

ITEM FOR ESTABLISHMENT SUBCOMMITTEE OF FINANCE COMMITTEE

**HEAD 138 – GOVERNMENT SECRETARIAT :
DEVELOPMENT BUREAU
(PLANNING AND LANDS BRANCH)**
HEAD 91 – LANDS DEPARTMENT
Subhead 000 Operational expenses

Members are invited to recommend to the Finance Committee the creation of the following two supernumerary posts with effect from 1 April 2020 or upon approval of the Finance Committee (whichever is later) up to 31 March 2025 –

(a) Government Secretariat: Development Bureau (Planning and Lands Branch)

1 Chief Land Surveyor
(D1) (\$144,100 - \$157,700)

(b) Lands Department

1 Government Land Surveyor
(D2) (\$171,200 - \$187,150)

/PROBLEM

PROBLEM

We need additional staffing support at the directorate level in the Development Bureau (Planning and Lands Branch) (DEVB(PLB)) and the Lands Department (LandsD) to oversee the implementation of the Common Spatial Data Infrastructure (CSDI), thereby ensuring that major deliverables can be rolled out on schedule according to our pledged timetable.

PROPOSAL

2. We propose to strengthen directorate staffing support in DEVB(PLB) and LandsD through the following proposals –

- (a) creation of one supernumerary Chief Land Surveyor (CLS) (D1) post, to be designated as Chief Land Surveyor/Spatial Data Infrastructure (CLS/SDI), for five years up to 31 March 2025, to lead the newly established Spatial Data Office (SDO) in the DEVB(PLB) in steering and expediting the development of CSDI amongst other things; and
- (b) creation of one supernumerary Government Land Surveyor (GLS) (D2) post, to be designated as Assistant Director/Spatial Data, for five years up to 31 March 2025, to head the Mapping Management Centre (MMC) to be established in the Survey and Mapping Office (SMO) of the LandsD for supporting the rolling out of CSDI, and overseeing the work of the Building Information Modelling (BIM) and land boundary advisory services amongst other things.

JUSTIFICATION

3. Enhancing the use, management, discovery and sharing of spatial data¹ is increasingly recognised worldwide as the key to robust policy-making and driving innovation and value creation of society. Advanced economies such as Singapore, the United Kingdom and the United States have long built their own spatial data infrastructure facilitating spatial data sharing and usage by the Government and the public. Acknowledging that spatial data infrastructure is vitally important to smart city development, the Smart City Blueprint released in December 2017 has committed to developing the CSDI with two major components, viz. an internet-based portal (the CSDI portal) and the three-dimensional (3D) digital map.

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¹ Spatial data is the data with a location component such as geographical coordinates. Examples of spatial data held in government bureaux/departments (B/Ds) are topographic maps, public facility data, land boundary data, planning data, etc.

4. The **CSDI portal** functions as a one-stop data supermarket opening up and centralising multi-source spatial data converted into open and machine-readable formats and available for free download and use by the public. The map of Hong Kong will form the base of the one-stop database which, when intersected with other spatial datasets such as location of public facilities or demographic data, can enable B/Ds, professionals, academics and the general public to harness the power of big data. Not only can the CSDI portal create daily convenience (such as journey planning between destinations), it can also enhance policy making functions (such as urban planning and infrastructure development). More importantly, it can spur innovation and encourage the public including application developers to make the most of the spatial data for development of new web and mobile applications.

5. By providing a more detailed, realistic and true view of the real world, the **3D digital map** can help better understand multi-level spaces of a modern city like Hong Kong. The 3D digital map will eventually replace the 2D digital map to serve as the basemap and container of the CSDI portal. It can also support 3D applications including visualisation, noise/air/flooding modelling, indoor/outdoor navigation, etc. to support land administration, urban planning, transportation management, etc. undertaken by B/Ds.

6. With the earmarking of \$300 million in the 2019-20 Budget, we aim at advancing the full operation of the CSDI portal to end 2022 (one full year earlier than our original target) and making available the 3D digital map of the whole territory by 2023. We consulted the Legislative Council (LegCo) Panel on Development² and the Land and Development Advisory Committee (LDAC)³ on the funding application of \$300 million in June and July 2019 respectively. Both bodies strongly supported the two initiatives of the CSDI portal and 3D digital map. Suggestions received include releasing more government data beyond DEVB's family of departments and private sector data such as real-time bus arrival information and underground utilities onto the CSDI as soon as possible; and more engagement with stakeholders to better align the CSDI design with the public expectation.

7. DEVB and LandsD will assume a leading role in taking forward the CSDI implementation, with the support of the Innovation and Technology Bureau, Office of the Government Chief Information Officer, and other B/Ds. To enable

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² Panel on Development LC Paper No. CB(1)1181/18-19(05) refers.

³ LDAC is an advisory committee under DEVB to advise the Government on policies and measures in relation to planning, land and buildings matters. It is chaired by a non-official with most members representing the professional, academic and other sectors of the community.

the smooth delivery of the CSDI initiative under a compressed timetable, there is strong operational need to strengthen the directorate resources in both DEVB and LandsD.

(a) Need for a Supernumerary CLS Post in DEVB(PLB)

Encl. 1

8. To guide our work in the years ahead, we have developed a tentative workplan with a view to attaining the target of the CSDI portal in full operation by end 2022 (please see Table 1 of Enclosure 1). Specifically, between now and 2022, we will enhance and transform the Hong Kong GeoData Store under LandsD's management into the CSDI portal with initial focus on spatial data held by DEVB's family of departments. We will roll out the CSDI portal with about 70 additional datasets in phases (on top of the some 140 datasets currently under the Hong Kong GeoData Store), first within Government by end 2021 and then to the public by end 2022. Subject to Finance Committee's approval of the \$300 million funding application, we will also launch in the coming year or so four quick win projects for use within and/or outside Government as follows –

- (a) Map Application Programming Interface (API)⁴: the Map API is an API for the Hong Kong GeoData Store or the future CSDI portal to share map data with the public and private sectors to support their applications requiring map display. It enables the community to build innovative applications enriched with locational and other features such as virtual city navigation;
- (b) Geotagging Tool: it is an enabling tool to convert non-spatial data (e.g. demographic data or ground features) into a form of spatial data for display on a map. For example, a user can use the tool to convert the demographic data of different districts, which is textual and non-spatial in nature, into spatial data which can then be shown on a digital map rendering the map with the spatialised demographic data more informative;
- (c) Address Data Infrastructure: it is an enabling tool to standardise location identifiers across departments facilitating interoperability of address information across departments. The standardisation can help B/Ds improve public services, such as postal delivery, assessment of rateable value, planning of emergency services and management of complaint cases (e.g. calling by 1823); and

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⁴ An API is a tool that enables a software application to share its functionalities and data with other software applications. It can greatly facilitate application development by allowing application developers to integrate specific functionalities and data to their applications without having to 'reinvent the wheel' and spending time to create functionalities and data that already exist.

