

**For discussion
on 14 April 2010**

PWSC(2010-11)1

ITEM FOR PUBLIC WORKS SUBCOMMITTEE OF FINANCE COMMITTEE

HEAD 703 – BUILDINGS

Support – Commerce and industry

7GA – Cruise terminal building and ancillary facilities for the Kai Tak cruise terminal development

Members are invited to recommend to Finance Committee the upgrading of **7GA** to Category A at an estimated cost of \$5,852.1 million in money-of-the-day prices for the construction of the cruise terminal building and ancillary facilities for the Kai Tak cruise terminal development.

PROBLEM

We need to construct a cruise terminal building and the ancillary facilities for the Kai Tak cruise terminal development.

PROPOSAL

2. The Director of Architectural Services, with the support of the Secretary for Commerce and Economic Development, proposes to upgrade **7GA** to Category A at an estimated cost of \$5,852.1 million in money-of-the-day (MOD) prices for the construction of the cruise terminal building and ancillary facilities for the Kai Tak cruise terminal development.

/PROJECT

PROJECT SCOPE AND NATURE

3. The scope of the project comprises the development of new cruise terminal facilities on a site of 7.6 hectares at the southern end of the former runway at the Kai Tak Development as follows –

(i) Cruise terminal building

Construction of a cruise terminal building at the southern tip of the former Kai Tak runway to accommodate the following -

- (a) Customs, Immigration, Quarantine and Police (CIQP) facilities for cruise terminal operation and CIQP facilities for the future heliport development¹;
- (b) accommodation for the future heliport operator;
- (c) accommodation for the Hong Kong Tourism Board;
- (d) supporting facilities including security screening, baggage handling, ticketing, check-in, passenger waiting or queuing, concourse and office for the cruise terminal operator and management staff;
- (e) ancillary commercial areas;
- (f) pick-up and drop-off areas for various types of vehicles and parking spaces for government vehicles, the terminal operator's vehicles and the public;
- (g) a landscaped deck;
- (h) reserved plant rooms for future installation of on-shore power supply system;
- (i) tower structure and building services provisions for installation of radar for the Vessel Traffic Service of Marine Department;
- (j) connections and reserved connections to adjacent sites; and

(ii) Apron facilities

These cover works for provisions of building services to the apron area, including passenger gangways, electricity supply system, on-shore water supply, on-shore sewage reception facilities, external lighting, navigation lighting, fire fighting provisions, cable containment for telephone and data, etc.

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¹ The proposed heliport will be situated on a site adjoining the new cruise terminal building.

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 A site plan is at Enclosure 1. The floor plans, sections and perspective views (artist's impression) of the cruise terminal building are at Enclosures 2 to 8. The project will be delivered through a design-and-build contract. Tender assessment of this contract has been completed. Subject to the approval of Finance Committee (FC), we will award the contract to the winning bidder so that the construction works can start in May 2010 for completion in 2013. The target is to synchronize with the commissioning of the first berth around mid-2013.

JUSTIFICATION

4. The Government is committed to developing Hong Kong into a leading cruise hub in the region. According to the cruise market consultancy studies commissioned by the Tourism Commission earlier, Hong Kong would require an additional berth between 2009 and 2015, and one to two further berths beyond 2015. The timely development of new cruise terminal facilities is critical to the development of Hong Kong into a cruise hub in Asia. With the availability of new cruise terminal facilities and appropriate market strategies, we estimate that the economic benefits brought by the cruise industry will range from \$1.5 billion to \$2.6 billion per annum and the additional jobs generated will be around 5 300 to 8 900 by 2023, under different growth scenarios which depend on factors such as the market situation and the deployment of cruises by cruise operators.

