33/F, Revenue Tower, 5 Gloucester Road, Wan Chai, Hong Kong
香港灣仔告士打道 5 號稅務大樓 33 樓

ACE-EIA Paper 1/2016
For advice on 18 January 2016

Environmental Impact Assessment Ordinance (Cap. 499)
Environmental Impact Assessment Report
Tung Chung New Town Extension

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report for Tung Chung New Town Extension (hereafter known as "the Project") submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO) (Application No. EIA-233/2015). The Civil Engineering and Development Department (CEDD) (the applicant) and their consultants will present the EIA report at the meeting of EIA Subcommittee.

ADVICE SOUGHT

2. Members' views are sought on the findings and recommendations of the EIA report.

BACKGROUND

3. Development in North Lantau including Tung Chung area has been studied since 1989. With the latest planning circumstances and population target, the Tung Chung New Town Extension Study (the Study) focuses on the remaining development of Tung Chung covering possible development areas (PDAs) at Tung Chung East (TCE) and Tung Chung West (TCW) as shown in **Figure 1** to meet the territorial long term housing, economic and social needs; while conserving the natural environment of Tung Chung at the same time.

4. The Study was commissioned jointly by CEDD and Plan D in 2012 and has adopted a three-stage public engagement programme conducted from 2012 to 2014 to collate views from stakeholders, green groups and local communities. The applicant has incorporated the feedback and views obtained from the public engagement exercises into the EIA study where applicable.

5. The applicant has submitted the EIA report for the Project and the Director of Environmental Protection (DEP), in conjunction with the relevant authorities, considers that the EIA report meets the requirements in the EIA Study Brief and the Technical Memorandum on EIA Process (TM), for the purpose of exhibiting the report for public inspection, under Section 7(4) of the EIAO.

NEED FOR THE PROJECT

6. Owing to the territory wide shortage of housing supply in Hong Kong, Tung Chung has been identified by the recent Policy Addresses as one of the potential areas to contribute to the land supply to meet future housing needs. There are also public aspirations on development of a sports stadium, post-secondary institutions, a comprehensive cycling network and some other Government, Institution or Community facilities which would require extra land in Tung Chung. On environmental needs, there are public calls for the conservation of Tung Chung, in particular TCW which is characterized by its rich natural and heritage resources. Hence, in addition to the objective of providing land to fulfill the future housing, economic and social development needs, the Project also aims to conserve the natural environment of Tung Chung and to enhance its biodiversity.

ENVIRONMENTAL BENEFITS

7. According to the EIA report, the major environmental benefits with the Project in place include:

(i) dechannelisation and revitalization of a channelised section of Tung Chung Stream, in which about 400m of it would become a river park to enhance its ecological value;

(ii) recreation of buffer zones of a maximum of 30m wide as Conservation Areas mainly along the western branch of Tung Chung Stream to provide better protection;

(iii) provision of a public sewerage network for unsewered villages in TCW to improve the water quality in Tung Chung Stream;

(iv) provision of a Sustainable Urban Drainage System which comprises a series of regional stormwater attenuation and treatment ponds to enhance filtering of pollutants in surface runoff along both existing and proposed paved areas before entering Tung Chung Stream which is of high ecological value; and

(v) preservation of many parts of Tung Chung Valley through designating the Recommended Outline Development Plan by Conservation Area, Coastal Protection Area, Green Belt and agricultural zoning.

DESCRIPTION OF THE PROJECT

8. The Project covers an area of over 200 ha and is proposed to accommodate a population of about 144,000. As the Study involves a study area over 20 ha, it constitutes a Schedule 3 (Item 1 [1]) Designated Project (DP) under the EIAO. The Project covers the following works which are also DPs under Schedule 2 of the EIAO:

(i) Item C.1[2]: 129.1 ha of reclamation area, with 120.5 ha for TCE and 8.6 ha for Road P1 connecting Tung Chung and Tai Ho;

(ii) Item A.1[3]: Construction of district distributor roads of total length of 3.5 km long within PDAs at TCE and TCW respectively;

(iii) Items A.1[3] and A.8[4]: Construction of a primary distributor road of 1.6 km long connecting Tung Chung and Tai Ho;

(iv) Item F.3(b)[5]: Construction of sewage pumping stations, with individual capacity over 2,000 m^3/day within PDAs at TCE and TCW respectively;

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[1] Item 1 of Schedule 3 – "Engineering feasibility study of urban development projects with a study area covering more than 20 ha or involving a total population of more than 100 000".