- (d) District-based Spatial Information Dashboard: it is a web-based application that uses charts, gauges, maps, and other visual elements to display spatial datasets in an easily readable form and provide public and private sectors with consistent, up-to-date and consolidated district-based spatial information. In short, a dashboard assimilates different online information and provides data analytics. For example, a dashboard can be used to display a summary of the number, size, core facilities and management responsibility of public open spaces in a district. Overseas experience shows that dashboards can be used for city management as well as an understanding of public opinions and trends.

Upon implementation, these four quick win projects will facilitate users from the public and private sectors to realise the benefits of using spatial data for various innovative applications and secure their buy-in and participation in the CSDI portal at an early stage before the full operation of CSDI by end 2022. Besides, the CSDI will continue to evolve and expand beyond 2022 with the release of more government spatial data outside DEVB's regime. In the longer run, we should realise more fully the potential of CSDI by securing the co-operation of the private sector including public transport operators and utility companies to make available their spatial data for sharing through the CSDI portal.

9. Within DEVB, the newly established SDO staffed by a multi-disciplinary team⁵ would be responsible for steering the CSDI development through a range of functions. These include formulation and application of spatial data policy and measures in consultation with B/Ds; development of a detailed implementation plan for progress monitoring; early identification of potential implementation problems and mapping out possible solutions; regular high-level liaison with B/Ds to solicit their support and enhance their readiness for CSDI participation; collaboration with B/Ds to develop common applications based on spatial data; formulation and execution of plans for capacity building and public engagement; and overseeing the operation of various committees and working groups set up to support the CSDI implementation. Our policy intent is to encourage B/Ds to release spatial data for sharing through the CSDI portal for free, unless there are legitimate policy and/or operational reasons for not doing so.

10. The SDO should be headed by a professional land surveyor grade officer, who possesses the required technical competency and professional know-how in spatial technology (e.g. spatial data processing, spatial database

/management

⁵ The existing manpower of SDO consists of one Senior Land Surveyor, one Senior Systems Manager, one Land Surveyor, one Town Planner and one Assistant Clerical Officer, which were created on a 5-year time-limited basis in 2019-20.

management, web map portal development and standard development), digital infrastructure, data interoperability, quality control and cartography, as well as domain knowledge. Apart from mastering conventional land surveying and mapping techniques, members of the land surveyor grade have been constantly improving their expertise and skill sets in geoinformatics⁶ and keeping pace with the latest technological developments in the Geographic Information System (GIS) and other geospatial technologies. They are not only knowledgeable in the collection, integration, dissemination and analysis of spatial data, but are also conversant in using GIS to support different B/Ds to work on data analysis, GIS-based information system analysis and design, defining data standards, and computer system setup⁷. The successful implementation of the Land Information System⁸ in LandsD, which was set up by the land surveyors in 1989, has proved that they are technically competent to run the spatially-enabled systems. With its accumulation of GIS-related experience over the years, the land surveyor grade is well positioned to support the Government in driving forward the CSDI initiative.

11. The CLS will be responsible for translating the broad policy direction for CSDI (please see paragraph 9 above) into practicable implementation plans to ensure that major deliverables are accomplished according to the pledged timetable. In the process, the CLS will coordinate B/Ds' efforts in formulating working policies, strategies, and measures for the CSDI portal; identifying policy, resource and technical issues, and coming up with well thought-out solutions or recommendations for a decision by the senior management where appropriate to minimise their impact on implementation; and overseeing the progress and funding expenditure of the development of the CSDI portal. The SDO head is expected to contribute strategic inputs and macro thinking in the formulation of spatial data policy and measures. He/she is also required to liaise with the senior management of B/Ds to iron out the CSDI issues encountered in their business operations and help build up their capacity in the adoption of CSDI. As such, the post should be pitched at a sufficiently senior level.

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⁶ Geoinformatics is a field of study that focuses on the acquisition, storage, management, analysis and visualisation of spatial data using GIS and other geospatial technologies.

⁷ Apart from working in LandsD, land surveyors are also seconded to other B/Ds to support the latter's daily work, including setting up geospatial systems and carrying out spatial data analysis.

⁸ The first generation Land Information System was to spatialise all the 1:1000 basic maps and convert 300 000 land parcel records from paper to digital form. The System then underwent a major revamp in 2011, supporting 400 concurrent users to process their surveyed data, edit the basic map and land parcel records, perform spatial analysis and produce different types of plans in one platform. It also provides a web map application to support print on demand services and retrieval of survey and mapping information.

12. To better address public aspirations about releasing more spatial data through the CSDI portal in particular data owned by the private sector (e.g. transport data from transport operators and underground utilities from utilities and telecommunication companies), the CLS will be responsible for engaging stakeholders outside the Government including the business sector, professional bodies, and academia, with the objective of encouraging and facilitating the opening up of their spatial data on the CSDI portal. The CLS will host engagement activities to explain the Government's policy in this regard and appeal to their support and participation in the CSDI initiative. Therefore, he/she should be experienced enough and possess the calibre, maturity and tactfulness in conducting negotiations with people from different bodies and convincing them about the significance of the CSDI and securing their cooperation to work towards the common goal.

13. Moreover, after the launch of the CSDI portal and 3D digital map by end 2022 and 2023 respectively, the CLS will continue to lead the SDO for releasing more spatial data owned by different stakeholders, overseeing the continual operation of the portal, identifying room for improvement and making a longer term strategic plan in order to achieve sustainable development for the CSDI.

14. In the light of the above, we propose creating one supernumerary CLS (D1) post, to be designated as CLS/SDI, for five years up to 31 March 2025 to lead the SDO.

15. Within the Planning Unit of DEVB(PLB) there is the Land Supply Information System (LSIS) Team comprising five permanent professional and technical posts responsible for supporting various policy teams in tracking land creation initiatives based on spatial data and related technologies as well as mapping information. The proposed CLS post will also supervise the LSIS Team apart from the team of staff in SDO. This can achieve operational synergy and enhance support in spatial data analytics for DEVB and its family of departments on various land supply initiatives.

16. The proposed job description of the supernumerary CLS/SDI post is at Enclosure 2. The existing and proposed organisation charts of DEVB(PLB) for the implementation of the CSDI are at Enclosures 3 and 4 respectively.

Encls. 2 - 4

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17. To provide the necessary support to the proposed CLS/SDI post, seven new non-directorate time-limited posts from professional, technical and secretarial grades will be created in 2020-21.

