of the Ocean Park and Hong Kong Disneyland Resort.

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### *Brief Description*

3 To sustain the development of Hong Kong into a leading cruise hub in the region, the Department commenced the remaining dredging works for the second berth of Kai Tak Cruise Terminal in 2015.

4 To strengthen the position of Hong Kong as a premier destination for family visitors in the region, the Department continued to provide engineering advice to Tourism Commission on the development plans of the Ocean Park and Hong Kong Disneyland Resort, as well as to co-ordinate and liaise with the companies of the two theme parks and relevant parties.

5 To capitalise on the strength of the Lei Yue Mun area, being one of the most popular tourist attractions in Hong Kong for its seaside ambience and excellent seafood, and to enhance its attractiveness, the Department continued with the planning and design of a public landing facility and related marine works in the Lei Yue Mun area to facilitate visitors' access by sea.

6 The key performance measures relating to tourism and recreational development are:

#### *Target*

|  | Target <sup>Ψ</sup> | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Plan) |
|--|---------------------|------------------|------------------|----------------|
| completing construction of improvement works to promenades of the Aberdeen Harbour and Ap Lei Chau Main Street area (cumulative % completed) ..... | —(100)              | 98               | 100              | —              |

<sup>Ψ</sup> The target is expressed in terms of the estimated cumulative progress of the project or tasks concerned. The target for 2015 is shown in the bracket.

#### *Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|---|------------------|------------------|--------------------|
| value of projects under planning and design (\$m) ..... | 1,428.1          | 1,520.7          | 1,520.7            |
| expenditure on works under construction (\$m) .....     | 44.8             | 31.5             | 9.0                |

### *Matters Requiring Special Attention in 2016–17*

7 During 2016–17, the Department will:

- continue the monitoring, co-ordination and liaison work on the development plans of the Ocean Park and Hong Kong Disneyland Resort;
- complete the remaining dredging works for the second berth of Kai Tak Cruise Terminal; and
- continue the planning and detailed design for the proposed public landing facility and related marine works in Lei Yue Mun.

### **Programme (2): Port and Marine Facilities**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)             |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------------------|
| Financial provision (\$m) | 210.5               | 218.2                 | 223.2<br>(+2.3%)     | 221.4<br>(–0.8%)                  |
|                           |                     |                       |                      | (or +1.5% on<br>2015–16 Original) |

### *Aim*

8 The aim is to implement the port development programme; design, construct and maintain public marine facilities, including seawalls, mooring areas and piers; maintain adequate water depth in navigation channels in the harbour; and provide advice and services to other departments on matters relating to marine works.

### *Brief Description*

9 In 2015, the Department continued the planning, design and construction of various projects for improving port and marine facilities. The Department continued the dredging works at the Kwai Tsing Container Basin and its approach channel, and the improvement works to Sai Kung Public Pier.

10 The Department maintained 127 kilometres of seawalls, 318 piers including public piers as well as franchised and licensed ferry piers, all fairways, anchorage areas and major tidal river channels.

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11 The Department continued to vet submissions for private marine facilities and to provide advice and services to other departments on matters relating to marine works.

12 The key performance measures relating to port and marine facilities are:

### *Targets*

|   | Target | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Plan) |
|---|--------|------------------|------------------|----------------|
| inspecting each pier (urban: twice a year;<br>rural: once a year) (%) .....                                     | 100    | 100              | 100              | 100            |
| responding to enquiries on information<br>about marine structures and facilities<br>within seven days (%) ..... | 100    | 100              | 100              | 100            |

### *Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|---|------------------|------------------|--------------------|
| expenditure on maintenance works and maintenance<br>dredging (\$m) .....              | 77.8             | 95.5             | 85.0               |
| submissions processed and advice provided .....                                       | 2 055            | 2 072            | 2 050              |
| length of seawalls maintained (km) .....  | 127              | 127              | 127                |
| piers maintained .....  | 315              | 318              | 320                |
| value of marine facilities and port projects under planning<br>and design (\$m) ..... | 579.7            | 10.4             | 57.5               |
| expenditure on marine facilities and port construction<br>works (\$m) .....           | 96.5             | 168.0            | 107.1              |

### *Matters Requiring Special Attention in 2016–17*

13 During 2016–17, the Department will:

- complete the dredging works in Kwai Tsing Container Basin and its approach channel, and
- complete the improvement works to Sai Kung Public Pier.

### **Programme (3): Provision of Land and Infrastructure**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)              |
|---------------------------|---------------------|-----------------------|----------------------|------------------------------------|
| Financial provision (\$m) | 434.3               | 463.0                 | 481.3<br>(+4.0%)     | 553.1<br>(+14.9%)                  |
|                           |                     |                       |                      | (or +19.5% on<br>2015–16 Original) |

### *Aim*

14 The aim is to provide land and supporting infrastructure for development.

### *Brief Description*

15 The Department is responsible for planning, co-ordinating, programming and implementing the provision of land and supporting infrastructure to accommodate various types of development for the public and private sectors to meet the needs of the community. In 2015, the Department continued the land formation and engineering infrastructure works of the Wan Chai Development Phase II. As for Kai Tak Development (KTD), the Department continued the staged design and construction of engineering infrastructure, including the initiatives on public creatives and the detailed design of Trunk Road T2.

16 To commission a new boundary control point (BCP) at Liantang/Heung Yuen Wai by 2018, the Department continued the site formation and infrastructure works for the BCP which commenced in phases since April 2013. A planning, engineering and architectural study for topside development at the Hong Kong Boundary Crossing Facilities Island of the Hong Kong-Zhuhai-Macao Bridge commenced in January 2015.

17 To enhance the land supply strategy by reclamation outside Victoria Harbour and rock cavern development, the Department took on board the result of the technical study for the selection of suitable sites and the cumulative environmental impact assessment for three potential nearshore reclamation sites located at Sunny Bay, Lung Kwu Tan and Siu Ho Wan in the western waters of Hong Kong, firmed up the study plan and proceeded with further studies on the potential reclamation proposals in succession.

