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ACE-EIA Paper 9/2007

For Advice

Environmental Impact Assessment Ordinance (Cap. 499) Environmental Impact Assessment Report Decommissioning of the Former Kai Tak Airport Other Than the North Apron

PURPOSE

This paper presents the key findings and recommendations of the Environmental Impact Assessment (EIA) report for the Decommissioning of the Former Kai Tak Airport Other than the North Apron (hereafter known as the Project), submitted under section 6(2) of the Environmental Impact Assessment Ordinance (EIAO). The applicant, Civil Engineering and Development Department, and their consultants will make a presentation.

ADVICE SOUGHT

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

NEED FOR THE PROJECT

3. While most buildings / structures and the ground area at the north apron of the former Kai Tak airport have been decommissioned and decontaminated, there remains area that has not yet been decommissioned. This Project is to decommission and clean up some of the remaining abandoned facilities / structures within the former airport except the Hong Kong Aviation Club, the Electrical & Mechanical Services Department headquarter, the ex-Government Flying Services (ex-GFS) building and the radar station. These facilities are currently still in use and their decommissioning are to be assessed under the on-going Schedule 3 EIA study for the Kai Tak Development (KTD).

DESCRIPTION OF THE PROJECT

4. The Project is a Designated Project under Item 1, Part II of Schedule 2 of the EIAO: "*Decommissioning of airport, including fueling and fuel storage, the aircraft maintenance and repair facilities*".

5. The Project site covers the former Kai Tak Airport south apron including the ex-GFS apron and runway area together with the disused off-shore fuel dolphin. The key works of this Project include:

- ♦ removal of the existing fuel hydrant system buried in the south apron;
- ♦ removal of the underground fuel tanks near the ex-GFS building and fuel supply system in the ex-GFS apron area;
- ♦ demolition of the off-shore disused fuel dolphin structure; and
- ♦ decontamination of the identified contaminated hotspots / areas.

6. The location of the Project and the key works area are shown in **Figure 1**.

VIEWS OF THE DIRECTOR AND RELEVANT AUTHORITIES

7. The Director of Environmental Protection (DEP), in conjunction with the relevant authorities, considers that the report meets the requirements of the EIA Study Brief and the Technical Memorandum on Environmental Impact Assessment Process (TM). Comments from the public and the Advisory Council on the Environment will be taken into account before DEP makes the final decision on the approval of the EIA report.

CONSIDERATION OF REMEDIATION ALTERNATIVES

8. The EIA evaluated various soil and groundwater remediation options with the following being recommended:

- ♦ biopiling to remediate total petroleum hydrocarbon (TPH) contaminated soil;
- ♦ solidification to remediate heavy metal contaminated soil; and
- ♦ skimming to remediate free product of TPH in groundwater.

These options were chosen because they have record of successful applications in Hong Kong and that the treated soil can be backfilled on-site.

CONSIDERATION OF ALTERNATIVES FOR DECOMMISSIONING THE FUEL DOLPHIN

9. The EIA considered 2 options for decommissioning the off-shore fuel dolphin. Option 1 involves the complete removal of the fuel dolphin structure and associated pipelines. Option 2 involves demolishing the fuel dolphin structure down to 1 m below seabed and leave the connecting fuel pipelines in-situ. Option 2 was selected as it eliminates the need for dredging, filling and sediment disposal and hence reduces the environmental impacts associated with the decommissioning activities.

SPECIFIC ENVIRONMENTAL ASPECTS TO HIGHLIGHT

Land Contamination

10. Based on results of the site investigation works, soil contaminated with TPH / volatile organic compounds (VOCs) and heavy metal was mainly detected at the ex-GFS apron area. Localized hotspots contaminated with TPH / semi-volatile organic compounds (SVOCs) and heavy metals were also found at the south apron (see **Figure 1**).

11. All contaminated soil is to be excavated from the contaminated hotspots / areas and transported to the proposed decontamination works area at the northern part of south apron for treatment. Once all the contaminated soil is confirmed to have been excavated, the area will be backfilled with clean or “treated” soil. The recommended remediation methods and volumes are summarized in **Table 1**.

Table 1 Estimated Volumes of Contaminated Soil and Remediation Methods

Soil contaminants	Recommended Remediation Method	Estimated Volume (m ³)
TPH / VOC / SVOC	Biopiling	17,708
Heavy metals	Cement solidification / stabilization	467
Metals and TPH	Biopiling followed up cement solidification / stabilization	113
	Total	18,288

12. The 'Dutch' criteria stipulated in ProPECC 3/94¹ were used for the contamination assessment and set as the remediation goal. All the treated soil will be backfilled on-site.