FINANCIAL IMPLICATIONS

5. We estimate the capital cost of the project to be \$5,852.1 million in MOD prices (please see paragraph 7 below), broken down as follows –

	\$ million
(a) Site works	9.5
(b) Piling works	410.6
(c) Building	2,794.5
(d) Building services	665.6
(e) Drainage	25.5
(f) External works	111.3
(g) Landscaped deck	55.1

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	\$ million	
(h) Additional energy conservation measures	81.0	
(i) Works at Apron Area ²	269.4	
(j) IT infrastructure and carpark management system	1.5	
(k) Furniture and equipment ³	270.5	
(l) Consultants' fees	24.5	
(i) quantity surveying services	15.5	
(ii) risk management	1.0	
(iii) management of resident site staff	8.0	
(m) Remuneration of resident site staff	52.3	
(n) Duty visits outside Hong Kong ⁴	0.5	
(o) Contingencies	<u>477.2</u>	
Sub-total	5,249.0	(in September 2009 prices)
(p) Provision for price adjustment	<u>603.1</u>	
Total	<u>5,852.1</u>	(in MOD prices)

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² Works at Apron Area include five passenger gangways, low voltage power supply system, fire services installation, on-shore fresh water supply, on-shore sewage collection system and apron lighting system. For location of the Apron Area, please refer to the Site Plan at Enclosure 1.

³ Based on an indicative list of furniture and equipment, items required include baggage X-ray scanners, seating and furniture at waiting/check-in areas, shipping schedule indicator systems, electronic, security and telecommunications systems, general office furniture and equipment items etc. We plan to seek separate funding from the FC later for the specialized equipments for customs and immigration clearances.

⁴ Duty visits outside Hong Kong in connection with the project include acceptance tests and audit checking at precasting yard, structural steel fabrication yard, low voltage switchboard and curtain wall factory, etc.

Together with the approved funding of \$2,303.9 million in MOD prices for carrying out the site formation works, the total project cost of the new cruise terminal, i.e. the site formation works, the terminal building and ancillary facilities, in MOD prices, is \$8,156.0 million. When compared on a common base, the latest total project cost is \$7.408 billion in September 2009 prices and is within the cost estimation of \$7.512 billion also in September 2009 prices, brought up from \$7.2 billion (in September 2008 prices) as reported to the Legislative Council (LegCo) Panel on Economic Development in October 2008.

6. We will engage consultants to undertake quantity surveying, risk management and site supervision services under the project vote. A detailed breakdown of the estimate for the consultants' fees and resident site staff costs by man-months is at Enclosure 9. The construction floor area (CFA) of this project is 143 600 square metres (m²) (excluding the Apron Area). The estimated construction unit cost, represented by the building and the building services costs, is \$24,095 per m² of CFA in September 2009 prices. We consider the estimated project cost reasonable.

7. Subject to approval, we will phase the expenditure as follows –

Year	\$ million (Sept 2009)	Price adjustment factor	\$ million (MOD)
2010 – 2011	285.0	1.02700	292.7
2011 – 2012	944.0	1.06551	1,005.8
2012 – 2013	2,313.0	1.10813	2,563.1
2013 – 2014	1,358.0	1.15246	1,565.0
2014 – 2015	242.0	1.19856	290.1
2015 – 2016	67.0	1.24650	83.5
2016 – 2017	40.0	1.29636	51.9
	<hr/> 5,249.0 <hr/>		<hr/> 5,852.1 <hr/>

8. We have derived the MOD estimates on the basis of the Government's latest forecast of trend rate of change in the prices of public sector building and construction output for the period 2010 to 2017. The project will be delivered through a design-and-build contract. We will award the contract on a lump-sum basis because we can clearly define the scope of the works in advance. The contract will provide for price adjustments.

9. We estimate the annual recurrent expenditure arising from this project to be \$206.4 million. On completion, the Government will lease the terminal to a cruise terminal operator for rents.

PUBLIC CONSULTATION

10. During public consultation under the Planning Review of Kai Tak Development, the relevant District Councils (DCs) and the general public were supportive of early implementation of the Kai Tak Development, including the new cruise terminal. At its meeting on 24 October 2008, we briefed Members of the LegCo Panel on Economic Development on the Government's decision to fund, design and build a new cruise terminal at Kai Tak for leasing to a cruise terminal operator for operation. On 25 May 2009, we briefed Members on the latest programme and implementation plan for the new cruise terminal, and consulted Members on the Administration's plan to adopt parallel tendering ahead of funding approval to ensure the commissioning of the first berth of the new cruise terminal in mid-2013. Members in general had no objection to the approach. On 20 November 2009, the FC approved funding of \$2,303.9 million in MOD prices for carrying out the site formation works for the Kai Tak cruise terminal development. We consulted Members on the funding application for the construction of the cruise terminal building and ancillary facilities on 29 March 2010. Members supported the funding proposal.