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18 The Department continued the site formation and infrastructure works for public housing development in Tuen Mun Area 54 and the development at Anderson Road and for housing development sites adjacent to Lung Ping Road at Tai Wo Ping. To address housing, social, economic and environmental needs in the longer term, the Department continued the design for the development of Anderson Road Quarry site and the advance works and first stage works of the Kwu Tung North and Fanling North New Development Areas (NDAs), commenced the design for the development of public housing sites at Ka Wai Man Road, Queen's Hill in Fanling and Lin Cheung Road in Sham Shui Po, and made preparations to commence the phase 1 demolition and ground decontamination works for the development at North West Kowloon Reclamation Site 1. The Department also continued with the preliminary feasibility study on developing the New Territories North, the planning and engineering studies on the extension of the Tung Chung New Town development and on the future land use at ex-Lamma Quarry Area at Sok Kwu Wan, Lamma Island, the Hung Shui Kiu NDA, Yuen Long South, Kwu Tung South, Tuen Mun Areas 40 and 46 and the adjoining areas, the engineering feasibility studies on potential public housing sites in Tseung Kwan O, Pok Fu Lam South and the investigation of site formation and infrastructure works for the Initial Sites at Kam Tin South for potential public housing development. The Department also commenced the engineering feasibility studies on potential public housing sites in Ma On Shan and Yuen Long, and the preliminary development review of public housing sites in Tuen Mun Central and the study on land requirements for the construction industry.

19 To capitalise on the strategic location of Lok Ma Chau Loop at the boundary district to meet future development needs, the Department continued the detailed design for the advance works so as to pave way for the development of Lok Ma Chau Loop.

20 The Department continued the construction of the new cycle track between Tuen Mun and Sheung Shui in 2015.

21 To cater for the long-term transport need of Tseung Kwan O, the Department continued the detailed design of the Tseung Kwan O – Lam Tin Tunnel and Cross Bay Link.

22 To enhance the waterfront and the accessibility of the public to the waterfront of Yung Shue Wan, the Department continued the planning and preliminary design of the land formation and engineering infrastructure works for phase 2 development at Yung Shue Wan.

23 The Department is pursuing the staged implementation of public infrastructure works and integrated basement to support the West Kowloon Cultural District (WKCD) development.

24 The key performance measures relating to provision of land and infrastructure are:

### *Indicators*

|  | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|--|------------------|------------------|--------------------|
| area of land formed (hectares).....  | 22.2             | 26.3             | 4.4                |
| road constructed/widened for development (m) .....   | 7 445            | 3 768            | 5 308              |
| value of land formation and infrastructure projects under<br>planning, design and construction (\$m) ..... | 139,149.9        | 164,570.1        | 177,086.2          |
| expenditure on construction for land formation and<br>infrastructure (\$m).....                            | 4,253.4          | 5,380.3          | 7,349.4            |
| no. of land formation and infrastructure projects under<br>planning, design and construction .....         | 190              | 192              | 191                |

### *Matters Requiring Special Attention in 2016–17*

25 During 2016–17, the Department will:

- continue to ensure that all land and infrastructure required to meet development targets are delivered on time and cost-effectively;
- continue the construction works of the Wan Chai Development Phase II;
- continue the staged implementation of KTD, covering the design and construction of engineering infrastructure and the initiatives on public creatives, to facilitate a staged development programme;
- continue the detailed design of Trunk Road T2;
- continue the design for phase 2 works on improving the water quality at Kai Tak Approach Channel and Kwun Tong Typhoon Shelter;
- continue the detailed feasibility study for the Environmentally Friendly Linkage System for Kowloon East;
- continue the staged implementation of public infrastructure works and integrated basement to support the early development of facilities in WKCD in co-ordination with the WKCD Authority and relevant government bureaux and departments;
- finalise the design for the phase 1 demolition and ground decontamination works for the development at North West Kowloon Reclamation Site 1;

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- commence the ground decontamination works at the site of ex-Kennedy Town incineration plant/abattoir and adjoining area;
- commence the construction of a footbridge system at Sham Mong Road in West Kowloon and continue the detailed design of the remaining two footbridges;
- continue with the site formation and infrastructure works in Tuen Mun Area 54 and the development at Anderson Road;
- continue the detailed design for the development of Anderson Road Quarry site;
- commence the construction works for the Tseung Kwan O – Lam Tin Tunnel;
- continue the design and construction of infrastructure projects, including road and drainage works in Sha Tin and Tseung Kwan O;
- continue the construction works for the cycle track network between Tuen Mun and Sheung Shui, and the investigation and design for several sections of the comprehensive cycle track network in the New Territories;
- continue the design of the advance works and first stage works for the Kwu Tung North and Fanling North NDAs;
- continue the detailed design of the advance works for development of Lok Ma Chau Loop;
- continue the planning and engineering studies on the Hung Shui Kiu NDA, Yuen Long South and Tuen Mun Areas 40 and 46 and the adjoining areas;
- commence the detailed design of Hung Shui Kiu NDA advance works and stage 1 works;
- commence the feasibility studies on possible multi-storey compounds for brownfield operations;
- continue the engineering feasibility study for police facilities in Kong Nga Po;
- commence the preliminary study on the potential land uses of Lam Tei Quarry site and its adjoining areas;
- complete the engineering feasibility study and commence the investigation and detailed design for the development of potential housing and development sites at Pok Fu Lam South;
- continue the investigation and detailed design for the development of potential housing and development sites at Ka Wai Man Road, Chung Nga Road and Area 9 in Tai Po, Wang Chau in Yuen Long and Area 48 in Fanling;
- commence the construction of road and infrastructural works at the Lin Cheung Road site, Sham Shui Po and that for Queen's Hill in Fanling;
- continue the detailed design of Cross Bay Link;
- continue the detailed design and site investigation for the widening of Tai Po Road (Sha Tin Section);
- commence the detailed design of the Tung Chung New Town Extension;
- explore the implementation mechanism on the future land use at ex-Lamma Quarry Area at Sok Kwu Wan, Lamma Island;
- continue the detailed design for the remaining improvement works at Tai O;
- continue the construction of phase 1 improvement works and the detailed design for the remaining improvement works, and commence the construction of phase 2 improvement works at Mui Wo;
- continue the planning and preliminary design of the land formation and engineering infrastructure works for phase 2 development at Yung Shue Wan;
- complete the site formation and continue the infrastructure works for the Liantang/Heung Yuen Wai BCP;
- commence the strategic studies for artificial islands in the central waters;
- commence the planning and engineering study for nearshore reclamation at Sunny Bay;
- continue the technical studies for nearshore reclamation at Lung Kwu Tan and Siu Ho Wan;
- continue the preliminary integrated development study on reclamation in association with relocation of Sai Kung sewage treatment works;
- continue the planning, engineering and architectural study for topside development at the Hong Kong Boundary Crossing Facilities Island of the Hong Kong-Zhuhai-Macao Bridge;
- complete the study on long-term strategy for cavern development in Hong Kong;
- complete the territory-wide study on underground space development in the urban areas;
- continue the pilot study on underground space development in selected strategic urban areas;

