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for information

Feasibility Study for the Green Island Reclamation

Present status on environmental issues

Introduction

1 This paper presents the present status of the environmental issues of the Green Island Reclamation as identified in the feasibility study. A brief description of the future further studies is also included. A drawing showing the implementation phasing of the project is attached in Annex A.

Background

2 The Green Island Reclamation (GIR) was first put forward as a recommendation of the Harbour Reclamations and Urban Growth Study in 1983. The idea was taken further by the Territory Development Strategy, whose Initial Results, accepted by the Executive Council in June 1984, identified harbour reclamation as a component of long term growth strategies.

3 The Green Island Reclamation Feasibility Study (GIRFS) was commissioned in May 1988 to study the planning, transport and engineering feasibility of developing the proposed area. The final report of the study was accepted by the Steering Group in July 1994. The feasibility of the project was confirmed and a Recommended Outline Development Plan (RODP) was recommended. A copy of the RODP is attached in Annex B. On 12 January 95, the GIRFS final report was presented to the Development Progress Committee (DPC). DPC agreed that the GIRFS final report (Report) and the RODP could be used as a reference document for further follow-up studies, including updating of the RODP and studies recommended in the GIRFS.

4 The Hong Kong Island West Development Statement is being carried out by Planning Department. The recommendations of that Statement should be reviewed with the GIRFS findings and the RODP updated to reflect the changes.

5 The early implementation of the Public Dump in the area between Green Island and the coastline west of Kennedy Town will affect the phasing of the reclamation proposed in the Report. The impact of this change will need to be assessed. Revision to the phasing of the reclamation will require examination of the impact on water quality at various stages.

6 The GIRFS based its implementation on several scenarios which have subsequently been overtaken during the interim by other decisions. The impact and influence of this has to be reviewed.

Brief description of RODP

7 The population projected for the Green Island development by 2011 is 103,465. This compares with the Metroplan recommendations of 114,028. The strategic framework is primarily a residential development with an industrial component limited to reprovisioning those existing facilities displaced by reclamation.

8 The opportunity to provide open space to remedy the deficiency within Kennedy Town has been taken in planning the local and district open spaces. An Urban Fringe Park encompassing the existing Green Island and Little Green Island will provide an attraction for the whole of Hong Kong Island.

9 The GIR will provide a total land area of 186.6 ha. The major land use proposed in the RODP are :

	Gross Area (ha)
Residential (public and private)	53.4
G/IC	21.6
Urban fringe park	26.6
Open space	18.8
Road and transport reserves	37.9
Industry	4.9
Other specified uses	23.4

10 The GIR provides a strategic location for the landfall of the proposed Green Island Link and its interchange with Route 7. An extension of the MTR from Kennedy Town onto the reclamation and westwards to Lantau is feasible and an alignment has been identified on the RODP.

11 The Master Landscape Plan has been prepared for the RODP. Specific landscape guidelines have been prepared for the various types of open space and these will provide the framework for any future amendments to the RODP.

12 The RODP has been subjected to rigorous assessment of environmental impacts on air, water and noise. Mitigation measures have been identified and proposed in the RODP. Air, noise and water quality will need to be carefully considered during the future further studies, engineering design and construction stages of the development.

Environmental assessment of the RODP

13 Air Quality Objectives are defined by the Hong Kong Planning Standards and Guidelines (HKPSG). The principal air quality impacts are emissions from road vehicles and from industry. Overall predictions based on AM and PM peak hour traffic flows for the year 2011 show that Air Quality Objectives for carbon monoxide and lead will be maintained. Based on worst case estimates, predictions of vehicle emitted pollutants indicated the conditions at three locations would be in doubt :

- Green Island Link Approach Roads
- Primary Distributor PD1 Tunnel Portals
- Route 7 across Belcher Bay

However, with the impositions of new standards and the availability of catalytic converters and unleaded petrol, there should be much improvement.

14 Industrial emissions will improve. At present, the principal sources of industrial air pollution in the area are the Kennedy Town incinerator, the Green Island Cement plant and the abattoir. Neither the incinerator nor the cement plant will be reprovisioned. The abattoir, if not relocated elsewhere, could be equipped with up to date design and pollution abatement equipment which would reduce emissions. The impact would further be reduced by providing a buffer zone. New ventures on the reclamation must be geared to reduce emissions to an acceptable level, in line with the Air Quality Objectives defined by HKPSG.

15 The present water quality in the area is reasonable, but it is deteriorating. It is considered that the development's impact on the quality of water in the area will be beneficial. Sewerage systems will be improved. To improve the water quality further, it is recommended that detailed guidelines for the control of port and Public Cargo Working Area operations be drawn up and enforced.

16 The HKPSG recommends maximum allowable noise levels outside dwellings of 70db(A), outside schools of 65db(A), and outside hospitals of 55db(A). To meet these standards, many noise mitigation measures have been built into the RODP.

The construction stage

17 During construction, the major source of air quality impairment is dust generation, liberation and dispersion. With proper mitigation measures, this could be controlled to within acceptable level.

18 The construction works have potential to cause significant impact on the water quality in the immediate vicinity. A monitoring programme should be undertaken

to ensure the guidelines are achieved. This should be developed at the design stage of the project.

19 Further study is required to investigate the degree of contamination and presence of gas in the marine mud and the possibility of scouring of any contaminated mud during and after reclamation. Disposal of contaminated mud should be minimised. If necessary, contaminated mud would be dredged and disposed of in a controlled manner.

20 In the long term, sewage will be conveyed to the proposed treatment works at Mount Davis. The major development on GIR is conditional on the completion of this. In the short term during construction, sewage (including those from the re-provisioned water front facilities) would be disposed to the Kennedy Town system which is due for upgrading under the implementation of the Central, Western And Wanchai West Sewerage Master Plan. This is expected to be available towards the end of 1998.

21 During the course of reclamation, embayment of water in the centre of the proposed reclamation may result. The impact of this on water quality, should be accounted for. The upgrading of the Kennedy Town system might help to reduce the impact on water quality. If necessary, part of the permanent system could be constructed in advance for diversion of any existing sewer discharge, and expedient connections should be rectified by diverting such to proper sewers.

Further studies

22 An environmental impact assessment with the following major components would be carried out :

(i) Modelling on cumulative impact of the full reclamation on water quality including sediment dispersion and quantitative analysis of the assimilative capacity within the embayed water in the area. Suitable mitigation measure should be proposed and implemented. This should take into account other major reclamation projects within the Victoria Harbour.

(ii) The revised phasing of construction works should be subject to full assessment to evaluate the construction and operation environmental impacts arising from the reclamation and its associated activities, and to propose appropriate mitigation measures, as well as environmental audit and monitoring requirements. The assessment should include quantitative analysis of the cumulative impact from various phasing of reclamation.

(iii) Confirmation of whether the materials to be dredged are contaminated, with recommendations as to how these should be handled.

(iv) Compilation of a detailed environmental monitoring and audit manual.

(v) Ecological impact assessment including a detailed ecological survey complying with the requirements of Director of Agriculture and Fisheries.

Current Status

23 Stage I of the GIR project for the reprovisioning of water front facilities is now in Category B under PWP Item 436CL "Green Island Development, Stage 1 reclamation and reprovisioning of waterfront facilities". Consultants will be engaged to undertake the required further studies, the engineering design and the subsequent supervision of the construction works.

24 The procedure for engagement of consulting engineers has commenced. It is anticipated the consulting engineers will be engaged and work on further studies started in early 96. The ACE will be consulted on the environmental aspects of this important project.

Territory Development Department
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