For Information

A NOTE FOR LEGISLATIVE COUNCIL

PANEL ON DEVELOPMENT

The Implementation Plan for the Kai Tak Development

Introduction

In considering the paper referenced CB(1)570/08-09(03) on "The Implementation Plan for the Kai Tak Development" on 20 January 2009, Members requested the Administration to provide information on the various proposed measures (including their costs and effectiveness) in tackling the environmental problems at the Kai Tak Approach Channel (KTAC). Members also requested for information on the planned facilities to be developed on the Government, Institution or Community (GIC) sites in the Kai Tak Development (KTD).

The Administration's Response

Proposed environmental mitigation measures for KTAC

2. Following a comprehensive study including site surveys, pilot field trials and laboratory analyses and in consultation with independent academics of local universities, a **three-pronged approach** is proposed to tackle the environmental problems at KTAC. Details of the mitigation measures are given in the Environmental Impact Assessment (EIA) report on KTD, which was approved by the Director of Environmental Protection on 4 March 2009 under the EIA Ordinance (Cap. 499). The gist of the proposed measures is -

(a) <u>In-situ bioremediation treatment on sediments</u>

The sediments deposited at the seabed of KTAC and the adjoining Kwun Tong Typhoon Shelter (KTTS) contain a large amount of

organic pollutants and give rise to smelly hydrogen sulphides under anaerobic condition. We plan to apply in-situ bioremediation treatment by injection of calcium nitrate solution into the upper layer of the sediments to oxidize sulphides and stimulate the indigenous bacteria to digest the organic pollutants, thus suppressing odour generation. The estimated cost of the bioremediation is about $400 million.

Field trials were conducted in 2006 and 2008 covering a total area of about 4.5 hectares at KTAC. Based on the results of the field trials, the amount of Acid Volatile Sulphides, which is an indication of odorous substance, was reduced by over **95%** after bioremediation treatment. A schematic diagram showing the injection of calcium nitrate solution into the sediments is at **Enclosure 1**.

(b) Interception of polluted discharges from the hinterland into KTAC

The KTAC is currently polluted by expedient discharges from the hinterland. Plans are in hand to implement a number of projects to improve the drainage and sewerage systems in the hinterland of KTD (e.g. Kowloon City, San Po Kong and Kowloon Bay) by phases from early 2009. The works will include construction of additional sewage interception facilities and new pumping stations to intercept and transfer polluted discharges to the sewerage system. The improvement works will tackle the pollution problem at source. The estimated cost of the works is about $2,000 million.

(c) Creation of a 600 metre opening at the former runway

The KTAC is largely an enclosed longitudinal channel with a surface area of about 1,400 metres by 200 metres. To the south of KTAC is KTTS which is protected by breakwaters at the entrance. Exchange of water between KTAC and the outside water body of Victoria Harbour is hampered due to the elongated shape of the channel. We propose to create a 600 metre opening at the former runway near the dead end of KTAC to improve the water circulation and hence the water quality. The estimated cost of the 600 metre opening is about $610 million.

Currently, the bottom dissolved oxygen (DO) level in almost the entire KTAC is below the Water Quality Objectives of 2 mg/litre. We will complete the bioremediation at KTAC and the improvement works to the drainage and sewerage systems in the hinterland before creation of the proposed 600 metre opening at the runway. Based on results of the computer modelling analysis, the mean flow speed within KTAC would be increased significantly in the range of 70% to 200% after creation of the 600 metre opening. This means that additional flows with comparatively better water quality from Victoria Harbour would be drawn into KTAC and To Kwa Wan Typhoon Shelter, thereby helping to revitalize the water in these two areas. Our prediction is that the bottom DO level in both the KTAC and To Kwa Wan Typhoon Shelter will increase to about 5 mg/litre, which will be close to conditions in the harbour area.

The proposal will help ensure the sustainability of the proposed measures in paragraphs (a) and (b) above, and prevent recurrence of the odour problem.

3. We will implement an environmental monitoring and audit programme to ensure the effectiveness of the proposed improvement measures. This includes monthly monitoring of odour impacts during summer for a period of two years after implementation of the proposed improvement measures to ascertain its effectiveness over time, and to monitor any on-going odour impacts. In parallel, annual sediment sampling will also be conducted at KTAC and KTTS to confirm the environmental performance of the bioremediation treatment works. Besides, the water quality in the area will be monitored before and after the 600 metre opening at the former runway to confirm that the works would not have adverse impact on water quality.

Planned facilities on GIC sites

4. There are a number of GIC facilities planned in KTD grouped for target completion in three implementation packages, namely Packages A, B and C by 2013, 2016 and 2021 respectively. A summary of the GIC facilities currently under planning is provided in the table below with the corresponding

packages indicated in brackets. In addition, there are six sites reserved for future GIC developments, including two at the north apron and four at the south apron. The GIC facilities to be accommodated at these sites will be determined in due course depending on future needs. In particular, pursuant to the announcement by the Financial Secretary in his 2008-09 Budget Speech that we should study the relocation of government buildings outside the Central Business District, KTD is a potential area for more new government offices. A plan showing the respective locations of the GIC facilities under planning is at **Enclosure 2**.