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- complete the investigation and commence the detailed design of the site formation and infrastructure works for the Initial Sites at Kam Tin South for potential public housing development;
- complete the engineering feasibility studies/preliminary development review for potential public housing sites at Tseung Kwan O, Ma On Shan, Tuen Mun Central and continue the engineering feasibility studies for sites in Yuen Long;
- handle matters relating to Lung Mei Beach; and
- continue the study on land requirements for the construction industry.

### Programme (4): Slope Safety and Geotechnical Standards

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | <b>2016–17<br/>(Estimate)</b>     |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------------------|
| Financial provision (\$m) | 342.0               | 348.2                 | 361.8<br>(+3.9%)     | <b>364.3</b><br>(+0.7%)           |
|                           |                     |                       |                      | (or +4.6% on<br>2015–16 Original) |

### *Aim*

26 The aim is to exercise geotechnical control on private and public developments, register slopes, implement the Landslip Prevention and Mitigation Programme (LPMitP), provide landslide emergency service, investigate serious landslides, set geotechnical standards, undertake public education and advise private slope owners on slope safety.

### *Brief Description*

27 The checking of geotechnical aspects of building and infrastructure developments continues to play a key role in reducing landslide risk. With a number of tunnel projects in progress, the Department has been providing specialised geotechnical input in the planning, investigation, design, construction and geotechnical risk management.

28 The Department completed a review of LPMitP in 2015 and continued the LPMitP to upgrade substandard government man-made slopes, mitigate landslide hazard arising from natural hillside catchments, and conduct safety screening for private man-made slopes.

29 The Department continued to maintain an automatic raingauge network to support the operation of the landslip warning system. It also provided 24-hour landslide emergency service in collaboration with other departments to remove immediate landslide danger and to restore essential services to the community. Serious landslides would continue to be investigated with a view to improving the slope safety system.

30 The Department continued to promote slope maintenance as well as public awareness and response towards slope safety. Warning signs to remind the public of keeping clear from the sites of natural terrain hazard mitigation works were put in use. The Department continued to provide advice to private slope owners on slope maintenance and improvement. In addition, 22 guidance documents were produced on slope safety and other geotechnical topics, including reports on lessons learnt from landslides.

31 The key performance measures relating to slope safety and geotechnical standards are:

### *Target*

|  | Target | 2014<br>(Actual) | 2015<br>(Actual) | <b>2016<br/>(Plan)</b> |
|--|--------|------------------|------------------|------------------------|
| providing information about a slope within five days of an application (%) ..... | 100    | 100              | 100              | <b>100</b>             |

### *Indicators*

|  | 2014<br>(Actual) | 2015<br>(Actual) | <b>2016<br/>(Estimate)</b> |
|--|------------------|------------------|----------------------------|
| new slope features registered .....                                      | 492              | 350              | <b>500</b>                 |
| detailed stability studies completed on government man-made slopes ..... | 175              | 165              | <b>165</b>                 |
| slope features upgraded and landscaped .....                             | 154              | 155              | <b>165</b>                 |
| natural hillside catchments with mitigation measures implemented .....   | 33               | 33               | <b>46</b>                  |
| safety screening studies of private man-made slopes completed .....      | 110              | 102              | <b>100</b>                 |
| expenditure for landslip prevention and mitigation (\$m) .....           | 1,029.0          | 1,155.0          | <b>1,250.0</b>             |



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|  | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|--|------------------|------------------|--------------------|
| geotechnical submissions checked.....    | 22 262           | 22 388           | <b>21 500</b>      |
| active construction sites inspected..... | 3 530            | 3 310            | <b>3 300</b>       |
| guidance documents produced.....         | 24               | 22               | <b>22</b>          |

### *Matters Requiring Special Attention in 2016–17*

**32** During 2016–17, the Department will:

- ensure adequate geotechnical input to the planning, design and construction of man-made slopes, tunnels and landslide mitigation measures to natural hillsides, and to blasting works by professionally qualified geotechnical engineers and suitably experienced competent persons;
- continue to audit government and private sector projects involving tunnel works to ensure that the works are carried out to an adequate standard of geotechnical risk management;
- continue to assist government departments in prioritising slopes for Engineer Inspection and maintenance action;
- continue to enhance the appearance of slopes in conjunction with slope upgrading and landslide risk mitigation works under the LPMitP;
- continue to implement the LPMitP to deal with the landslide risk arising from substandard man-made slopes and vulnerable natural hillsides;
- continue to enhance geotechnical guidance on the design and quality control of slope upgrading and landslide risk mitigation works;
- continue to implement the public education campaign to raise public awareness of landslide danger arising from man-made slopes and natural hillsides; and
- continue to provide advisory services to private slope owners on slope maintenance, safety improvement works and aesthetic improvement.