13. Free product of TPH was detected in groundwater samples at some localized boreholes within the ex-GFS apron area. The volume of free product is estimated to be 6.8 m³. The free product is recommended to be removed by skimming and then be collected by licensed waste collector for appropriate disposal under the Waste Disposal Ordinance provisions.

Impact on Workers for Concurrent Projects

14. Based on the construction programme of this Project, as it relates to other projects within the same Project area of this EIA, there could be overlaps with these projects. They would include:

¹ ProPECC PN 3/94 - *Environmental Protection Department Practice Note for Professional Persons on Contaminated Land Assessment and Remediation*. The Contamination Assessment Plan of this Project was submitted prior to promulgation of the new *Risk Based Remediation Goals (RBRG) for Contaminated Land Assessment and Remediation*.

- ♦ construction of the new Cruise Terminal;
- ♦ the Kai Tak Development Advanced works (which includes construction of local access roads, sewage pumping station, public landing steps cum fireboat berth and electricity substation); and
- ♦ operation of the barging points to serve the Development at Choi Wan and Jordan Valley and the Anderson Road Development Projects.

15. According to the EIA, the construction works for the cruise terminal, the KTD Advance Works projects and the 2 barging point operations are all planned to be carried out at the runway area where no soil contamination is found. In terms of time span, they would be conducted in parallel with the first phase decontamination works at the south apron and the ex-GFS apron area. **Figure 2a** shows the likely concurrent activities for this first phase. Given that the runway area is physically separated from the identified contaminated hotspots / areas, the EIA concludes that no adverse environmental impacts would result from the soil decontamination works on the workers for the concurrent projects. As a precautionary measure, any access crossing the south apron to serve the concurrent project works will be temporarily diverted to provide at least 20 m separation between the access route and any contaminated soil excavation area.

16. During the second phase of the decontamination works, contaminated soil excavation would be completed. Only soil remediation processes will operate at the proposed decontamination works area. The construction of the KTD Advance Works at the ex-GFS apron area is planned to commence once clean up of the contaminated site is confirmed through the submission of site closure assessment report. **Figure 2b** shows the likely concurrent activities for this second phase.

17. The EIA concludes that no adverse environmental impact on concurrent project workers from the soil decontamination works is anticipated with the adoption of environmental control measures at the proposed decontamination works area throughout the remediation processes.

Air Quality

18. The key concern relates to dust and gas emissions from the Project. The EIA recommended mitigation measures including implementation of dust suppression measures as stipulated in the Air Pollution Control (Construction Dust) Regulation; installation of carbon absorber with 99% removal efficiency to the biopiling system and covering of the biopile and stockpile. The EIA confirms that with the adoption of control measures, no adverse air quality impacts and health risks at nearby air sensitive receivers would result from the Project.

Water Quality

19. The key water quality concerns from the land based decommissioning / decontamination works are the contaminated runoff and the discharge of contaminated water from wheelwash and equipment decontamination. Perimeter drains and erosion control facilities will be constructed. Excavated contaminated soil will be stored and treated in bunded areas and will be covered. Leachate collected from the biopile will be recycled back to the biopile. A centralised wastewater treatment unit will be built to treat potential contaminated water. The EIA concludes that, with the implementation of mitigation measures, no adverse water quality impact would be caused by the land based decommissioning and decontamination works.

20. The EIA also confirms that the water quality impact result from the removal of the fuel dolphin would be minimal and acceptable due to the very small scale of works and that no dredging/filling is required.

Cultural Heritage

21. The EIA confirms that heritage resources within the Project site including 2 fire stations, 3 windpoles, the airport pier, runway and seawall are all rated of low cultural heritage significance and none of them will be affected by the Project.

Other Environmental Impacts

22. The EIA report also assessed the potential impacts on waste management, noise, marine ecology and recommended mitigation measures to minimize them. The report concludes that, with appropriate mitigation measures in place, the anticipated impacts are considered acceptable in terms of meeting relevant requirements under the TM.

