

**For discussion  
on 25 November 2003**

**LegCo Panel on Food Safety and Environmental Hygiene**

**Conversion of Aqua Privies into Flushing Toilets**

**PURPOSE**

This paper briefs Members on the Administration's proposal to convert about 100 aqua privies (APs) into flushing toilets as one of the initiatives recommended by Team Clean.

**BACKGROUND**

2. APs are village-type dry latrines. They are provided and maintained by the Food and Environmental Hygiene Department (FEHD) in various locations in the New Territories and the outlying islands where no public sewerage system is available and where there is a need for convenience facilities. There are at present about 550 APs in the territory.

3. Unlike a public toilet which is connected to a public sewerage system, toilet waste of an AP is collected by an underground septic tank through the squatting holes of each toilet compartment. The sewage undergoes biological decomposition. The resulting effluent passes through a soakage pit for filtering before it is discharged into subsoil in the vicinity. The remaining sludge is pumped out and taken away by desludging vehicles, normally once in every six months depending on the usage rate of an AP.

4. Although the anaerobic process of a septic tank system helps reduce the volume of sludge, the absence of a flushing system may still create hygiene and odour problems, particularly inside toilet compartments. To meet rising expectation of the community, FEHD has,

in collaboration with the Architectural Services Department (ArchSD), launched a programme to convert APs into flushing toilets where there are public sewers in the vicinity. Since 2001, about 20 APs have been converted into flushing toilets.

5. As one of the measures to improve environmental hygiene in Hong Kong, Team Clean has recommended that the conversion programme be accelerated. About 100 APs at popular sightseeing spots and locations of high usage in the New Territories and outlying islands will be covered by the programme, including those APs with no immediate access to public sewers. The conversion will be completed in three years' time.

## **THE PROPOSED PROJECT**

### **Selection of APs**

6. In identifying APs for inclusion in the conversion programme, FEHD will take into account the following factors -

- (a) accessibility – the APs should be accessible either by land or sea transport for desludging services, if public sewers are not available;
- (b) location – priority will be given to APs located near popular sightseeing spots or in tourist areas; and
- (c) usage – priority will be given to APs with a relatively higher usage rate in the districts concerned.

### **Scope of Works**

7. The scope of the conversion works will mainly involve the installation of flushing water supply system (including the provision of pedestal or squatting type water closets and the construction of water tanks for flushing and ablution), replacement of wall and floor finishes,

improvement of lighting and ventilation and provision of hand-washing facilities. The actual scope of works will depend on site constraints and existing condition of individual APs. Wherever possible, the converted APs will be connected to public sewers in the vicinity. Otherwise, ArchSD will consider altering the underground septic tank into a holding tank.

### **Other Options**

8. Converted flushing toilets with holding tanks for temporary storage of waste will require more frequent tankering away of waste and hence higher recurrent costs. ArchSD is therefore exploring other more cost-effective options. One option is to install a biological treatment system for individual APs. It is a sewage treatment system that uses micro-organisms embedded in multiple soil layers to treat toilet waste. According to information provided by the supplier, the treated waste water is clean and odourless and can be used again for flushing purposes. FEHD and ArchSD will, with the support of Environmental Protection Department, conduct a pilot scheme to examine the feasibility and effectiveness of the system, before considering wider adoption of the new technology.

### **ESTIMATED COST**

9. The capital cost of converting 100 APs into flushing toilets is estimated to be \$90 million. The total annual recurrent expenditure after full commissioning of the project will be around \$5.8 million.

### **IMPLEMENTATION TIMETABLE**

10. The proposed conversion of about 100 APs into flushing toilets is expected to be completed in three years' time in accordance with the following proposed schedule -

- (a) 2004-05: to commence conversion works for about 25 APs;

(b) 2005-06: to commence conversion works for about 40 APs;  
and

(c) 2006-07: to commence conversion works for about 35 APs.

11. The first batch of projects will be submitted to PWSC/FC for funding approval in around June 2004. Subject to funding approval, conversion works will begin in late 2004 for completion in early 2006. The entire project is expected to be completed by end 2007.

### **CONSULTATION**

12. District Councils will be consulted in early 2004 on the first batch of APs proposed for conversion.

### **ADVICE SOUGHT**

13. Members are invited to comment on the proposed project.

**Health, Welfare and Food Bureau**  
**Food and Environmental Hygiene Department**  
**November 2003**