### **Programme (5): Greening and Technical Services**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)             |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------------------|
| Financial provision (\$m) | 128.6               | 126.7                 | 130.7<br>(+3.2%)     | <b>131.3</b><br>(+0.5%)           |
|                           |                     |                       |                      | (or +3.6% on<br>2015–16 Original) |

### *Aim*

**33** The aim is to develop greening master plans and implement other greening measures to improve the environment of Hong Kong, provide ground investigation, construction materials testing, geological surveys and other geotechnical services, and manage Hong Kong's marine fill resources and mud disposal facilities.

### *Brief Description*

**34** The Department continued to develop the greening master plans for the New Territories. The Department continued the implementation of the recommended greening measures in 2015.

**35** The Department operates contracts for ground investigation and laboratory testing. In 2015, the Public Works Laboratories (PWLs) continued to serve public works projects by undertaking some 695 000 tests on construction materials. The Department continued technical development on the use of sustainable construction materials (e.g. Ground Granulated Blastfurnace Slag and glass cullet) in civil engineering and geotechnical works in Hong Kong. The Department continued to provide geotechnical advisory services to government departments on a wide range of projects. The Civil Engineering Library, which contains a large collection of geotechnical data on Hong Kong, served about 11 000 users in 2015.

**36** The Department, on behalf of the Marine Fill Committee, continued to undertake studies to examine the effects of the dredging and mud disposal activities, allocate marine borrow areas and mud disposal capacity to reclamation and other works projects and provide technical advice for the projects on sand dredging and mud disposal matters.

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37 The key performance measures relating to greening and technical services are:

### *Targets*

|   | Target | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Plan) |
|---|--------|------------------|------------------|----------------|
| providing assistance at the registration counter of the Civil Engineering Library within ten minutes (%)..... | 100    | 100              | 100              | 100            |
| providing information about geology and natural resources within 4.5 days upon request (%).....               | 100    | 100              | 100              | 100            |

### *Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|---|------------------|------------------|--------------------|
| no. of greening master plans under planning .....   | 8                | 8                | 0                  |
| cumulative total of greening master plans formulated.....   | 34               | 34               | 42                 |
| expenditure on greening works implemented under greening master plans (\$m) .....                     | 9.5              | 43.5             | 52.5               |
| ground investigation and laboratory soil and rock testing term contracts:                             |                  |                  |                    |
| trial pits excavated .....  | 281              | 423              | 420                |
| length of drilling carried out in soil (m).....   | 7 090            | 8 004            | 8 000              |
| length of drilling carried out in rock (m) .....  | 3 545            | 3 989            | 4 000              |
| triaxial tests on soil specimens.....   | 3 170            | 2 667            | 3 000              |
| material tests conducted in the PWLs and in contract laboratories managed by the PWLs (thousand)..... | 586              | 695              | 600                |
| advisory cases handled in respect of land-use planning and engineering feasibility studies .....      | 1 808            | 1 979            | 1 900              |
| geotechnical engineering advisory cases handled.....  | 761              | 766              | 780                |
| value of fill management investigations and studies (\$m).....  | 3.5              | 3.8              | 5.4                |
| fill management reports and major papers issued.....  | 9                | 9                | 9                  |

### *Matters Requiring Special Attention in 2016–17*

38 During 2016–17, the Department will:

- complete the development of the greening master plans for the New Territories and continue the implementation of the recommended greening works,
- continue to implement the monitoring and management scheme for disposal of dredged mud,
- continue to provide technical advice and support for marine works projects to minimise marine mud dredging and disposal, and
- continue to provide reliable and efficient construction material testing and ground investigation services to public works projects.

### **Programme (6): Supervision of Mining, Quarrying and Explosives**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate) |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------|
| Financial provision (\$m) | 72.4                | 76.3                  | 79.6<br>(+4.3%)      | 75.7<br>(–4.9%)       |

(or –0.8% on  
2015–16 Original)

### *Aim*

39 The aim is to supervise contracts for quarrying in Hong Kong, enforce the Mining Ordinance (Cap. 285), enforce the Dangerous Goods Ordinance (Cap. 295) in connection with the use of explosives, and safeguard the public from the misuse of explosives.



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### *Brief Description*

40 The Department made satisfactory progress in respect of supervision of quarrying in 2015. The Department continued to supervise the rehabilitation contracts for Lam Tei Quarry and Anderson Road Quarry, issue permits under the Sand Ordinance (Cap. 147) for the importation and transportation of sand, and regulate the use of site crushers on both public and private construction sites. Regular inspections of quarry sites were conducted to enforce safety regulations. The Department is also undertaking studies on the identification of new quarry sites in Hong Kong in order to dovetail with the closure of the existing quarries.

41 The Department also made satisfactory progress in respect of supervision of the use of explosives during the year. To protect the public from the misuse of explosives, the Department continued to maintain strict control over the storage, handling, transportation and use of explosives from their manufacture or importation to their firing on construction sites.