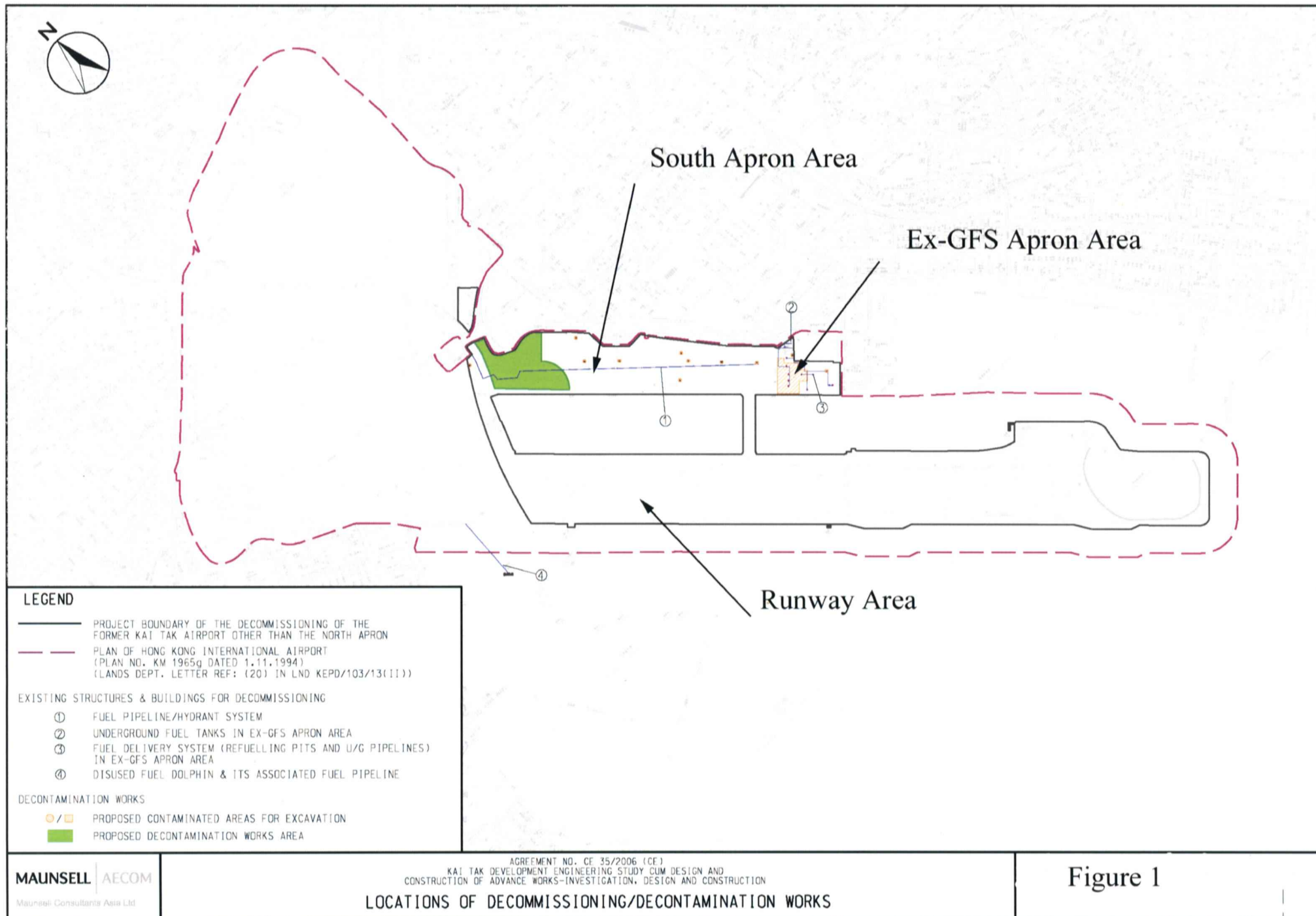
ENVIRONMENTAL MONITORING AND AUDIT

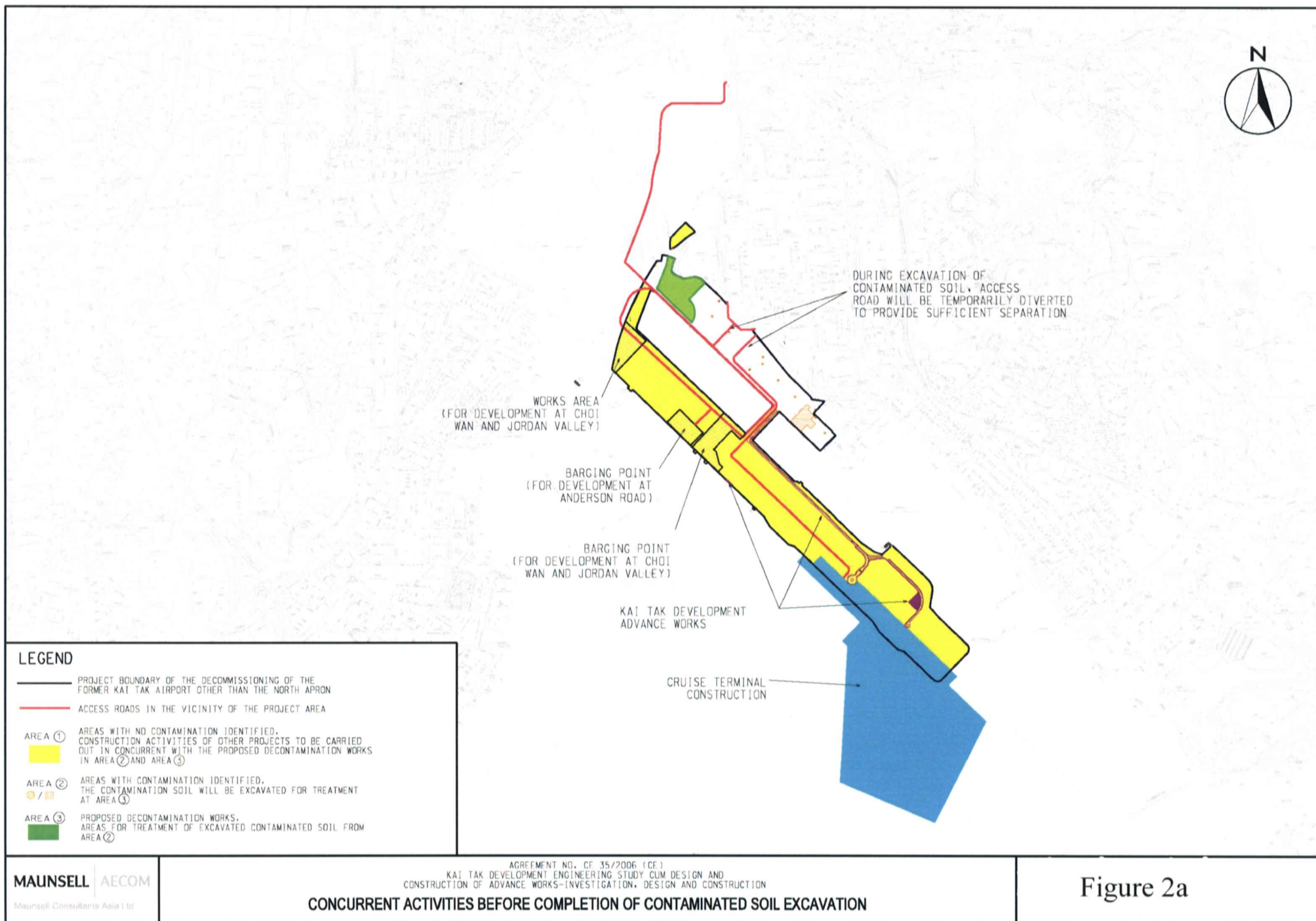
23. The EIA report includes an Environmental Monitoring and Audit (EM&A) Manual which recommends an EM&A programme that includes confirmation testing for decontamination processes, contaminated site closure assessment, dust and VOC monitoring and wastewater discharge monitoring. Independent compliance check on soil and groundwater samples will also be conducted.