(b) Need for a Supernumerary GLS Post in LandsD

18. In view of the scope and complexity of the multi-faceted issues and the growing public aspiration for the CSDI portal and 3D digital map, there is a need for a dedicated directorate officer at D2 level in LandsD to provide strategic thinking and leadership in supporting the roll-out of the CSDI portal, as well as taking forward the development of the 3D digital map. Specifically, we propose creating a new GLS (D2) post for five years up to 31 March 2025 in the SMO of LandsD to lead the new MMC responsible for providing support to SDO in the CSDI implementation and developing the 3D digital map.

19. The SMO of LandsD with its wealth of experience in mapping and surveying will play a key role in the CSDI implementation in two aspects. First, for the CSDI portal, the SMO will provide strong technical support for the SDO in designing the overall architecture of the CSDI portal riding on the Hong Kong GeoData Store currently under its management. Apart from delivering the four quick win projects in paragraph 8 above, the SMO is also responsible for setting data standards for compliance by B/Ds in releasing their spatial data onto the CSDI portal. Second, in tandem with the development of the CSDI portal, the SMO will further develop and upgrade the existing 2D digital map into a full-fledged 3D digital map as the basemap and container for CSDI covering the entire territory by end 2023 (please refer to the tentative workplan in Table 2 of Enclosure 1). There is a pressing need for the SMO to formulate a holistic framework for 3D digital map covering the fundamental positioning infrastructure; common spatial data and technology standard for compliance by B/Ds and other stakeholders; 3D digital map standards; and the strategy, framework and action plan for the development of 3D digital map through collection, integration, distribution and sharing of quality 3D spatial data.

20. The BIM data forms a valuable data source for developing the 3D digital map. As capital works projects costing more than \$30 million are mandated to use BIM technology, the volume of BIM data kept by various works departments is expected to grow exponentially. To ensure smooth integration of the BIM data with the 3D digital map, the SMO will collaborate with works departments to agree on 3D spatial data standards to be followed by works departments in collecting and storing BIM data required by the 3D digital map.

21. Another core role of SMO is delineation of land boundary for the whole territory. Apart from providing professional advice on the land boundary matter to support the land administration in LandsD, it is crucial for SMO to extend its land boundary advisory and survey services to support other B/Ds for carrying out their statutory enforcement actions. The boundary data will become one of the core sets of spatial data in support of land administration under the CSDI portal.

22. The GLS will steer the MMC in the provision of technical support for SDO to roll out the CSDI portal; and in the formulation of directions, standards, implementation plans, as well as collaboration with key stakeholders, in the 3D digital map development of the whole territory, and resolve differences with B/Ds to arrive at a practicable solution with the target of delivering the 3D digital map of the whole territory in phases by end 2023. The GLS will develop action plans on the creation of the initial set of 3D digital map for the whole territory and formulate the strategy for on-going updating and maintenance to support various functions including land management, urban planning, land development, transportation, disaster and emergency analysis undertaken by B/Ds. The GLS will also formulate the strategy for integration between BIM and GIS to promote applications on spatial-temporal analytic and multi-dimension simulations, as well as 3D data management among different B/Ds. The GLS will also be tasked to lead and oversee the provision of the land boundary advisory services for other B/Ds in the latter's discharge of their statutory functions.

23. In order to accomplish the above committed tasks, the GLS will have to oversee the structural review and implement the organisation changes by phases thereafter. The duties and responsibilities mentioned in the above paragraphs will also extend beyond the completion of the operation of CSDI portal and 3D digital map by 2022 and 2023 respectively.

24. Currently there is an existing GLS and four CLS posts in SMO. To optimise existing directorate staffing resources and the proposed GLS in SMO to cope with upcoming challenges in particular the development of the CSDI portal and 3D digital map, SMO has decided upon review to re-organise its teams to achieve a more balanced distribution of responsibilities and workload among respective GLSs and CLSs having regard to SMO's priorities. Upon reshuffling

of the duties of the CLSs⁹, the CLS/U, to be retitled as CLS/Dev, will be redeployed to head the MMC. He/she will assist the proposed GLS in the development of 3D digital map, as well as establishment and maintenance of positioning infrastructure, and take over from existing CLS/HQ the imagery and intelligence collection services to support change detection for LandsD and other departments' functions. At the same time, CLS/Land Information Centre (LIC) will continue to focus on the implementation of information technology strategy, provision and management of geospatial data so as to support LandsD, SDO and other departments as well as management of SMO's public service portals. He/she will also oversee the integration of BIM and GIS which is an increasingly important area for the development and maintenance of 3D digital map.

25. The proposed GLS will be underpinned by CLS/Dev (retitled from the existing CLS/U post) and CLS/LIC in overseeing the new MMC and existing LIC. There is operational merit for the proposed GLS to take over from the existing GLS on the management of the LIC, as support from LIC is operationally crucial to the implementation of the 3D digital map and CSDI portal.

Encls. 5 - 7 26. The proposed job description of the supernumerary GLS (D2) post is at Enclosure 5. The existing and proposed organisation charts of SMO in LandsD are at Enclosures 6 and 7.

27. In addition to the above directorate staffing proposal, a total number of 13 non-directorate time-limited posts from professional, technical and clerical grades will be created in 2020-21 in the MMC.

ALTERNATIVES CONSIDERED

28. We have critically examined the possible redeployment of other existing directorate officers within DEVB(PLB) to take on the work of the proposed CLS/SDI post. At present, the existing Principal Assistant

/Secretaries

⁹ The work portfolios of existing CLS/Urban (CLS/U), CLS/New Territories (CLS/NT) and CLS/Headquarters (CLS/HQ) will be reshuffled. Apart from changes to the duties of the current CLS/U (or CLS/Development (CLS/Dev) after retitling), the existing CLS/NT will be retitled as CLS/Regional and undertake all regional oriented portfolios that mainly include survey support to land administration, land boundary survey and advisory services for other departments, and maintenance of base map and land information databases. The existing duties of CLS/U and CLS/NT on providing support to Land Survey Authority, and land development projects such as Three-runway System, railway development will be taken up by CLS/HQ in addition to his/her existing duties including human and financial resources management, management of technical information and formulation of training and development strategy. The CLS/HQ will be retitled to CLS/Technical to better reflect the nature of the work duties.

Encl. 8 Secretaries (PASs) are fully occupied and overloaded with the ongoing and new tasks relating to increasing and expediting land supply, and have no spare capacity to take up the development of the CSDI portal. Nor do they have the required professional knowledge and experience in spatial technology and CSDI development¹⁰. Hence, internal redeployment is not viable. Enclosure 8 shows the schedule of responsibilities of the existing PASs in DEVB(PLB).