42 The key performance measures relating to supervision of quarrying and explosives are:

### *Targets*

|  | Target | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Plan) |
|--|--------|------------------|------------------|----------------|
| issuing a Sand Removal Permit within two days of an application which has satisfied government requirements (%)...                           | 100    | 100              | 100              | 100            |
| issuing a Licence to Manufacture Explosives within two days of an application, where pre-licensing requirements have been satisfied (%)..... | 100    | 100              | 100              | 100            |
| issuing a Permit to Remove Explosives within one day of an application (%).....  | 100    | 100              | 100              | 100            |
| issuing a Licence to Store Explosives where pre-licensing requirements have been satisfied within two days of an application (%) .....       | 90     | 100              | 100              | 97             |
| within three days of an application (%) .....  | 100    | 100              | 100              | 100            |
| issuing a Licence to Use Explosives where pre-licensing requirements have been satisfied within two days of an application (%) .....         | 90     | 100              | 100              | 97             |
| within three days of an application (%) .....  | 100    | 100              | 100              | 100            |
| endorsing a Licence to Import or Export Explosives within one day of an application (%)φ .....   | —      | 100              | 100              | —              |
| issuing a Mine Blasting Certificate within one day of an applicant passing an examination (%) .....  | 100    | 100              | 100              | 100            |

φ Target to be removed as from 2016. To streamline processing of import/export licences, Trade and Industry Department will accept the Department's list of approved explosives for use in Hong Kong in lieu of seeking its endorsement of licence applications.

### *Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|---|------------------|------------------|--------------------|
| aggregates processed by contract quarries (million tonnes) ....                               | 3.1              | 2.0 $\alpha$     | 1.8 $\alpha$       |
| revenue from royalty and rental payments (\$m) .....  | 54.5             | 41.2 $\alpha$    | 100.0 $\delta$     |
| Sand Removal Permits issued .....   | 7 852            | 2 794            | 900 $\mu$          |
| quarrying and rock crushing contracts supervised .....  | 2                | 2                | 2                  |
| safety inspections of quarries conducted .....  | 24               | 24               | 20 $\alpha$        |
| tonnes of explosives consumed .....   | 1 650            | 899              | 1 100              |
| no. of blasting activities .....  | 4 415            | 1 814            | 1 700              |
| inspections of blasting sites conducted .....   | 1 280            | 988              | 930                |
| inspections of pre-licensed sites, magazines, manufacturing plants and stores conducted ..... | 684              | 491              | 500                |
| warnings issued .....   | 0                | 0                | 1                  |

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

|  | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|--|------------------|------------------|--------------------|
| licences and permits granted <sup>β</sup> .....                          | 12 492           | 7 193            | 7 000              |
| licences and permits renewed <sup>β</sup> .....                          | 207              | 143              | 170                |
| tonnes of explosives delivered from government explosives<br>depots..... | 174              | 78               | 80                 |
| no. of deliveries of explosives.....                                     | 1 758            | 1 052            | 900                |

- α The transition between completion of the current Lam Tei Quarry Contract and commencement of the new contract in 2015 has led to a reduction in the amount of aggregate processed and in turn a reduction of revenue from royalty and rental payments. Besides, the completion of the current Anderson Road Quarry Contract in mid-2016 will lead to a reduction in the amount of aggregate processed and the number of safety inspections of quarries.
- δ The increase in revenue in 2016 is due to the rental payment from the new Lam Tei Quarry Contract, which commenced in mid-2015.
- μ Decrease in the Sand Removal Permits is expected in 2016 owing to substantial completion of major ongoing reclamations.
- β These include all licences and permits except Sand Removal Permits.

### *Matters Requiring Special Attention in 2016–17*

43 During 2016–17, the Department will continue to work together with the Security Bureau and other departments in taking forward amendments to subsidiary legislation under the Dangerous Goods Ordinance in respect of the use of explosives. The Department will also complete the study on the identification of new quarry sites in Hong Kong.

### **Programme (7): Management of Construction and Demolition Materials**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)              |
|---------------------------|---------------------|-----------------------|----------------------|------------------------------------|
| Financial provision (\$m) | 910.1               | 946.0                 | 944.4<br>(–0.2%)     | 1,178.0<br>(+24.7%)                |
|                           |                     |                       |                      | (or +24.5% on<br>2015–16 Original) |

### *Aim*

- 44 The aim is to ensure good management and utilisation of inert construction and demolition materials.

### *Brief Description*

45 In 2015, the Department, on behalf of the Public Fill Committee, continued to scrutinise submissions from proponents of public works projects with a view to maximising the re-use of public fill in various projects. For daily receipt of public fill, the Department continued to liaise with stakeholders concerned such as dump truck drivers and members of the District Councils. To tackle the shortfall in public filling capacity and minimise the disposal of public fill at landfills, the Department continued the operation of the fill banks and the temporary construction waste sorting facilities at Tuen Mun Area 38 and Tseung Kwan O Area 137.

46 The Department continued to enhance the scrutiny of public works projects for reducing the generation of public fill, and provide proponents of public works projects with guidelines to formulate a construction and demolition materials management plan at an early design stage of the projects, so as to minimise the generation of construction and demolition materials at source and maximise their re-use. The Department continued to recycle inert hard construction and demolition materials at Tseung Kwan O Area 137.

47 The Department continued to maintain adequate outlets at strategic locations for inert construction and demolition materials. A short-term barging facility at Mui Wo and a long-term barging point at Chai Wan were being operated.

48 The Department continued to deliver surplus public fill for beneficial re-use in the Mainland and to liaise with the Mainland authority to enhance the scheme.

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

49 The key performance measures relating to management of construction and demolition materials are:

### *Targets*

|   | Target | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Plan) |
|---|--------|------------------|------------------|----------------|
| issuing dumping licences within three days (%).....                                     | 100    | 100              | 100              | 100            |
| issuing dumping licences within half day for applications submitted in person (%) ..... | 100    | 100              | 100              | 100            |

### *Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | 2016<br>(Estimate) |
|---|------------------|------------------|--------------------|
| public fill received at public fill reception facilities (million tonnes).....                  | 12.3             | 16.1             | 16.8               |
| public fill delivered to the Mainland for beneficial re-use (million tonnes).....               | 10.2             | 13.0             | 13.0               |
| public fill supplied to local projects for beneficial re-use (million tonnes).....              | 6.4              | 0.7#             | 1.0#               |
| public fill stockpiled at public fill reception facilities as at year end (million tonnes)..... | 16.6             | 17.6             | 20.4               |
| recycling inert hard construction and demolition materials (million tonnes).....                | 0.04             | 0.03             | 0.03               |
| submissions processed on behalf of the Public Fill Committee .....                              | 140              | 143              | 140                |
| no. of assignment of public fill outlets through trip ticket system .....                       | 351              | 355              | 350                |

# The decrease in the quantity of public fill supplied to local projects for beneficial re-use in 2015 is attributed to the decrease in public fill demand from infrastructure projects. The trend will continue in 2016.