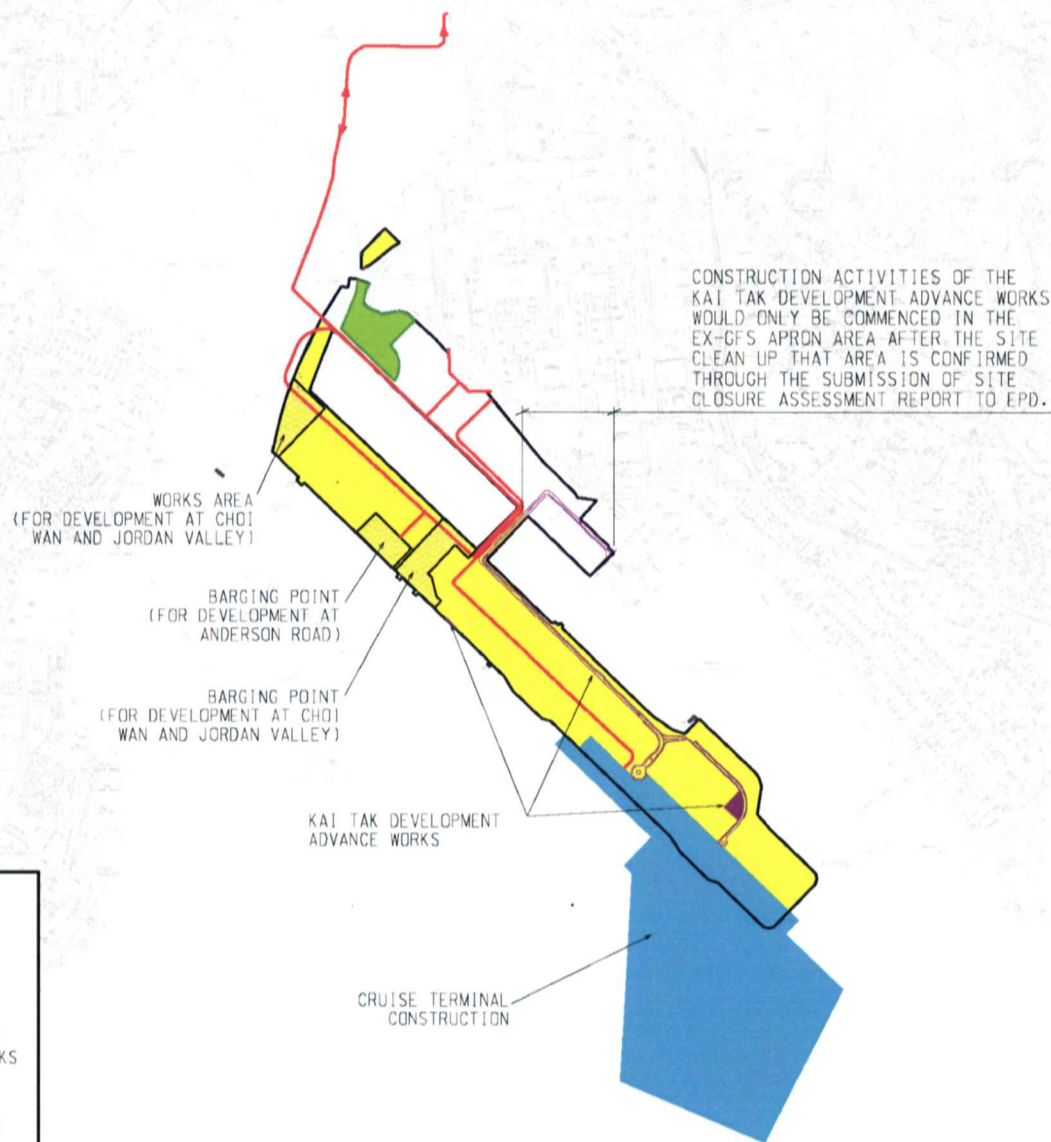
PUBLIC CONSULTATION

24. The applicant has made the EIA report, EM&A manual and Executive Summary available for public comment under the EIAO from 18 October to 16 November 2007. Members will be briefed about any comments received from the public at the meeting.

October 2007
Environmental Assessment and Noise Division
Environmental Protection Department







LEGEND

- PROJECT BOUNDARY OF THE DECOMMISSIONING OF THE FORMER KAI TAK AIRPORT OTHER THAN THE NORTH APRON
- ACCESS ROADS IN THE VICINITY OF THE PROJECT AREA
- AREA ① AREAS WITH NO CONTAMINATION IDENTIFIED. CONSTRUCTION ACTIVITIES OF OTHER PROJECTS TO BE CARRIED OUT IN CONCURRENT WITH THE PROPOSED DECONTAMINATION WORKS IN AREA ③
- AREA ③ PROPOSED DECONTAMINATION WORKS. AREAS FOR TREATMENT OF EXCAVATED CONTAMINATED SOIL FROM AREA ② (SEE DRAWING 2.4d)

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AGREEMENT NO. CE 35/2006 (CE)
KAI TAK DEVELOPMENT ENGINEERING STUDY CUM DESIGN AND
CONSTRUCTION OF ADVANCE WORKS-INVESTIGATION, DESIGN AND CONSTRUCTION

CONCURRENT ACTIVITIES AFTER COMPLETION OF CONTAMINATED SOIL EXCAVATION

Figure 2b