

## NOTE FOR LEGISLATIVE COUNCIL PANEL ON ENVIRONMENTAL AFFAIRS

### Supplementary information on 351DS - Harbour Area Treatment Scheme, stage 2A – planning and design of the upgrading works of Stonecutters Island sewage treatment works and the preliminary treatment works

#### INTRODUCTION

In considering the paper referenced CB(1) 1666/06-07(16) on the above project on 28 May 2007, the Legislative Council Panel on Environmental Affairs requested the Administration to provide, before the relevant Public Works Subcommittee meeting, supplementary information on –

- (a) the breakdown of the project costs and consultancy costs;
- (b) the scope of work of the consultancy;
- (c) whether there is any overlapping of the proposed consultancy with the on-going Environmental Impact Assessment consultancies; and
- (d) the reasons for using a single consultancy.

#### THE ADMINISTRATION'S RESPONSE

##### *Breakdown of the project costs and consultancy costs*

2. The breakdown of the project costs including the consultancy costs is as follows –

	<b>Estimated Costs</b> (\$ million)		
	<b>Breakdown</b>	<b>Sub-total</b>	<b>Item Total</b>
(a) Consultants' fees for planning and design of upgrading works of Stonecutters Island Sewage Treatment Works (SCISTW) and the preliminary treatment works (PTWs)			75.1

	<b><u>Estimated Costs</u></b> <b>(\$ million)</b>		
	<b>Breakdown</b>	<b>Sub-total</b>	<b>Item Total</b>
(i) Planning and design for the: <ul style="list-style-type: none"> <li>● overall HATS stage 2A system in relation to the interfaces with the SCISTW and the eight PTWs</li> <li>● expansion and upgrading of SCISTW</li> <li>● expansion and upgrading of eight PTWs</li> </ul>	11.6	67.6	
(ii) Preparation of tender documents and assessment of tenders		7.5	
(b) Surveys, investigations and testing works			14.0
(c) Water quality monitoring			5.0
(d) Contingencies			8.9
Sub-total			103.0 (in September 2006 prices)
(e) Provision for price adjustment			2.6
<b>Total</b>			<b>105.6</b> <b>(in MOD prices)</b>

### *Scope of work of the consultancy*

3. Given the scale and complexity of the HATS stage 2A, the planning and design of the expansion and upgrading works at SCISTW and the eight PTWs is a very substantial task involving a lot of specialist input from many disciplines. The facilities to be expanded or upgraded are large-scale and located on highly congested and constrained sites with substantial interfaces with the existing facilities and other works to be carried out at the same time. It is essential,

therefore, that the planning and design be carried out in a fully integrated manner. It is important also that appropriate construction sequences should be carefully mapped out with due attention to interfaces with the plant operation, so as to minimise disturbance. The scope of the proposed consultancy under this project item comprises –

- (a) Planning and design for the overall HATS stage 2A system in relation to the interfaces with the SCISTW and the eight PTWs
  - coordination of the planning and design for the whole stage 2A system, and management of interfaces with the SCISTW and the eight PTWs;
  - determination of the sewage characteristics;
  - updating of the projected sewage flows and pollution loads;
  - review of the overall system hydraulic design, and determination of the need for intermediate sewage conveyance pumping stations at the PTWs; and
  - review and design of the overall remote operation control and data acquisition system.
  
- (b) Planning and design for the expansion and upgrading of SCISTW
  - design of the new influent pumping station;
  - review of the latest chemically-enhanced primary treatment (CEPT) technologies, evaluation and investigation of their applicability and design of the CEPT facilities;
  - design of the sludge dewatering and handling facilities;
  - review of the design of the advance disinfection facilities, and design of the disinfection facilities to be added; and
  - design of the effluent conveyance tunnel.
  
- (c) Planning and design for the expansion and upgrading of eight PTWs
  - design of the expansion and upgrading works of eight PTWs; and
  - design of the intermediate sewage conveyance pumping stations at PTWs if needed.
  
- (d) Preparation of tender documents and assessment of tenders.

4. In conjunction with the planning and design tasks highlighted above, the consultants will also have to design the necessary environmental control and mitigation facilities as well as the operational control and data acquisition system for all the individual facilities at SCISTW and the PTWs. They will also need to update the cost estimates as the designs develop, recommend the most appropriate contract strategy and carry out prequalification exercises to shortlist tenderers for major contracts before proceeding with tendering.

***Whether there is any overlapping of the proposed consultancy with the on-going Environmental Impact Assessment consultancies***

5. The scope of HATS stage 2A, costing an estimated \$8 billion, comprises:

- (a) extension of the sewage conveyance system to cover the remaining parts of Hong Kong Island;
- (b) expansion of the existing treatment capacity and provision of disinfection facilities at SCISTW; and
- (c) upgrading of the eight associated PTWs on Hong Kong Island.

6. To implement HATS stage 2A, three separate consultancies have been commissioned for:

- (a) the EIA study of the proposed advance disinfection facilities at SCISTW;
- (b) the EIA study covering the whole HATS stage 2A; and
- (c) the planning and design of the sewage conveyance system, (i.e. for item 5(a) above).

7. The consultancy for 6(a) above is being conducted by means of a Category D item under block allocation **Subhead 4100DX** at a cost of about \$4 million in MOD prices. The consultancy commenced in July 2005 and the EIA study report for the proposed advance disinfection facilities was completed in June 2007. As for the consultancies for 6(b) and (c), they are being carried out under a Category A item **238DS**, and their costs are about \$5 million and \$51 million respectively in MOD prices. The consultancies started in February and January 2006 respectively. The EIA study report for HATS stage 2A is expected to be produced by December 2007, and the planning and design of the sewage conveyance system is scheduled for completion in November 2009.

8. The proposed consultancy under **351DS** comprises the remaining planning and design work to cover the works described in items 5(b) and (c) above. The four consultancies for HATS stage 2A thus cover different packages of study, planning and design work. There is no overlap between the consultancy proposed under **351DS** and the other on-going consultancies, including the EIA studies. The proposed consultancy under **351DS** will allow scope to take into account the findings of the EIA on the advance disinfection facilities.

### *Reasons for using a single consultancy*

9. As mentioned in paragraphs 6 and 8 above, four separate consultancies have been carefully planned for the implementation of HATS stage 2A, with due consideration to the timing, nature of works involved and expertise required to deliver the services. While these consultancies have different commencement dates, they all have the same aim of achieving the target completion date of the HATS stage 2A by 2014.

10. **351DS** will cover the remaining core planning and design work under HATS stage 2A, namely that for the expansion and upgrading works of the SCISTW and the eight PTWs. This involves extensive system-wide planning and design issues to ensure that the upgraded SCISTW and the eight PTWs will be commissioned on time and will interface seamlessly with the other existing facilities under HATS stage 2A, including the sewage conveyance system being planned. All these are critical in achieving integrated and effective operation of the HATS system. In the light of the substantial complex interfacing requirements, the most efficient arrangement is to group all the planning and design work for upgrading the SCISTW and the eight PTWs under a single consultancy. This will facilitate the timely commissioning of HATS stage 2A, as will our well-established procedures for ensuring that the most suitable firm will be selected for the consultancy, and its work and recommendations closely scrutinised.

Environmental Protection Department  
June 2007