### *Matters Requiring Special Attention in 2016–17*

50 During 2016–17, the Department will:

- continue the cross-boundary delivery of surplus public fill for beneficial re-use in the Mainland and review the scheme in the light of the experience gained;
- continue to handle the considerable quantity of public fill to be generated from major infrastructure projects, as well as to identify alternative outlets for handling the surplus public fill;
- continue to operate the temporary construction waste sorting facilities at Tuen Mun and Tseung Kwan O; and
- continue to formulate a long-term strategy to handle inert construction and demolition materials.

### **Programme (8): Advice on Development Proposals**

|                           | 2014–15<br>(Actual) | 2015–16<br>(Original) | 2015–16<br>(Revised) | 2016–17<br>(Estimate)             |
|---------------------------|---------------------|-----------------------|----------------------|-----------------------------------|
| Financial provision (\$m) | 33.3                | 34.1                  | 35.4<br>(+3.8%)      | 35.7<br>(+0.8%)                   |
|                           |                     |                       |                      | (or +4.7% on<br>2015–16 Original) |

### *Aim*

51 The aim is to advise on development proposals.

### *Brief Description*

52 The Department continued to advise government departments and private developers on the engineering aspects of development proposals for the purpose of improving the environment and the infrastructural support to such proposals.

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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53 The key performance measures relating to advice on development proposals are:

*Indicators*

|   | 2014<br>(Actual) | 2015<br>(Actual) | <b>2016<br/>(Estimate)</b> |
|---|------------------|------------------|----------------------------|
| town plans and planning briefs on which advice and comments are given .....   | 206              | 160              | <b>165</b>                 |
| public and private development proposals and planning applications examined .....   | 2 710            | 2 947            | <b>2 978</b>               |
| town plans, planning briefs, public and private development proposals and planning applications dealt with per post ..... | 69.4             | 74.0             | <b>74.8</b>                |

*Matters Requiring Special Attention in 2016–17*

54 During 2016–17, the Department will continue to provide:

- timely response to requests from the Buildings Department, Lands Department and Planning Department for advice on lease conditions, Town Planning Board applications, master development plans and building plans. Measures will also be taken to ensure that due regard is given to environmental factors including conserving natural features, reducing the impact of engineering works and enhancing the quality of the landscape; and
- technical advice and support to the development of the WKCD project.

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

### ANALYSIS OF FINANCIAL PROVISION

| Programme   | 2014–15<br>(Actual)<br>(\$m) | 2015–16<br>(Original)<br>(\$m) | 2015–16<br>(Revised)<br>(\$m) | 2016–17<br>(Estimate)<br>(\$m)     |
|---|------------------------------|--------------------------------|-------------------------------|------------------------------------|
| (1) Tourism and Recreational Development .....                | 44.5                         | 45.4                           | 47.2                          | 47.7                               |
| (2) Port and Marine Facilities .....                          | 210.5                        | 218.2                          | 223.2                         | 221.4                              |
| (3) Provision of Land and Infrastructure .....                | 434.3                        | 463.0                          | 481.3                         | 553.1                              |
| (4) Slope Safety and Geotechnical Standards .....             | 342.0                        | 348.2                          | 361.8                         | 364.3                              |
| (5) Greening and Technical Services .....                     | 128.6                        | 126.7                          | 130.7                         | 131.3                              |
| (6) Supervision of Mining, Quarrying and Explosives .....     | 72.4                         | 76.3                           | 79.6                          | 75.7                               |
| (7) Management of Construction and Demolition Materials ..... | 910.1                        | 946.0                          | 944.4                         | 1,178.0                            |
| (8) Advice on Development Proposals .....                     | 33.3                         | 34.1                           | 35.4                          | 35.7                               |
|   | 2,175.7                      | 2,257.9                        | 2,303.6<br>(+2.0%)            | 2,607.2<br>(+13.2%)                |
|   |                              |                                |                               | (or +15.5% on<br>2015–16 Original) |

#### Analysis of Financial and Staffing Provision

##### Programme (1)

Provision for 2016–17 is \$0.5 million (1.1%) higher than the revised estimate for 2015–16. This is mainly due to the increased provision for salary increments.

##### Programme (2)

Provision for 2016–17 is \$1.8 million (0.8%) lower than the revised estimate for 2015–16. This is mainly due to the reduced cash flow requirement for other operating expenses and purchase of equipment, partly offset by increased provision for salary increments.

##### Programme (3)

Provision for 2016–17 is \$71.8 million (14.9%) higher than the revised estimate for 2015–16. This is mainly due to the increased provision for filling of vacancies, salary increments and the net increase of 80 posts, partly offset by reduced cash flow requirement for other operating expenses.

##### Programme (4)

Provision for 2016–17 is \$2.5 million (0.7%) higher than the revised estimate for 2015–16. This is mainly due to the increased provision for filling of vacancies and salary increments, partly offset by the reduced cash flow requirement for other operating expenses.

##### Programme (5)

Provision for 2016–17 is \$0.6 million (0.5%) higher than the revised estimate for 2015–16. This is mainly due to the increased provision for filling of vacancies and salary increments, partly offset by the reduced cash flow requirement for other operating expenses and the net decrease of one post.

