

AGREEMENT NO. CE 45/99

**EXTENSION OF EXISTING LANDFILLS AND  
IDENTIFICATION OF POTENTIAL NEW WASTE DISPOSAL SITES**

**BRIEF**

**Table of Contents**

<i><b>Section</b></i>	<i><b>Page</b></i>
1. Introduction	2
2. Description of the Project	2
3. Objectives of the Assignment	2
4. Description of the Assignment	3
5. Deliverables	4
6. Services to be Provided by the Consultants	6
7. Response to Queries	12
8. Programme of Implementation	12
9. Progress Reports	12
10. Financial Management	12
11. Standards and Specifications	13
12. Director's Representative	13
13. Control of the Project and Assignment	13
14. Information and Facilities Provided by the Employer	13
15. Consultants' Office and Staffing	14
16. Specialist and Sub-consultant Services	14
17. Surveys	14
18. Insurance	14

**BRIEF**

**1. Introduction**

This Brief is to be read in conjunction with the Memorandum of Agreement, General Conditions of Employment of Engineering & Associated Consultants for a Feasibility Assignment, Special Conditions of Employment and Schedule of Fees.

**2. Description of the Project**

- 2.1 Under the Waste Disposal Plan published in 1989, the three planned strategic landfills, namely West New Territories (WENT), South East New Territories (SENT) and North East New Territories (NENT) Landfills were commissioned in 1993, 1994 and 1995 respectively. The total designed capacity of 135 million cubic metres was expected to be able to cater for the waste arisings until 2020s.
- 2.2 In 1998, 16,560 tonnes of municipal solid waste, construction & demolition (C&D) waste and other wastes were disposed of at landfills every day; another 25,700 tonnes per day of C&D material suitable for reclamation, commonly termed "public fill", were diverted to public filling areas for disposal. The current trend on waste growth and availability of public filling areas indicate that there will be insufficient public filling capacity for disposal of C&D material and as a consequence, such material will have to be disposed of at landfills. This will take up valuable landfill space and even with successful implementation of the waste reduction measures under the Government's Waste Reduction Framework Plan and commissioning of the waste-to-energy incineration facilities, the three existing landfills will be full by 2011. The SENT Landfill will be the first one to be exhausted, probably as early as 2005.
- 2.3 The purpose of the proposed assignment (hereafter called "the Assignment") is to (i) investigate the feasibility of extending the existing landfills and (ii) identify potential new waste disposal sites and public filling areas.
- 2.4 Waste disposal inherently can cause adverse environmental implications if not properly planned, designed, constructed, operated, managed and controlled. Environmental considerations should be integrated into the planning process to ensure that adverse environmental impacts will be avoided, such as through identifying environmentally favorable technology and site options. The planning process can also take advantage of the potential environmental opportunities, such as utilisation of landfill gas and energy recovery, to enhance the environmental benefit.

**3. Objectives of the Assignment**

- 3.1 The objectives of the proposed Assignment comprise the following:
  - i) determine the future need for additional landfilling capacity and waste disposal facilities;
  - ii) identify measures to maximise the use of the available landfill void space and to extend the life of the existing landfills;
  - iii) identify the landfills which are suitable for extension, develop the extension schemes and work out the principal requirements;

- iv) identify potential sites within Hong Kong and in its vicinity which are suitable for the development of various types of new waste disposal facilities and public filling areas to meet Hong Kong's waste disposal needs for the 30 years after exhaustion of the existing/extended landfills; and
- v) formulate an implementation plan.

#### **4. Description of the Assignment**

4.1. In order to fulfill the Assignment objectives stated, the following tasks shall be performed:

- i) review the remaining life of the three existing landfills and estimate the quantities and characteristics of wastes including C&D waste and public fill requiring disposal for the 30 years after exhaustion of these landfills;
- ii) establish the need for additional landfilling space, public filling capacity and new waste disposal facilities;
- iii) investigate the feasibility of extending the landfills within and beyond their current site boundaries and determine the additional void space;
- iv) review available technologies and current landfill operations and recommend suitable measures to maximise the use of the existing landfill void space;
- v) review the waste intake distribution and recommend options, such as C&D waste/public fill transfer facility, to extend the life of the existing landfills;
- vi) conduct strategic environmental assessment, engineering, transport and financial assessments to identify the landfills which are suitable for extension and to confirm that the extensions would be environmentally acceptable;
- vii) carry out outline design, make engineering cost estimates, and recommend suitable contract options/arrangements for the landfill extensions;
- viii) identify potential sites for the development of various types of new waste disposal facilities and public filling areas to meet Hong Kong's waste disposal and public filling needs for the 30 years after exhaustion of the existing/extended landfills. Strategic environmental issues such as environmental sensitivity, landscape, ecology, conservation value, and existence of impact on sensitive receivers shall be taken into account in the identification of such sites;
- ix) carry out background environmental monitoring and preliminary site investigation for the potential sites identified;