Encl. 9 29. For LandsD, there is only one GLS (Assistant Director/Survey & Mapping (AD/SM) at D2) as shown at Enclosure 6. The AD/SM is already overloaded with his/her existing work portfolio, including overseeing the operation of the SMO Headquarters, LIC, New Territories Survey Division and Urban Survey Division involving over 1 040 staff. The workload of the AD/SM has been further increased in recent few years to oversee the survey, mapping and spatial data support for major initiatives such as increasing land supply, resumption at New Development Areas, Three Runway System, land control and lease enforcement, etc. The advisory services on survey, mapping and GIS matters under AD/SM's charge have also been extended to other B/Ds such as the East Kowloon Energizing Office, Home Affairs Department (permitted burial grounds), Fire Services Department (Fourth Generation Mobilising System), Marine Department (East Asia Regional Electronic Navigational Chart), etc. The AD/SM is fully engaged in his/her existing work and is operationally unable to take up additional duties without adversely affecting the discharge of his/her current duties. Details of work schedule for the existing GLS in LandsD is at Enclosure 9.

FINANCIAL IMPLICATIONS

30. The proposed creation of one supernumerary CLS post in DEVB(PLB) and one supernumerary GLS post in LandsD will involve an additional notional annual salary cost at mid-point of \$4,016,400. The additional full annual average staff cost, including salaries and staff on-cost, is \$6,511,000. A breakdown is shown below –

Bureau/ Department	Directorate Post	No.	Notional annual salary cost at mid-point (\$)	Full annual average staff cost (\$)
DEVB(PLB)	CLS (D1)	1	1,836,600	2,760,000
LandsD	GLS (D2)	1	2,179,800	3,751,000
	Total:	2	4,016,400	6,511,000

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¹⁰ Except for one PAS who is a Government Town Planner (D2), all other seven PASs are Administrative Officer Staff Grade C (D2) officers.

31. The seven non-directorate posts to be created in DEVB(PLB) in 2020-21 as mentioned in paragraph 17 above will involve additional notional annual salary cost at mid-point of \$5,233,440 and full annual average staff cost, including salaries and staff on-cost, of \$7,910,000. The 13 non-directorate posts to be created in LandsD in 2020-21 as mentioned in paragraph 27 above will involve additional notional annual salary cost at mid-point of \$8,244,300 and full annual average staff cost, including salaries and staff on-cost, of \$13,377,000. We will include the necessary provision in the 2020-21 draft Estimates of DEVB(PLB) and LandsD to meet the cost of the staffing proposal and will reflect the resources required in the Estimates of subsequent years.

PUBLIC CONSULTATION

32. We consulted the LegCo Panel on Development on 19 November 2019. Members supported the submission of the above staffing proposal to the Establishment Subcommittee (ESC) for consideration.

33. This item was discussed at the meeting of the ESC on 18 December 2019 and members did not support this item. During the meeting, Members raised concerns on the proposed post in DEVB, including the technical competency and professional know-how in spatial technology of a land surveyor grade officer, which is now addressed in paragraph 10 of this paper. Members also sought additional information on the spatial datasets to be released through the CSDI portal, details of the four quick win projects including the method of consultation with concerned stakeholders, the recurrent cost and expected economic benefit of the CSDI portal and 3D digital map, and calculation of the additional full annual average staff cost, including salaries and staff on-cost, of the two proposed posts. We will provide the supplementary information for submission to the ESC shortly.

ESTABLISHMENT CHANGES

34. The establishment changes in DEVB(PLB) and LandsD for the past three years are as follows –

/Establishment

Establishment (Note)	Number of posts			
	Existing (as at 1 December 2019)	As at 1 April 2019	As at 1 April 2018	As at 1 April 2017
DEVB(PLB)				
A	14(1)	14(1)	14(1)	13
B	67	56	46	44
C	108	101	92	89
<i>Sub-total for DEVB(PLB)</i>	189(1)[#]	171(1)	152(1)	146
LandsD				
A	46	46	46	46
B	763	735	626	610
C	3 861	3 757	3 495	3 444
<i>Sub-total for LandsD</i>	4 670[#]	4 538	4 167	4 100
Total	4 859(1)[#]	4 709(1)	4 319(1)	4 246

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 created with the approval of the ESC/Finance Committee

- as at 1 December 2019, there was no unfilled directorate post in DEVB(PLB) and LandsD.

CIVIL SERVICE BUREAU COMMENTS

35. The Civil Service Bureau supports the proposed creation of one supernumerary CLS post in DEVB(PLB) and one supernumerary GLS post in LandsD. The grading and ranking of the proposed posts are considered appropriate having regard to the level and scope of responsibilities.

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

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

Development Bureau
December 2019

Table 1: Implementation Schedule for Common Spatial Data Infrastructure (CSDI)

Rolled-out Time	Deliverables
For internal use within Government by end 2021	Releasing through the CSDI portal about 70 additional data sets under Development Bureau's family of departments on top of the some 140 data sets already available on the Hong Kong GeoData Store.
By end 2021	Launching quick win projects for use within and/or outside Government, including Map Application Programming Interface (API), Geo-tagging Tool, Address Data Infrastructure and District-based Spatial Information Dashboard.
CSDI in full operation and for use by the public by end 2022	Opening up the above 70 + 140 data sets for free download and use by the public.
Beyond 2022	Releasing more data sets through the CSDI, subject to further discussion with bureaux/departments data owners on issues including data standardisation, availability of API data service, etc.

/Table

Table 2: Implementation Schedule for Three-dimensional (3D) Digital Map

Rolled-out Time	Deliverables
By early 2020	Publish the 3D pedestrian network data covering the whole territory.
By end 2023	Publish the 3D digital map showing topographical and exterior features of terrain, buildings and infrastructures, initially covering Hong Kong Island, Kowloon and some new town areas, and the other areas of the territory eventually.
By end 2023	Extend the 3D digital map to cover the accessible interior of buildings and structures and publish 3D digital map showing the interior layout for 1 250 buildings.

**Proposed Job Description of
Chief Land Surveyor (Spatial Data Infrastructure)**

Rank : Chief Land Surveyor (D1)