##### Programme (6)

Provision for 2016–17 is \$3.9 million (4.9%) lower than the revised estimate for 2015–16. This is mainly due to the deletion of two posts, the reduced cash flow requirement for purchase of equipment and other operating expenses, partly offset by the increased provision for salary increments.

##### Programme (7)

Provision for 2016–17 is \$233.6 million (24.7%) higher than the revised estimate for 2015–16. This is mainly due to the increased provision for handling surplus public fill.

## **Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT**

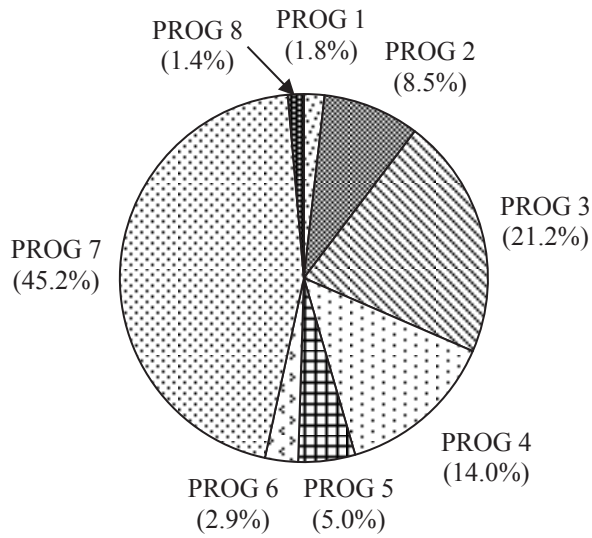
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### **Programme (8)**

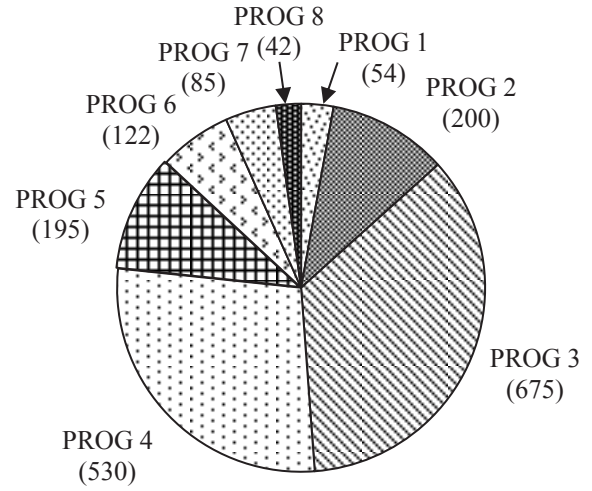
Provision for 2016–17 is \$0.3 million (0.8%) higher than the revised estimate for 2015–16. This is mainly due to increased provision for salary increments, partly offset by the reduced cash flow requirement for other operating expenses.



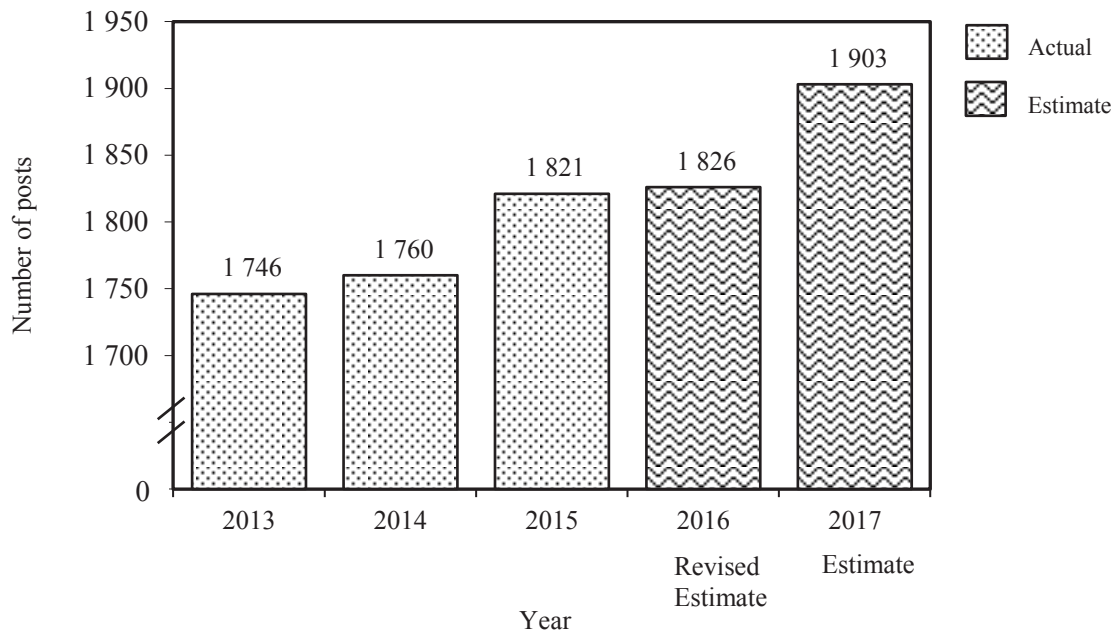
*Allocation of provision to programmes (2016-17)*