Locations	**GIC Facilities under Planning as at March 2009**
North Apron	
(a)	Kai Tak Government Offices (Package A)
(b)	two kindergartens, one neighbourhood elderly centre, one integrated children and youth services centre incorporated into the public housing sites (Package A)
(c)	four primary schools (2 in Package A and 2 in Package B) and two secondary schools (1 in Package A and 1 in Package B)
(d)	two refuse collection points (1 in Package A and 1 in Package B)
(e)	four sewage pumping stations (2 in Package A, 1 in Package B and 1 in Package C) and two desilting compounds (Package B)
(f)	Kowloon East Police Regional Headquarters and Divisional Police Station (Package B)
(g)	Sub-divisional Fire Station cum Ambulance Depot with Departmental Quarters (Package B)
(h)	district cooling system (northern plant) (Package B)

Locations	GIC Facilities under Planning as at March 2009
(i)	to be determined
(j)	two social welfare facilities, namely integrated family service centre and social security field unit (Package B)
(k)	a major library (Package B)
(l)	a multi-purpose stadium complex (Package C)
(m)	sports facilities (Package C) and indoor recreation centre (Package B)
(n)	three electricity sub-stations (1 in Package B and 2 in Package C)
(o)	to be determined
South Apron	
(p)	Sub-divisional Fire Station and Ambulance Facility (Package A)
(q)	a desilting compound (Package B)
(r)	an animal management centre (Package C)
(s)	a hospital (Package C)
(t)	a refuse collection point (Package C)
(u)	to be determined
Runway	
(v)	district cooling system (southern plant) and seawater pumphouse (Package A)
(w)	a sewage pumping station (Package A)
(x)	an electricity sub-station (Package A)

Locations	GIC Facilities under Planning as at March 2009
Ma Tau Kok Waterfront	
(y)	an upgraded public transport interchange (Package B)
(z)	a sewage pumping station (Package B)
(aa)	an electricity sub-station (Package B)

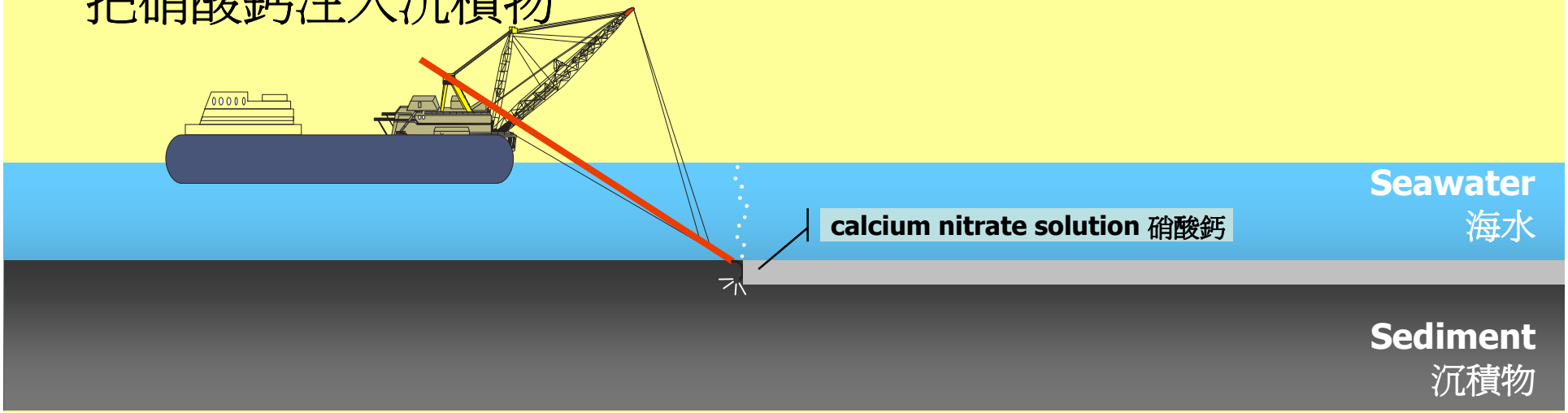
Development Bureau
March 2009

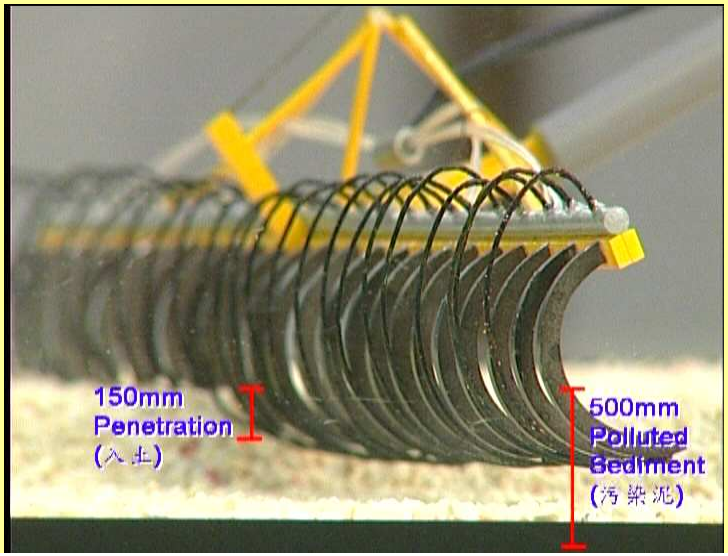
Enclosure 1
附件一

In-situ Bioremediation 生物除污法

Injection of calcium nitrate solution into sediments

把硝酸鈣注入沉積物





Injection Tines
注射器

Enclosure 2

附件二