- x) carry out strategic environmental assessment, engineering, transport and financial assessments for the potential sites and recommend the ones suitable for the development of new waste disposal facilities and to confirm that they would be environmentally acceptable;
- xi) provide justifications for the recommended landfill extensions and new waste disposal facilities at the identified locations by comparing their strategic environmental and overall performance with other options; and
- xii) formulate a plan with programmes for the extension of existing landfills and development of new waste disposal facilities. The plan should include a strategic environmental monitoring and audit programme so that various assumptions affecting the environmental performance of the proposal can be checked with appropriate follow up actions, and that various environmental recommendations can be incorporated into development of the Project.

## 5. Deliverables

- 5.1 Inception Report - Within 4 weeks of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of a report on the following:
- the proposed approach, methodology and main streams for the Assignment;
  - the programme referred to in Section 8.3 of the Brief; and
  - a schedule for the submission of reports necessary to fulfill the requirements of the Assignment and any other working papers the Consultants considered necessary to provide details on the methodology, background studies, literature searches, and the results, findings and conclusions of investigations and inquiries carried out for the purpose of the Assignment.
- 5.2 Progress Reports - Within the first five working days of each month, the Consultants shall submit to the Director's Representative a monthly progress report referred to in Section 9 of this Brief.
- 5.3 Environmental Monitoring and Site Investigation Report - Within 10 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of a report on the results of all the background environmental monitoring and preliminary site investigation carried out under Item (xviii) of Section 6.2.
- 5.4 Strategic Environmental Assessment Reports - Within 10 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of reports on the findings and recommendations of the strategic environmental assessment carried out under Items (ix) and (xix) of Section 6.2.
- 5.5 Site Selection Report - Within 11 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of a report on the identification of existing landfills for extension and potential sites for development of new waste disposal facilities and public filling areas and recommendations referred to in Items (xi) and (xxi) of Section 6.2.
- 5.6 Outline Design Report - Within 12 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of a report on the outline design for the recommended landfill extensions carried out under Item (xv) of Section 6.2.

- 5.7 Draft Final Report - Within 13 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 30 copies of a Draft Final Report. The Draft Final Report shall be a comprehensive and detailed report of the Consultants' findings and recommendations for the Assignment, and it shall include description of the objectives and requirements of the Assignment, input assumptions and data, the options explored, methodology used and factors considered in developing the recommendations.
- 5.8 Final Report - Within 15 months of the commencement date of the Agreement, the Consultants shall submit to the Director's Representative up to 50 copies of a Final Report which shall be a revised version of the Draft Final Report incorporating the comments where appropriate and the Consultants' responses to the comments in appendices.
- 5.9 Draft Executive Summary Report - Within 2 months of the date of approval of the Final Report, the Consultants shall submit to the Director's Representative up to 20 copies of a Draft Executive Summary Report (in English and Chinese) for the Assignment covering the main points in the Final Report.
- 5.10 Executive Summary Report - Within 3 weeks of the date of approval of the Draft Executive Summary Report, or its revised versions where appropriate, the Consultants shall submit to the Director's Representative up to 150 copies of the Executive Summary Report (in English and Chinese) for the Assignment.
- 5.11 Technical Note - Within 2 weeks of the date of approval of the Draft Final Report, the Consultants shall submit to the Director's Representative 5 copies of a technical note detailing the calculations for all cost estimates required under the Assignment.
- 5.12 All reports, technical notes and working papers shall first be issued in drafts for the Director's Representative to circulate to interested parties for comment and/or endorsement. Unless otherwise specified, the Consultants shall issue written responses within 2 weeks of the receipt of comments on the reports or working papers. The Consultants shall issue revised versions of the reports, technical notes and working papers incorporating the comments where appropriate and written responses to comments as appendices and submit them to the Director's Representative.
- 5.13 Unless otherwise specified, the Consultants shall provide the Employer with up to 30 copies of both the draft and revised versions of all reports, technical notes, working papers and responses to comments required under the Assignment.
- 5.14 The Consultants shall draw to the attention of the Director's Representative any Deliverables that are under licence and any pre-existing copyright or patent on any Deliverables and any other restriction whatsoever affecting the Employer's use of the same and, if required by the Director's Representative, to establish the existence of any licence, copyright, patent or restriction.
- 5.15 Unless otherwise specified by the Director's Representative, all reports, technical notes and working papers are to be of A4 size, printed on both sides and be suitably bound with appropriate covers. The Consultants shall prepare the documents in accordance with the following green measures:
- i) Reports, technical notes, working papers and other relevant documents including their drafts should be of A4 size, printed on both sides of recycled paper with no less than 50% recycled materials. The logo of recycled paper should be printed in a prominent area of the paper. Recycled paper used should not exceed 80 gsm.