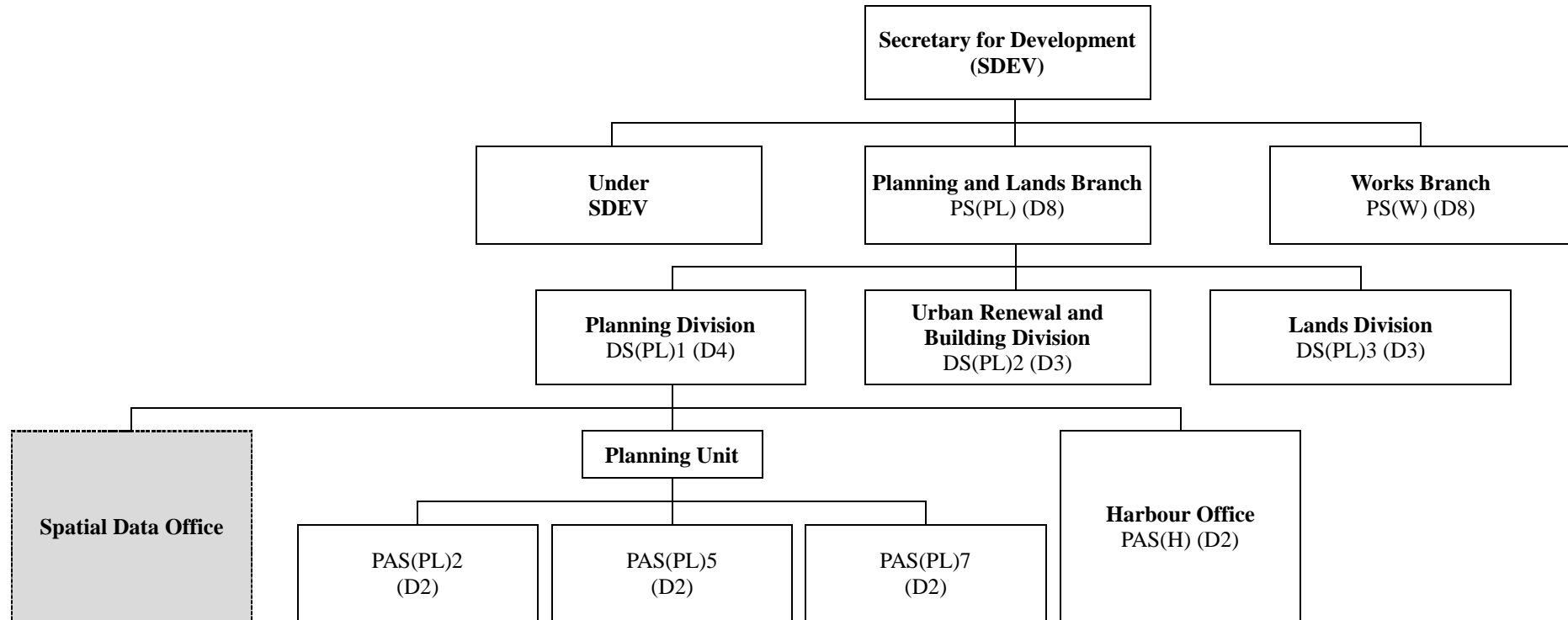
Responsible to : Deputy Secretary (Planning and Lands)1 (DS(PL)1)

Main Duties and Responsibilities –

1. To coordinate Bureaux/Departments' (B/Ds') efforts in the formulation and application of policies, strategies and measures in relation to the Common Spatial Data Infrastructure (CSDI) and related initiatives;
2. To formulate the overall implementation plan of CSDI including the launch of the CSDI portal and quick win projects, and monitor their implementation (including feedback from stakeholders), and the spending of funds allocated for the implementation of the CSDI portal;
3. To liaise with the senior management of B/Ds with focus on Development Bureau's (DEVB's) family of departments initially, as well as that of other B/Ds and other stakeholders outside the Government, to secure their buy-in and participation in the CSDI portal;
4. To identify policy, resource and technical issues that may hinder implementation and bring such issues to the early attention of DEVB's senior management with recommendations;
5. To co-ordinate B/Ds' efforts in developing common applications using spatial data and consider the interface between such applications and CSDI;
6. To formulate and execute the capacity building plan and stakeholders engagement plan to build capacity and foster partnership with B/Ds and external stakeholders;
7. To lead the Spatial Data Office to host stakeholders engagement activities to explain Government's CSDI policy and appeal to stakeholders' support;
8. To oversee the secretariat services for the Common Spatial Data Steering Committee and Common Spatial Data Advisory Committee, as well as to chair various working groups formed under these Committees; and

9. To oversee the day-to-day operation of the Spatial Data Office (comprising Data and Application Advisory Services Team, Platform Development and Application Facilitation Team, and Capacity Building and Outreach Team) and the Land Supply Information System Team.

Existing Organisation Chart of the Planning and Lands Branch of the Development Bureau



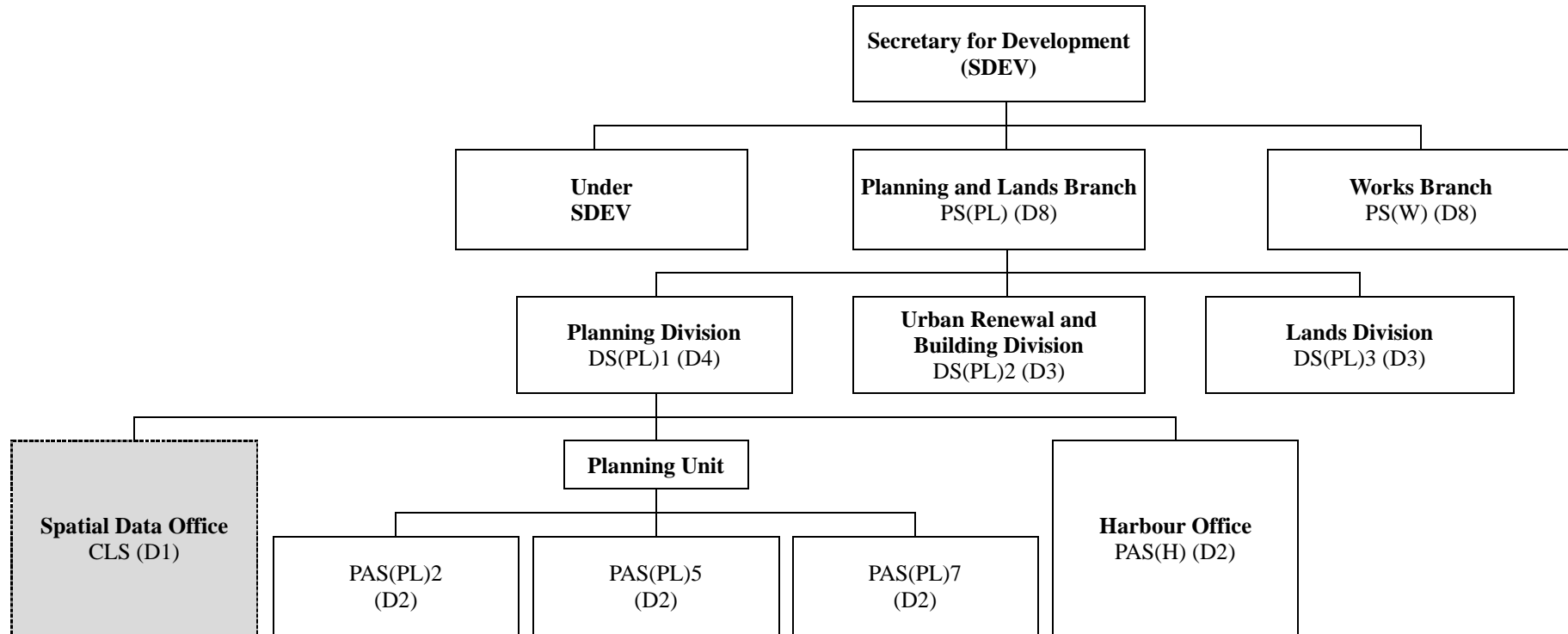
Legend

DS(PL) - Deputy Secretary (Planning and Lands)
 PAS(H) - Principal Assistant Secretary (Harbour)
 PAS(PL) - Principal Assistant Secretary (Planning and Lands)