[2] Item C.1 of Part I of Schedule 2 – "Reclamation works (including associated dredging works) more than 5 ha in size".

[3] Item A.1 of Part I of Schedule 2 – "A road which is an expressway, trunk road, primary distributor road or district distributor road including new roads, and major extensions or improvements to existing roads".

[4] Item A.8 of Part I of Schedule 2 – "A road or railway bridge more than 100 m in length between abutments".

[5] Item F.3(b) of Part I of Schedule 2 – "A sewage pumping station with an installed capacity of more than 2 000 m^3 per day and a boundary of which is less than 150 m from an existing or planned residential area."

CONSIDERATION OF ALTERNATIVE OPTIONS

9. The EIA report has considered various alternative options for the development of the Project, including land use, building height, design, construction method, etc. to achieve the Project objectives and to avoid and minimize environmental impacts arising from the Project. The recommended options of various Project items have taken into account environmental considerations, site constraints, comments received from Government departments and the public, including those received during the public engagement exercises of the Study. The key considerations and outcomes are highlighted below.

Avoidance and Minimization of Impacts

10. The applicant has advised that avoidance and minimization of environmental impacts have been the key considerations, among others, throughout the planning, design and operation of the Project. Some of the key approaches which have been adopted to avoid and minimize the environmental impacts are summarized as follows:

(i) To avoid adverse potential impacts to the ecologically sensitive Tung Chung Bay and Tung Chung Stream by prohibiting reclamation, encroachment onto Tung Chung Stream, built heritage; and eliminating the risk of discharge from sewage pumping stations at TCW during emergency situations;

(ii) To minimize generation of suspended solids in water and disposal of marine sediments arising from dredging through adoption of a non-dredged method for reclamation in TCE; and

(iii) To minimize visual impact by reducing topographical changes and establishing stepped building heights for developments.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

<u>Ecology</u>

11. The Project will involve developments in Tung Chung Valley, including Tung Chung Stream and Tung Chung Bay, which contains habitats of high ecological values. To conserve and enhance the ecological environment in TCW, measures including dechannelisation of Tung Chung Stream, provision of a Sustainable Urban Drainage System and a public sewerage network for unsewered

villages, as well as recreation of buffer zones of a maximum of 30m wide as Conservation Areas mainly along the western branch of Tung Chung Stream are proposed. Details of these measures are highlighted in paragraph 7 above.

12. Based on the EIA study, reclamation in Tung Chung bay has been avoided to preserve habitats of high ecological value including seagrass beds, mudflats and mangroves. The footprint of the proposed reclamation in TCE is at the location of very low use by Chinese White Dolphins and is not found to be important for other marine species of conservation importance. Eco-shoreline has been recommended to enhance the function of the future reclamation seawalls as a mitigation measure for the loss of marine habitat. Besides, several approaches for reducing marine traffic, such as using larger sized vessels and land transportation, have also been recommended to minimize disturbance to dolphins during construction phase.

Sewerage

13. The Project will generate about 50,000 m^3 of daily sewage flow which will be conveyed by public sewers and sewage pumping stations to the existing Siu Ho Wan Sewage Treatment Works for treatment.

14. Taking into account the ecological sensitivity of Tung Chung Stream and The Brothers Marine Park, measures have been recommended for the proposed sewage pumping stations to minimize the risk of sewage overflow during emergency situations. These measures mainly include fitting each proposed sewage pumping station with a standby pump, dual-feed power supply and emergency storage with capacity over 6-hour average dry weather flow.