- ii) Unnecessary or excessive use of plastic laminates, glossy covers or double covers, and blank papers in the production of the documents should be avoided as far as possible. Use of recyclable non-glossy art board paper as document cover is recommended.
- iii) Excessive space around the borders and in between the paragraphs of all documents should be avoided as far as possible. As a general rule, a margin of 2 cm should be sufficient. The font size to be used in typing all documents should be not larger than point 12 or 10 characters per inch. Reports should be of single line spacing.

## **6. Services to be Provided by the Consultants**

### **6.1 General**

- i) The Consultants shall carry out the duties as set out in the General Conditions of Employment and as amplified, extended and stipulated in this Brief.
- ii) The Consultants shall comply with all reasonable instructions of the Director's Representative and with all relevant circulars, standing instructions and technical memoranda as directed by the Director's Representative.
- iii) The Consultants shall give due consideration to all engineering, economic, financial, environmental, transport, safety, security, legal, social, operational and contractual implications of their proposals and recommendations.

### **6.2 Services to be provided**

The Consultants shall:

- i) review the remaining life of the three existing landfills, taking into account the effects of the implementation of the waste reduction measures in the Waste Reduction Framework Plan, commissioning of waste-to-energy incineration facilities, sludge incinerators and other planned waste facilities, treatment of clinical waste by Chemical Waste Treatment Centre or other facilities, and adequacy of public filling capacity;
- ii) estimate the quantities and characteristics of solid waste, including C&D waste, public fill and incinerator ashes, requiring disposal and determine the landfilling and public filling capacity required for the 30 years after the exhaustion of the existing/extended landfills;
- iii) assess the distribution of waste intake, including C&D waste and public fill, at the three existing landfills after implementation of landfill charging and other waste reduction measures;
- iv) based on findings of Items (i) to (iii) and relevant past/on-going studies, strategies and plans, establish the need to extend the life of existing landfills;
- v) evaluate and recommend waste management options, such as C&D waste/public fill transfer facility, to extend the life of existing landfills;
- vi) review available technologies in landfill operations and recommend suitable measures such as alternative daily cover, waste shredding, enhanced compaction, accelerated biodegradation of waste, etc. to maximise the use of existing landfill void space, with due regard to environmental, hygiene and public health requirements;

- vii) review the final landform designs of existing landfills, surrounding landuses, nearby sensitive receivers, areas of conservation value and environmental performance of the landfills. investigate the feasibility of extending the landfills within and beyond their site boundaries and determine the additional void space;
- viii) establish the various requirements for extension of existing landfills, which shall include:
- land and planning requirements;
  - operational requirements;
  - environmental performance requirements, such as those for leachate treatment and landfill gas control;
  - geological and geotechnical engineering aspects; and
  - infrastructure and supporting facilities, such as road access, marine access, electricity and water supply, etc.
- ix) carry out strategic environmental assessment for the potential extensions. The level of details should be such that collection of further detailed information would unlikely affect the environmental recommendations and conclusions. The assessment shall include the following elements:
1. based mainly on existing information, establish baseline conditions of environmental issues potentially affected by the extensions, including water quality, air quality and noise; environmental control and mitigation measures in place and currently adopted such as special landfill design features, operation of wastewater treatment plant, landfill gas extraction system, noise control, etc.; and existence of other specific environmental constraints and opportunities such as landuse compatibility, existence of habitats or sites of conservation value in the proximity of the landfills, and availability of marine transport to reduce road traffic related environmental issues. Where appropriate, a habitat map of 1:25,000 should be prepared showing the recognised sites of conservation importance within a 5km radius and important habitat types within 500m radius of each of the potential extension sites;
  2. provide both environmental and non-environmental reasons behind the selection of potential extension options for further consideration in the Assignment and description of the options;
  3. evaluate the environmental performance of the potential extension options and their environmental acceptability. Issues to be addressed where appropriate include ecology, heritage/archeology, landscape, noise, water, air, landfill gas hazard, sewage infrastructure and cumulative effects. In particular, landscape impact shall be assessed on all areas within a 500m distance from the proposed extension sites whereas visual impact shall be assessed within their visual envelopes;
  4. draw strategic environmental conclusions. The potential extension options considered should be ranked according to their environmental performance;
  5. after the Assignment has identified the recommended extensions, identify any specific improvements, modifications, additional features, mitigation measures and further investigations and studies to minimise environmental impacts and improve its environmental performance;