11. In response to the concerns raised by Members about barrier free access and toilet facilities, we will comply with the requirements under the latest "Design Manual - Barrier Free Access 2008" issued by the Buildings Department, and the latest "Universal Accessibility - Best Practices and Guidelines" promulgated by the Architectural Services Department in the design to provide for better access to, and use of facilities of the cruise terminal building by persons with disabilities. These facilities mainly include the following items—

- (a) wider space inside toilets for more comfortable use and easier manoeuvre by elderly people and people with disabilities;
- (b) automatic sliding doors at all main entrances;

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- (c) design of the landscaped areas to be suitable for all users including the disabled, the aged and the children;
- (d) audible warning at escalators;
- (e) braille map and tactile warning strips; and
- (f) design of furniture at information counters with knee space at appropriate height for use by wheelchair users.

We will also provide adequate toilet and baby care facilities in the building.

ENVIRONMENTAL IMPLICATIONS

12. The project is not a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). However, it lies within the boundary of the Kai Tak Development which is a designated project requiring an EIA report under Schedule 3 of the EIA Ordinance. The EIA report for Kai Tak Development approved on 4 March 2009 concluded that the cruise terminal building and its ancillary facilities would not have adverse environmental impact.

13. During construction, we will control noise, dust and site run-off nuisances to within established standards and guidelines through the implementation of mitigation measures in the relevant contracts. These include the use of silencers, mufflers, acoustic lining or shields and the building of barrier wall for noisy construction activities, frequent cleaning and watering of the site, and the provision of wheel-washing facilities as well as other relevant measures recommended in the Kai Tak Development EIA report.

14. We have considered measures (e.g. using metal site hoardings and signboards so that they can be recycled or reused in other projects, and adopting repetitive/modular design to enable reuse of formwork) in the planning and design stages to reduce the generation of construction waste where possible. In addition, we will require the contractor to reuse inert construction waste (e.g. excavated soil) on site or in other suitable construction sites as far as possible, in order to minimise the disposal of inert construction waste at public fill reception facilities⁵. We will encourage the contractor to maximise the use of recycled or recyclable inert construction waste, as well as the use of non-timber formwork to further minimise the generation of construction waste.

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⁵ Public fill reception facilities are specified in Schedule 4 of the Waste Disposal (Charges for Disposal of Construction Waste) Regulation. Disposal of inert construction waste in public fill reception facilities requires a license issued by the Director of Civil Engineering and Development.

15. We will also require the contractor to submit for approval a plan setting out the waste management measures, which will include appropriate mitigation means to avoid, reduce, reuse and recycle inert construction waste. We will ensure that the day-to-day operations on site comply with the approved plan. We will require the contractor to separate the inert portion from non-inert construction waste on site for disposal at appropriate facilities. We will control the disposal of inert construction waste and non-inert construction waste at public fill reception facilities and landfills respectively through a trip-ticket system.

16. We estimate that the project will generate in total about 156 370 tonnes of construction waste. Of these, we will reuse about 62 220 tonnes (40%) of inert construction waste on site and deliver 74 710 tonnes (48%) of inert construction waste at public fill reception facilities for subsequent reuse. We will dispose of the remaining 19 440 tonnes (12%) of non-inert construction waste at landfills. The total cost for accommodating construction waste at public fill reception facilities and landfill sites is estimated to be \$4.4 million for this project (based on a unit cost of \$27 per tonne for disposal at public fill reception facilities and \$125 per tonne⁶ at landfills).