Water Quality

15. Non-dredged method will be adopted for the reclamation at TCE to minimize potential water quality impacts. The EIA study has shown that, with an application of 200m leading seawall prior to marine filling activities and the implementation of silt curtains at critical locations, no adverse water quality impact during construction is anticipated.

16. A cumulative quantitative assessment of potential water quality impacts arising from "with project" and "without project" scenarios were undertaken. The assessment findings show that implementation of the Project would not result in adverse hydrodynamic and water quality changes in the study area.

Noise

17. The major noise concerns are aircraft noise from the proposed Expansion of Hong Kong International Airport into a three Runway System (3RS) and traffic noise from the nearby heavily trafficked North Lantau Highway which may affect the planned Noise Sensitive Receivers (NSRs) at TCE.

18. According to the approved 3RS EIA report, the northern portion of the reclamation boundary of TCE would fall within the predicted NEF 25 contour with the current operation of the Hong Kong International Airport. However, as a result of the full commissioning of the 3RS currently planned for 2023, the NEF 25 contour will be shifted away from the TCE. To avoid adverse aircraft noise impacts, population intake for TCE is thus planned beyond 2023. Should there be any change of the commissioning year of the 3RS, CEDD will carry out a review of the timing of population intake at the northern portion of the reclamation boundary of TCE accordingly.

19. As for traffic noise impact, with the implementation of the proposed noise barriers, low noise road surfacing materials and building design, the potential traffic noise impacts at all planned NSRs will comply with the respective noise criteria.

Air Quality

20. During the operation phase, vehicular emissions from the nearby North Lantau Highway is a concern which needs to be addressed. To mitigate potential air quality impacts, a buffer distance of at least 180m will be provided between North Lantau Highway and proposed residential buildings, with central air-conditioned commercial uses to be located in between for noise screening purpose.

21. A cumulative operational air quality assessment has been conducted taking into account vehicular emissions from the project and nearby existing roads, airport emissions from the adjacent 3RS together with emissions from concurrent projects in proximity, such as Hong Kong Link Road, Tuen Mun – Chek Lap Kok Link, etc.. Under the worst case scenario, the EIA has predicted that the cumulative Nitrogen Dioxide, Respirable Suspended Particulates (RSP) and Fine Suspended Particulates (FSP) at representative Air Sensitive Receivers (ASRs) would comply with the Air Quality Objectives with the provision of a buffer distance of at least 180m described in paragraph 20 above and with the current implementation of vehicle emissions

control measures by the Government.

22. For the construction phase, with the implementation of good site control practices including dust control measures such as water spraying and covering dusty stockpiled materials, the dust levels at representative ASRs would comply with the established criteria for Total Suspended Particulates (TSP), RSP and FSP.

Other Environmental Issues

23. Other environmental issues including waste, land contamination, cultural heritage and fisheries have also been addressed in the EIA report. With the implementation of recommended mitigation measures, the Project will comply with the relevant requirements under the TM.