6. discuss the strategic environmental implications of the recommended extensions with respect to the following issues where appropriate: landfill capacities; areas of countryside, high landscape value, high ecological value and managed habitat for conservation; archaeological, cultural and historical sites; greenhouse gas emission; air quality; and marine and river water quality. The Consultants may wish to make reference to the reports and papers prepared under the on-going study on Sustainable Development in Hong Kong for the 21st Century for territorial information on these issues; and
  7. develop a strategic environmental monitoring and auditing programme stating the key assumptions, recommendations and follow up actions to ensure the future environmental performance of the recommended extensions.
- x) conduct cost benefit analyses for the potential extension options, with any major environmental residual costs and benefits listed out. The costs for providing features and measures for improving their environmental performance should also be included;
  - xi) based on the findings from Items (viii) to (x) above, recommend the extension options to be adopted;
  - xii) identify interfacing issues with existing contracts to be resolved;
  - xiii) recommend the appropriate contractual, financial and staffing arrangements for the recommended extensions and associated environmental opportunities;
  - xiv) estimate the capital and operation costs for the recommended extensions, including cash flow projection and cost breakdown;
  - xv) carry out outline design for each of the recommended extensions. The outline design shall include facilities for waste reception, storage, laboratory testing, plant maintenance, charging collections, site accommodation, leachate treatment and disposal, landfill gas control and utilisation, waste recycling, pollution control, nuisance avoidance, landscape mitigation measures, etc.
  - xvi) conduct a site search exercise (including inland, reclaimed and off-shore sites and areas adjoining the existing landfills) within Hong Kong to identify a long list of sites for the development of various types of new facilities and public filling areas for waste recycling, sorting, treatment and disposal. Based mainly on existing information, an environmental baseline map covering the whole of Hong Kong showing key constraints and opportunities shall be prepared to facilitate this exercise. (The Consultants may wish to refer to other baseline maps prepared under other completed or on-going strategic studies and site search exercises.)
  - xvii) Develop a short list of sites suitable for the development of waste disposal facilities and/or public filling areas from preliminary consideration of technical feasibility and environmental acceptability. The following factors shall be considered:
    - land use of the sites and surrounding areas;
    - private land acquisition;
    - major environmental problems;
    - potential environmental opportunities;
    - potential waste intake capacities;
    - potential public filling capacities;



- potential afteruses; and
- access by land and/or sea

xviii) carry out background environmental monitoring and preliminary site investigation for the shortlisted sites. (*Note: Site investigation may be carried out under GEO term contracts, subject to availability*);

xix) carry out strategic environmental assessment for those sites shortlisted for the development of waste disposal facilities, but excluding those sites shortlisted for development of public filling areas only. The level of details shall be such that collection of further detailed information would unlikely affect the environmental recommendations and conclusions. The assessment shall include the following elements:

1. for each of the shortlisted sites, based mainly on existing information, establish the baseline conditions of environmental issues potentially affected by the provision of various types of new waste disposal facilities, including water quality, air quality and noise; and existence of other specific environmental constraints and opportunities such as landuse compatibility, existence of habitats or sites of conservation value within or in the proximity of the site options, and potential for co-generation. Baseline environmental and landuses information should be obtained to show the nearby existing and planned landuses, and presence of sensitive receivers, surrounding recognised sites of conservation importance and important habitat types. Where appropriate, a habitat map of 1:25,000 should be prepared showing the recognised sites of conservation importance within a 5km radius and important habitat types within 500m radius of each of the potential sites;
2. evaluate the environmental performance of the shortlisted sites and their environmental acceptability. Issues to be addressed where appropriate include ecology, heritage/archeology, landscape, noise, water, air, landfill gas hazard and sewage infrastructure. The environmental performance of the potential new facilities themselves and the cumulative impacts due to other existing and planned facilities nearby should both be covered. In particular, landscape impact shall be assessed on all areas within a 500m distance from the shortlisted sites whereas visual impact shall be assessed within their visual envelopes. For reclaimed and off-shore sites, some preliminary modelling work may be required to demonstrate the general feasibility of these sites from water quality point of view. If an incineration element is included, some preliminary air modelling work may also be required;
3. draw strategic environmental conclusions on the shortlisted sites. The shortlisted sites should be ranked according to their environmental performance;
4. after the Assignment has identified recommended sites for new waste disposal facilities, based on information collected in previous tasks and further strategic environmental evaluation if necessary, establish the environmental performance of the recommended sites, including any relevant cumulative impacts. Specific improvements, modifications, additional features, mitigation measures, further investigations and studies should be identified to minimise environmental impacts and improve the environmental performance;
5. discuss the strategic environmental implications of the recommended sites with respect to the following issues where appropriate: landfilling/public filling capacities, areas of countryside, high landscape value, high ecological value and managed habitat for conservation; archaeological, cultural and historical sites; greenhouse gas emission; air

quality; and marine and river water quality. The Consultants may wish to make reference to the reports and papers prepared under the on-going study on Sustainable Development in Hong Kong for the 21st Century for territorial information on these issues; and

6. develop a strategic environmental monitoring and auditing programme stating the key assumptions, recommendations and follow up actions to ensure the future environmental performance of the recommended sites.
  - xx) carry out engineering and financial assessments for the shortlisted sites, taking into account features and measures for improving environmental performance;
  - xxi) based on the findings from Items (xvi) to (xx) above, recommend sites suitable for developing new waste disposal facilities and public filling areas and establish the requirements for such development, which shall include:
    - land and planning requirements;
    - operational requirements;
    - special options and features required to realise the environmental opportunities, avoid any constraints and adverse impacts, and to enhance environmental performance;
    - other environmental performance requirements, such as leachate treatment, landfill gas control and air emissions, etc;
    - geological and geotechnical engineering aspects; and
    - infrastructure and supporting facilities such as road access, marine access, electricity and water supply, etc.
  - xxii) formulate a strategic plan for incorporating the new waste disposal facilities into the waste management system;
  - xxiii) draw up a project implementation programme for the extension of existing landfills and development of new waste disposal facilities;
  - xxiv) develop a contingency plan with measures to sustain the waste disposal service and minimise environmental impacts if the new waste disposal facilities cannot be commissioned in time to phase in with the closure of the existing/extended existing landfills; and
  - xxv) study the general need, feasibility and requirements of developing new waste disposal facilities in the vicinity of Hong Kong to satisfy its waste disposal need for the 30 years after the exhaustion of the existing/extended landfills.
- 6.3 The Consultants shall report to the Director's Representative or any other delegated person on day-to-day administration of the Assignment and shall attend, serve or report to progress meetings at monthly or any other intervals as agreed with the Director's Representative.
  - 6.4 The Consultants shall take cognizance of any studies/reports related to or have implications on the Assignment.
  - 6.5 The Consultants may wish to refer to the reports and papers of the following studies when conducting the SEA part of the Assignment:
    - Study on Sustainable Development for the 21st Century (on-going study conducted by Plan D)

- Feasibility Study for Waste-to-Energy Incineration Facilities (on-going study conducted by EPD)
- Stage 1 EIA for a New Power Station (conducted by Hongkong Electric Co. Ltd. in selecting a site for a new power station; a copy is kept in the ELAO Register Office)
- Strategic Assessment and Site Selection Study for Contaminated Mud Disposal (on-going study conducted by CED)
- Sludge Treatment and Disposal Strategy Study (on-going study conducted by EPD)

6.6 The Consultants will be expected to communicate and correspond direct with government departments, public organizations or private organizations to obtain information in connection with the Assignment, copying such correspondence to the Director's Representative. Any problems in communication or liaison should be referred to the Director's Representative for assistance. In particular, consultation will be required with the following:

Government Secretariat: Planning, Environment and Lands Bureau  
 Government Secretariat: Works Bureau  
 Government Secretariat: Home Affairs Bureau  
 Government Secretariat: Finance Bureau  
 Government Secretariat: Economic Services Bureau  
 Agriculture and Fisheries Department  
 Architectural Services Department  
 Buildings Department  
 Civil Aviation Department  
 Civil Engineering Department  
 Drainage Services Department  
 Electrical and Mechanical Services Department  
 Environmental Protection Department (various policy and environmental assessment groups)  
 Fire Services Department  
 Highways Department  
 Home Affairs Department  
 Housing Department  
 Department of Justice  
 Labour Department  
 Lands Department  
 Marine Department  
 Planning Department  
 Regional Services Department  
 Territory Development Department  
 Transport Department  
 Urban Services Department  
 Water Supplies Department

The Consultants will be expected to liaise with the governments, public and private organizations overseas on matters related to the Assignment.