*Staff by programme (as at 31 March 2017)*



*Changes in the size of the establishment (as at 31 March)*



## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

| Sub-head<br>(Code)         | Actual<br>expenditure<br>2014–15                         | Approved<br>estimate<br>2015–16 | Revised<br>estimate<br>2015–16 | <b>Estimate<br/>2016–17</b> |                          |
|----------------------------|--|---------------------------------|--------------------------------|-----------------------------|--------------------------|
|                            | \$'000   | \$'000                          | \$'000                         | <b>\$'000</b>               |                          |
| <b>Operating Account</b>   |  |                                 |                                |                             |                          |
| Recurrent                  |  |                                 |                                |                             |                          |
| 000                        | Operational expenses .....                               | 2,165,917                       | 2,253,798                      | 2,300,602                   | <b>2,603,589</b>         |
|                            | Total, Recurrent.....                                    | 2,165,917                       | 2,253,798                      | 2,300,602                   | <b>2,603,589</b>         |
| Non-Recurrent              |  |                                 |                                |                             |                          |
| 700                        | General non-recurrent .....                              | 36                              | 65                             | 65                          | <b>150</b>               |
|                            | Total, Non-Recurrent.....                                | 36                              | 65                             | 65                          | <b>150</b>               |
|                            | Total, Operating Account .....                           | 2,165,953                       | 2,253,863                      | 2,300,667                   | <b>2,603,739</b>         |
| <b>Capital Account</b>     |  |                                 |                                |                             |                          |
| Plant, Equipment and Works |  |                                 |                                |                             |                          |
| 661                        | Minor plant, vehicles and equipment (block<br>vote)..... | 5,448                           | 2,950                          | 2,950                       | <b>3,476<sup>η</sup></b> |
|                            | Plant, vehicles and equipment.....                       | 4,327                           | 1,125                          | —                           | <b>—</b>                 |
|                            | Total, Plant, Equipment and Works.....                   | 9,775                           | 4,075                          | 2,950                       | <b>3,476</b>             |
|                            | Total, Capital Account.....                              | 9,775                           | 4,075                          | 2,950                       | <b>3,476</b>             |
|                            | Total Expenditure .....                                  | 2,175,728                       | 2,257,938                      | 2,303,617                   | <b>2,607,215</b>         |

<sup>η</sup> Provision of \$3,476,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents an increase of \$526,000 (17.8%) over the revised estimate for 2015–16. This reflects the updating of the ambit of this block vote subhead as set out in the Introduction to the Estimates and the increased requirement for new and scheduled replacement of minor plant and equipment.

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

### Details of Expenditure by Subhead

The estimate of the amount required in 2016–17 for the salaries and expenses of the Civil Engineering and Development Department is \$2,607,215,000. This represents an increase of \$303,598,000 over the revised estimate for 2015–16 and \$431,487,000 over the actual expenditure in 2014–15.

#### *Operating Account*

##### Recurrent

**2** Provision of \$2,603,589,000 under *Subhead 000 Operational expenses* is for the salaries, allowances and other operating expenses of the Civil Engineering and Development Department. The increase of \$302,987,000 (13.2%) over the revised estimate for 2015–16 is mainly due to the increased provision for the net increase of 77 posts and handling additional quantity of surplus public fill under the cross-boundary delivery scheme.

**3** The establishment as at 31 March 2016 will be 1 826 posts including six supernumerary posts. It is expected that there will be a net increase of 77 posts including five supernumerary posts in 2016–17. Subject to certain conditions, the controlling officer may under delegated power create or delete non-directorate posts during 2016–17, but the notional annual mid-point salary value of all such posts must not exceed \$939,134,000.

**4** An analysis of the financial provision under *Subhead 000 Operational expenses* is as follows:

|  | 2014–15<br>(Actual)<br>(\$'000) | 2015–16<br>(Original)<br>(\$'000) | 2015–16<br>(Revised)<br>(\$'000) | <b>2016–17<br/>(Estimate)<br/>(\$'000)</b> |
|--|---------------------------------|-----------------------------------|----------------------------------|--|
| Personal Emoluments                              |                                 |                                   |                                  |  |
| - Salaries.....                                  | 1,048,367                       | 1,081,800                         | 1,122,000                        | <b>1,206,482</b>                           |
| - Allowances.....                                | 13,528                          | 16,086                            | 15,584                           | <b>14,757</b>                              |
| - Job-related allowances.....                    | 857                             | 988                               | 914                              | <b>970</b>                                 |
| Personnel Related Expenses                       |                                 |                                   |                                  |  |
| - Mandatory Provident Fund contribution.....     | 2,657                           | 2,679                             | 3,021                            | <b>3,602</b>                               |
| - Civil Service Provident Fund contribution..... | 28,188                          | 34,220                            | 35,475                           | <b>46,914</b>                              |
| Departmental Expenses                            |                                 |                                   |                                  |  |
| - Contract maintenance .....                     | 951,147                         | 989,050                           | 986,399                          | <b>1,215,617</b>                           |
| - General departmental expenses .....            | 121,173                         | 128,975                           | 137,209                          | <b>115,247</b>                             |
|  | 2,165,917                       | 2,253,798                         | 2,300,602                        | <b>2,603,589</b>                           |

#### *Capital Account*

##### Plant, Equipment and Works

**5** Provision of \$3,476,000 under *Subhead 661 Minor plant, vehicles and equipment (block vote)* represents an increase of \$526,000 (17.8%) over the revised estimate for 2015–16. This reflects the updating of the ambit of this block vote subhead as set out in the Introduction to the Estimates and the increased requirement for new and scheduled replacement of minor plant and equipment.

## Head 33 — CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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### Commitments

| Sub-head<br>(Code)              | Item<br>(Code) | Ambit   | Approved<br>commitment | Accumulated<br>expenditure<br>to 31.3.2015 | Revised<br>estimated<br>expenditure<br>for 2015–16 | Balance      |
|---------------------------------|----------------|---|------------------------|--|--|--------------|
|                                 |                |   | \$'000                 | \$'000                                     | \$'000   | \$'000       |
| <b><i>Operating Account</i></b> |                |   |                        |  |  |              |
| 700                             |                | <i>General non-recurrent</i>                          |                        |  |  |              |
|                                 | 528            | Provision of warning signs in squatter<br>areas ..... | 5,000                  | 3,833                                      | 65   | 1,102        |
|                                 |                | Total .....   | <u>5,000</u>           | <u>3,833</u>                               | <u>65</u>  | <u>1,102</u> |