PS(PL) - Permanent Secretary (Planning and Lands)
 PS(W) - Permanent Secretary (Works)
 SDEV - Secretary for Development

Under SDEV - Under Secretary for Development
 [Shaded Box] - Five professional and clerical officer grade posts created in 2019-20

Proposed Organisation Chart of the Planning and Lands Branch of the Development Bureau



Legend

- | | | | | | |
|--------|-------------------------------------------|---------|------------------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------|
| CLS | - Chief Land Surveyor | PAS(PL) | - Principal Assistant Secretary (Planning and Lands) | SDEV | - Secretary for Development |
| DS(PL) | - Deputy Secretary (Planning and Lands) | PS(PL) | - Permanent Secretary (Planning and Lands) | Under SDEV | - Under Secretary for Development |
| PAS(H) | - Principal Assistant Secretary (Harbour) | PS(W) | - Permanent Secretary (Works) |  | - Proposed supernumerary CLS post |

**Proposed Job Description of
Assistant Director/Spatial Data**

Rank : Government Land Surveyor (D2)

Responsible to : Deputy Director/Survey and Mapping (DD/SM)

Main Duties and Responsibilities –

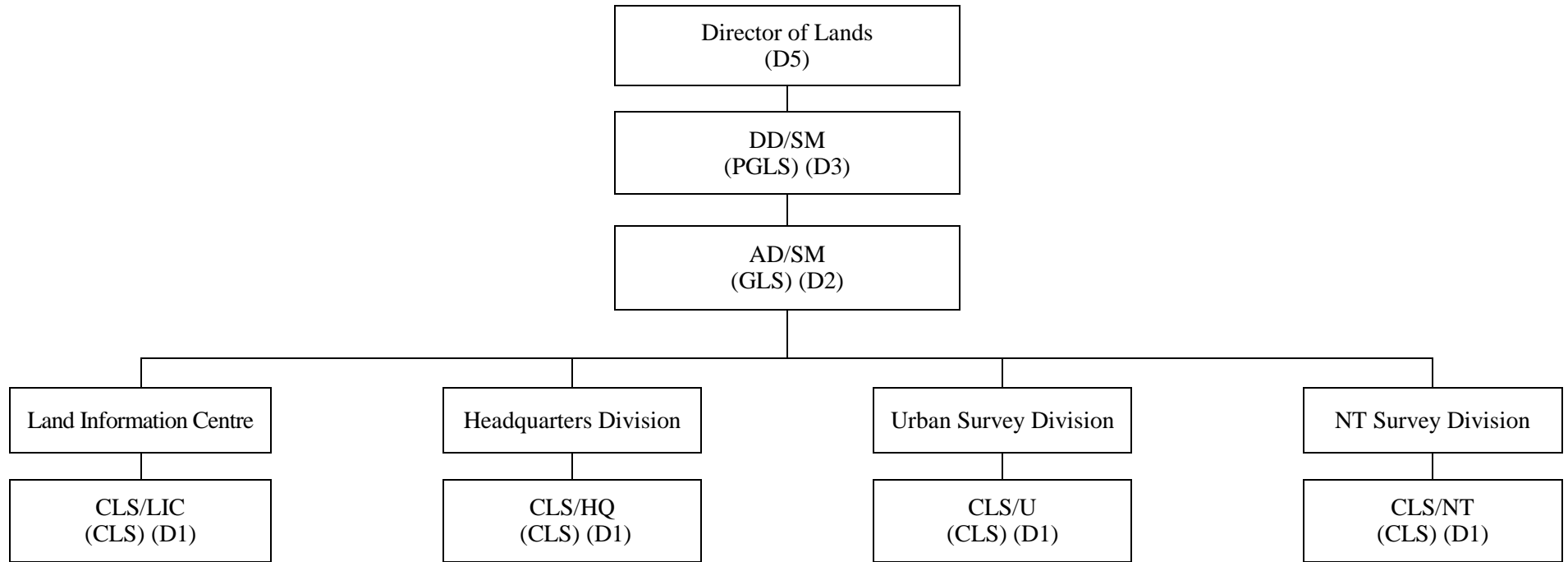
1. To head and lead the Mapping Management Centre and Land Information Centre;
2. To collaborate with Spatial Data Office of Development Bureau in the development and implementation of the Common Spatial Data Infrastructure (CSDI) under broader policy initiatives including data standards for the CSDI portal, open data strategy and the smart city initiatives;
3. To provide technical advice on applications of spatial data to bureaux/departments (B/Ds);
4. To formulate overall strategy, spearhead policy, measures standards and guidelines in relation to CSDI development, three-dimensional (3D) digital map, Building Information Modelling (BIM) implementation, Geographic Information System (GIS) support, BIM/GIS integration, open spatial data adoption, positioning infrastructure enhancement and other new initiatives;
5. To oversee the creation of the initialised 3D digital map for the territory and formulate the strategy for on-going updating and maintenance of the digital map to support various functions of the Lands Department and facilitate applications by other B/Ds and the public;
6. To collaborate with works departments on formulating BIM implementation plan, BIM-GIS integration, interfacing and harmonisation of BIM implementation and establishing mechanism to share BIM data among B/Ds;
7. To formulate spatial data policy and spatial data standards to facilitate the establishment of CSDI and promote the importance of data standards among different B/Ds;

/8.

8. To oversee the provision of land boundary advisory and survey services to support other B/Ds for their carrying out of enforcement actions in discharging statutory functions; and
9. To keep close liaison with member departments of the Land and Engineering Survey Board ^{Note} in respect of survey and GIS matters.

^{Note} The Land and Engineering Survey Board is chaired by DD/SM of Lands Department with members comprising Land Surveyor grade members from various engineering departments including Civil Engineering and Development Department, Highways Department, Drainage Services Department etc. for discussing survey and GIS matters.