ENERGY CONSERVATION MEASURES

17. This project has adopted various forms of energy efficient features, including –

- (a) automatic demand control of chilled water circulation system;
- (b) automatic demand control of air supply;
- (c) demand control of fresh air supply with carbon dioxide sensors;
- (d) automatic demand control for ventilation fans in car park;
- (e) heat wheels/heat pipes for heat energy reclaim of exhaust air;
- (f) connection to District Cooling System for air-conditioning;

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⁶ This estimate has taken into account the cost for developing, operating and restoring the landfills after they are filled and the aftercare required. It does not include the land opportunity cost for existing landfill sites (which is estimated at \$90 per m³), nor the cost to provide new landfills (which is likely to be more expensive), when the existing ones are filled.

- (g) T5 energy efficient fluorescent tubes with electronic ballast and lighting control by occupancy sensors and daylight sensors;
- (h) light-emitting diode (LED) type exit signs;
- (i) services-on-demand control for escalators and passenger conveyors (on/off control);
- (j) automatic on/off switching of lighting and ventilation fan inside the lifts;
- (k) heat pumps for hot water/space heating; and
- (l) building energy management system for large installations.

18. For renewable energy technologies, we will install photovoltaic system and solar hot water system to provide renewable energy for environmental benefits.

19. For green features, we will provide a landscaped deck with an area of not less than half of the total roof area of the cruise terminal building for passive enjoyment by the public. Half of this landscaped deck will be turfed and planted with groundcovers, shrubs, palms and trees to provide a green outdoor environment along the waterfront.

20. For recycled features, we will adopt rain water and air-conditioning condensate water recycling system for irrigation purpose.

21. The total project estimate included an estimated additional cost for adoption of the energy conservation measures of around \$81.0 million (including \$16.1 million for energy efficient features). The energy efficient features will achieve 7.8% energy savings in the annual energy consumption with a payback period of about 3.6 years.

HERITAGE IMPLICATIONS

22. This project will not affect any heritage site, i.e. all declared monuments, proposed monuments, graded historic sites/buildings sites of archaeological interest and Government historic sites identified by the Antiquities and Monuments Office.

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LAND ACQUISITION

23. The project does not require any land acquisition.

BACKGROUND INFORMATION

24. We included **7GA** in Category B in July 2009. We employed a term contractor to carry out site investigation in March 2009 and a quantity surveying consultant to assist in the tender assessment in November 2009. We have charged the cost of the site investigation of \$1.41 million to PWP Item No. **719CL** - Kai Tak development - engineering review under Civil Engineering and Development Department and the cost of the quantity surveying consultant of \$0.6 million to block allocation **Subhead 3100GX** "Project feasibility studies, minor investigations and consultants' fees for items in Category D of the Public Works Programme". The term contractor has completed the site investigation and the quantity surveying consultant has finished the tender assessment.

25. The proposed works will involve felling of one tree which is not an important tree⁷. We will incorporate planting proposals as part of the project, including 100 trees and 25 000 shrubs.

26. At the Public Works Subcommittee (PWSC) meeting on 31 October 2001, some Members suggested and the Administration agreed to include information on the scope, approved project estimates and progress of all the Kai Tak Development (formerly known as South East Kowloon development) Public Works Programme items in future PWSC submissions relating to Kai Tak Development. The updated information including the construction works for the cruise terminal apron area (under PWP Item No. **736CL** – Site formation for Kai Tak cruise terminal development) is at Enclosure 10.

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⁷ "Important tree" refers to trees on the Register of Old and Valuable Trees, or any other trees that meet one or more of the following criteria –

- (a) trees of 100 years old or above;
- (b) trees of cultural, historical or memorable significance e.g. Fung Shui tree, tree as landmark of monastery or heritage monument, and trees in memory of an important person or event;
- (c) trees of precious or rare species;
- (d) trees of outstanding form (taking account of overall tree sizes, shape and any special features) e.g. trees with curtain like aerial roots, trees growing in unusual habitat; or
- (e) trees with trunk diameter equal or exceeding 1.0 metre (m) (measured at 1.3 m above ground level), or with height/canopy spread equal or exceeding 25 m.

27. We estimate that the proposed works will create about 2 940 jobs (2 670 for labourers and another 270 for professional/technical staff) providing a total employment of 79 400 man-months.

Commerce and Economic Development Bureau
April 2010