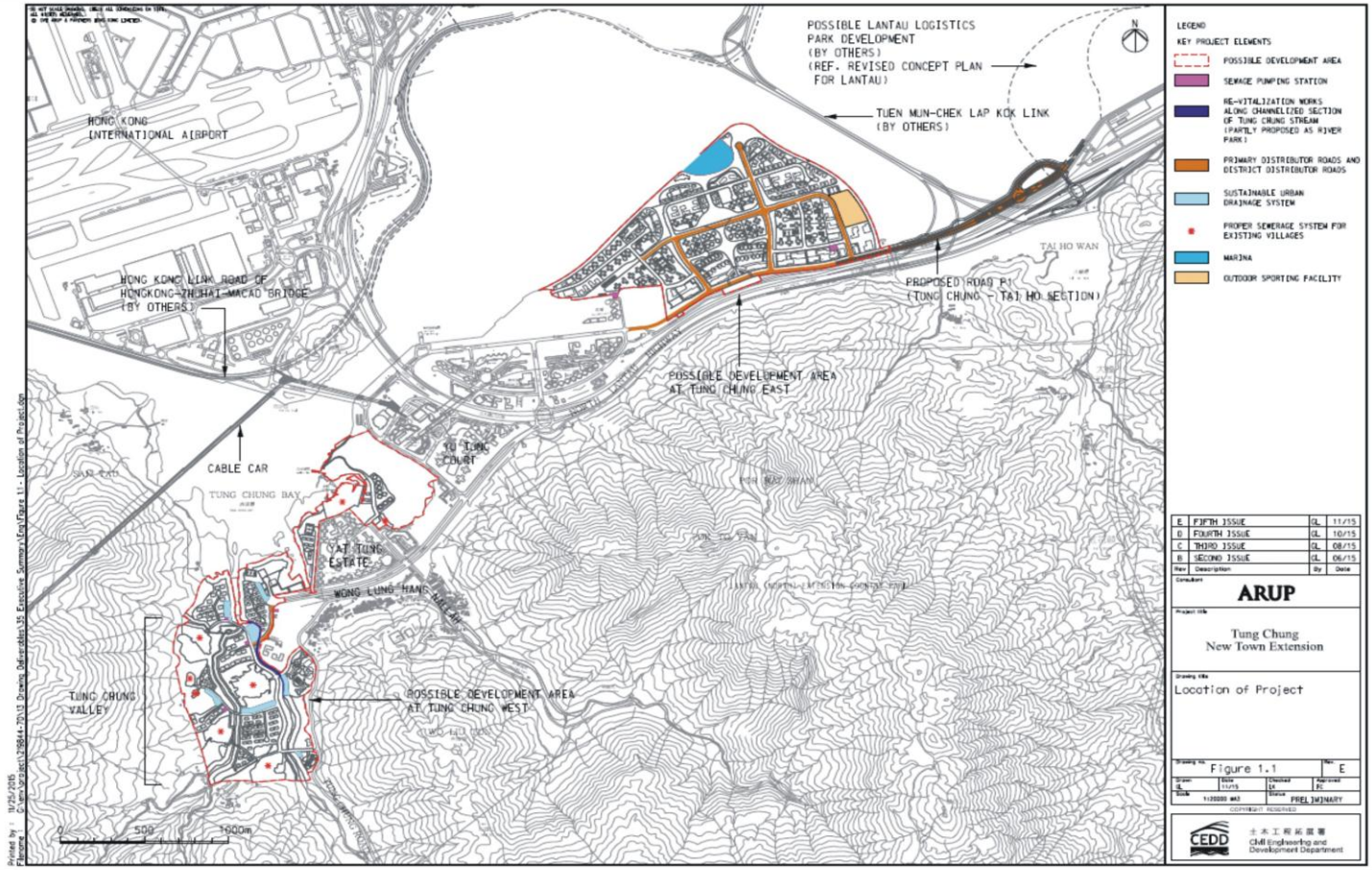
ENVIRONMENTAL MONTIORING AND AUDIT (EM&A)

24. The EIA report includes an EM&A Manual which recommends an EM&A programme during the construction and operation phases of the Project. Key recommended EM&A requirements cover ecology, water quality, noise and air quality.

PUBLIC CONSULTATION

25. The applicant has made the EIA report, EM&A Manual and Executive Summary available for public inspection under the EIAO from 4 December 2015 to 2 January 2016. During this inspection period, a total of about 2300 public comments were received by the Environmental Protection Department. The main concerns raised by the public are on ecology, water, air, noise and cultural heritage respectively and will be summarized in a gist to be provided separately.

January 2016
Environmental Assessment Division
Environmental Protection Department



Project Title: Tung Chung New Town Extension

Application No.: EIA-233/2015

(This Figure reproduced from Figure 1.1 of the Executive Summary of the EIA Report)

Environmental Protection Department 環境保護署	**Project Location Plan**	**Figure 1**