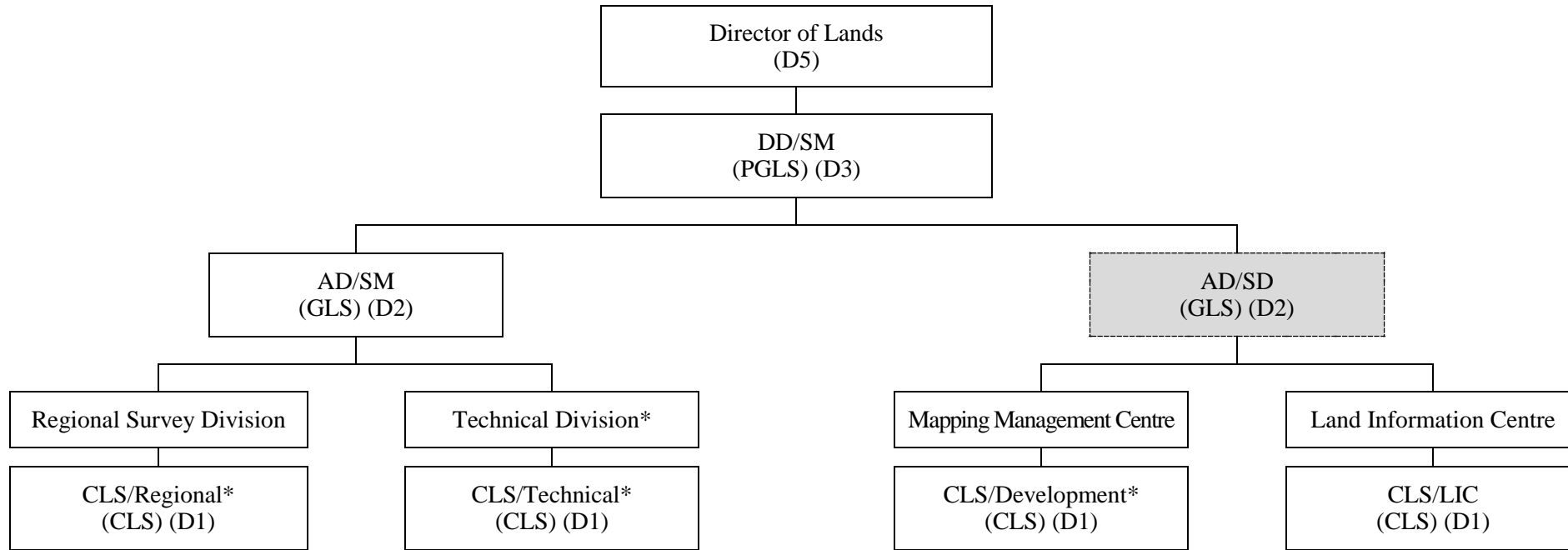
Existing Organisation Chart of Survey and Mapping Office, Lands Department



Legend

- | | | |
|---------------------------------------------|-------------------------------------------------------|-------------------------------------------|
| AD/SM - Assistant Director/Survey & Mapping | CLS/LIC - Chief Land Surveyor/Land Information Centre | CLS/U - Chief Land Surveyor/Urban |
| CLS/HQ - Chief Land Surveyor/Headquarters | CLS/NT - Chief Land Surveyor/New Territories | DD/SM - Deputy Secretary/Survey & Mapping |

Proposed Organisation Chart of Survey and Mapping Office, Lands Department



Legend

- Existing post
- Proposed creation of supernumerary post in Lands Department

* - There will be a reshuffle of duties among the existing CLS/Urban (CLS/U), CLS/New Territories (CLS/NT) and CLS/Headquarters (CLS/HQ), while CLS/U, CLS/NT and CLS/HQ will be retitled as CLS/Development, CLS/Regional and CLS/Technical respectively to reflect their latest portfolios. Headquarters Division will also be renamed as Technical Division.

AD/SD - Assistant Director/Spatial Data	DD/SM - Deputy Secretary/Survey & Mapping	AD/SM - Assistant Director/Survey & Mapping
CLS - Chief Land Surveyor	LIC - Land Information Centre	

**Schedule of Responsibilities of
the Existing Principal Assistant Secretary Posts
in the Planning and Lands Branch (PLB) of the Development Bureau**

Principal Assistant Secretary (Planning and Lands) 1 (PAS(PL)1)

PAS(PL)1 heads Lands Unit 1 and assists Deputy Secretary (Planning and Lands)3 (DS(PL)3) in formulating and implementing policies and initiatives relating to increasing land supply for housing and commercial developments. One of PAS(PL)1's major tasks is to compile annual and quarterly Land Sale Programmes. Apart from formulating land sale policy and strategy, PAS(PL)1 is responsible for securing the readiness of sites for sale, providing land policy inputs for different planning or infrastructural studies relating to increasing land supply, etc. PAS(PL)1 is required to handle site-specific issues with relevant bureaux/departments (B/Ds) and resolve inter-bureau/departmental differences to ensure timely site disposal. Taking forward the West Rail property development projects is another key task falling under PAS(PL)1's work purview. It is the Government's objective to ensure that private housing land supply from various sources can meet the annual target to promote steady development of the property market. The land administration portfolio of PAS(PL)1 also includes the policy on the provision of public open space in private developments and the handling of land grants, lease modifications and land exchanges.

Principal Assistant Secretary (Planning and Lands) 2 (PAS(PL)2)

2. PAS(PL)2 heads Planning Unit 2 and assists Deputy Secretary (Planning and Lands)1 (DS(PL)1) in overseeing the overall land supply situation and formulating the land supply and land use planning strategies, as well as providing policy input to and overseeing land use reviews and planning studies concerning territorial, sub-regional, district and specific development. These include the rezoning work for some 210 potential housing sites, land use review of selected urban squatter areas, Tung Chung New Town Extension, 'Hong Kong 2030+: Planning Vision and Strategy Transcending 2030', formulation of the Land Sharing Pilot Scheme, and providing secretariat support to the Steering Committee on Land Supply. PAS(PL)2 also oversees the implementation of the statutory planning regime (except for enforcement issues), and assists in the housekeeping of the Planning Department. In addition, PAS(PL)2 also provides planning policy input to major development and infrastructure projects or public facilities with significant land use implications, other than those related to economic, industrial and agricultural land uses.

/Principal

Principal Assistant Secretary (Planning and Lands) 3 (PAS(PL)3)

3. PAS(PL)3 heads the Buildings Unit and assists Deputy Secretary (Planning and Lands)2 (DS(PL)2) in the housekeeping of the Buildings Department (BD) and the Land Registry, and is responsible for a full range of policy work on building safety and land registration matters. Apart from taking up the recurrent house-keeping and resource management duties, PAS(PL)3 looks after legislative proposals, including the amendments to various regulations under the Buildings Ordinance (Cap. 123) relating to minor works and building construction to facilitate the industry and/or accommodate innovative building technologies. PAS(PL)3 also oversees the exercise to streamline development control between PLB departments. PAS(PL)3 provides policy input and steer on building-related issues, including assistance for building owners in carrying out building rehabilitation works including but not limited to the newly-proposed Operation Building Bright 2.0 and the enhancements to the existing Building Management Grant Scheme for Elderly Owners, the review of BD's gross floor area concession arrangement for promoting green buildings in the private sector, enforcement against unauthorised building works, promotion of proper repair and maintenance of buildings, etc.

Principal Assistant Secretary (Planning and Lands) 4 (PAS(PL)4)

4. PAS(PL)4 heads the Urban Renewal Unit and provides support to DS(PL)2 in advancing the work of urban renewal in Hong Kong, providing policy guidance to the Urban Renewal Authority (URA)'s urban renewal programme, overseeing URA's implementation of the urban renewal programme vis-à-vis relevant provisions in the Urban Renewal Authority Ordinance (Cap. 563) and the Urban Renewal Strategy, scrutinising URA's Corporate Plans and Business Plans, processing URA's land resumption applications and dealing with policy, political and public relations issues related to urban renewal. PAS(PL)4 also provides support in overseeing URA's implementation of key initiatives including the district-based redevelopment strategy, the district planning study to explore how to enhance the efficiency of existing land use and redevelopment potential of Yau Ma Tei and Mong Kok districts and the redevelopment of selected sites under the Civil Servants' Co-operative Building Society Scheme. PAS(PL)4 also oversees policy matters of the Land (Compulsory Sale for Redevelopment) Ordinance (Cap. 545) and the implementation of the programme to provide support service for minority owners affected by redevelopments initiated under the Ordinance.

Principal Assistant Secretary (Planning and Lands) 5 (PAS(PL)5)

5. PAS(PL)5 heads Planning Unit 5 and assists DS(PL)1 in formulating strategies and policies and co-ordinating with B/Ds in facilitating cross-boundary planning and infrastructure developments from land use planning

/perspective

perspective, and providing planning policy input related to Guangdong-Hong Kong-Macao Greater Bay Area development, Pan Pearl River Delta Region co-operation, Hong Kong/Guangdong Co-operation Joint Conference and Hong Kong/Shenzhen Co-operation Meeting. PAS(PL)5 is also responsible for handling planning policy issues of major cross-boundary infrastructural projects and individual projects at the boundary areas, such as the Lok Ma Chau Loop. In addition, PAS(PL)5 handles policy issues relating to and oversees the implementation of the proposals arising from the New Development Areas at Kwu Tung North/Fanling North and Hung Shui Kiu/Ha Tsuen, Yuen Long South, and New Territories North.

Principal Assistant Secretary (Planning and Lands) 6 (PAS(PL)6)

6. PAS(PL)6 heads Lands Unit 6 and assists DS(PL)3 in handling policy matters relating to land administration; and provides land policy input to proposals from other B/Ds. PAS(PL)6 is also responsible for rural land matters, including the Small House Policy, squatter control policy, land resumption, general compensation and rehousing matters for development clearance. PAS(PL)6 provides secretariat support to Land and Development Advisory Committee and serves as secretary for the Secretary for Development-Heung Yee Kuk Liaison Committee, in addition to chairing the Compensation Review Committee. PAS(PL)6 also handles land supply related matters on potential railway property development projects including the property development project at the Siu Ho Wan Depot Site. Moreover, PAS(PL)6 undertakes housekeeping duties of the Lands Department.

Principal Assistant Secretary (Planning and Lands) 7 (PAS(PL)7)

7. PAS(PL)7 heads Planning Unit 7, and assists DS(PL)1 in overseeing policy matters relating to development of brownfield sites as a source of land supply. PAS(PL)7 is responsible for overseeing the revitalisation scheme for industrial buildings and co-ordinating efforts to ensure smooth implementation of the relevant measures. PAS(PL)7 oversees the policy on rural land use control under the Town Planning Ordinance (Cap. 131) and related enforcement issues, as well as the policy on the interface issues between planning and conservation. PAS(PL)7 also handles relevant policy issues on economic and industrial land use planning, including specific development projects and studies. Moreover, PAS(PL)7 oversees the implementation of a funding scheme to support the use of vacant government sites by non-government organisations.

Principal Assistant Secretary (Harbour) (PAS(H))

8. PAS(H) heads the Harbour Office and assists DS(PL)1 in providing policy input to relevant planning and land matters related to Victoria Harbour and its harbourfront areas. PAS(H) provides secretarial support to the Harbourfront

Commission (HC), which is a high-level advocacy committee on planning, land uses and developments along the existing and new harbourfront of Victoria Harbour. PAS(H) is responsible for pushing forward short, medium and long term harbourfront enhancement initiatives and co-ordinating and monitoring their implementation, including the identification of works and management agents, with government departments and any other concerned parties. Amongst others, PAS(H) oversees the implementation of projects under the \$500 million dedicated funding announced in January 2017, and the \$6 billion funding announced in the 2019-20 Budget. PAS(H) also spearheads and promotes active engagement with stakeholders and the public during different stages of the harbourfront enhancement initiatives and reports on progress to HC and its Task Forces. PAS(H) is also responsible for providing policy inputs and assessing applications for premium waiver on pedestrian links proposed by the private sector outside Kowloon East pilot scheme.

**Schedule of Responsibilities of
the Existing Assistant Director/Survey and Mapping
in the Lands Department**

Assistant Director/Survey and Mapping (AD/SM at D2) heads the Headquarters Division, Land Information Centre, New Territories Survey Division and Urban Survey Division and assists the Deputy Director/Survey and Mapping in formulating and implementing policies relating to land boundary survey, mapping, Geographic Information System (GIS), positioning infrastructure, photogrammetric and aerial survey. He is responsible for the human resources plans, staff training and development and serves as head of grade of all technical and supporting staff. He oversees the applications of new technologies such as mobile mapping system, unmanned aerial survey, laser scanning, application programming interface, etc. with a view to enhancing work efficiency and providing better services. The post is hard pressed in recent years to oversee the support on survey, mapping and spatial data analysis in Lands Department's big ticket projects such as increasing land supply, resumption in various New Development Areas, land control and lease enforcement, etc. He is also overseeing a pilot project for Building Information Modelling (BIM) adoption, sharable BIM data, BIM data repository and three-dimensional digital map with BIM use context in Kwu Tung North/Fanling North New Development Area.

2. Apart from the above, he has to keep close liaison with government bureaux/departments where survey and cartographic staff are seconded to on survey, cartographic and GIS matters/areas which have common interests. He keeps close communication with the seconded Chief Land Surveyors (D1 post)^{Note} to align the development of survey and GIS matters and to avoid the duplication of work.

^{Note} Two Chief Land Surveyors are seconded to Civil Engineering and Development Department and Highways Department. They keep AD/SM updated of the latest development of surveying and GIS that have common interest and areas of collaboration such as data sharing, data standard, specifications, integration of GIS with BIM, etc.