6.7 The service for drawing up of requirements, preparation of tender documents, tendering and evaluation, contract administration, supervision and analysis of results for the background environmental monitoring, preliminary site investigation, and air and water quality modelling work shall be deemed to be included in the lump sum fee. The out-of-pocket expenses incurred by the Consultants in carrying out the environmental monitoring and site investigation referred to in Item (xviii) of Section 6.2 and the air and water quality modelling work referred to in Item (xix) of Section 6.2 shall be reimbursed in accordance with Clause 4 of the Schedule of Fees.

## **7. Response to Queries**

The Consultants shall respond to queries under Clause 20 of the General Conditions of Employment raised prior to a date 3 months after the final submission of the Deliverables required under the Agreement at no additional charge to the Assignment, and thereafter on a time charge basis. Such date shall be confirmed in writing to the Consultants by the Director's Representative.

## **8. Programme of Implementation**

8.1 The date for commencement of the Agreement is 1<sup>st</sup> February 2000.

8.2 The Assignment shall be completed within 15 months of the commencement date of the Agreement, working to an agreed work programme.

8.3 Pursuant to Clause 26(B) of the General Conditions of Employment, the Consultants shall submit the draft programme and revised draft programmes and the Director's Representative shall agree, or instruct, within the following periods:

Submission of the draft programme: Within 4 weeks of the commencement date of the Agreement

Agreement of the draft programme: Within 2 weeks from receipt of the draft programme or instruction for submission of the revised draft programme

Submission of revised draft programme: Within 2 weeks from the instruction of the Director's Representative

The draft programme and revised draft programmes shall detail the activities to be carried out, target dates for particular tasks and any decision dates that may be required for the uninterrupted progress of the Assignment. The Consultants shall discuss with the Director's Representative during the above periods to agree the timing of submission of reports, working papers, drawings, other documents and plans for each of the main elements of the Assignment, for inclusion in the draft programme and revised draft programme. Where any required information is not available by the specified date, the Director's Representative shall direct the Consultants as to the appropriate assumption to be made in the light of information available at the time.

8.4 The Consultants shall endeavor to ensure that the Assignment is carried out in accordance with the work programme and shall submit regular programme reviews as part of the progress reports referred to in Section 9 of this Brief.

## **9. Progress Reports**

The Consultants shall submit to the Director's Representative within the first five working days of each month progress reports on all aspects of the services referred to in Section 6 of this Brief. The reports shall include a list of activities which are behind programme, together with proposals to expedite progress, so as to complete the work on time. The reports shall also include updated expenditure forecasts in accordance with Section 10 of this Brief.

## **10. Financial Management**

At monthly intervals or at such other intervals as the Director's Representative may direct, the Consultants shall submit a report on the current and forecast expenditure on the Assignment and the

fees due to the Consultants, in the form to be agreed by the Director's Representative.

## **11. Standards and Specifications**

During the course of the Agreement the Consultants shall adopt such technical and design standards and specifications as are in current use by the Architectural Services Department, Civil Engineering Department, Electrical & Mechanical Services Department, Fire Services Department, Highways Department, Marine Department and Environmental Protection Department or, if non-existent, British Standard Codes of Practice and Specifications. Should instances arise for which suitable standards or specifications do not exist or for which the current standards or specifications appear to require modification or if by the adoption of current standards the Consultants would incur additional expenses not within reasonable contemplation, the Consultants shall submit recommendations on appropriate alternatives to the Director's Representative for agreement.

## **12. Director's Representative**

12.1 The Director's Representative as defined in the General Conditions of Employment shall be the Assistant Director (Waste Facilities) of the Environmental Protection Department or such other person as may be authorised by the Director in writing and notified to the Consultants. The Director's Representative may delegate any of the powers and functions vested in him to other officers. If the Consultants are dissatisfied with a decision or instruction of any such officer the matter shall be referred to the Director's Representative for a ruling.

12.2 During the course of the Agreement the Consultants shall report direct to the Director's Representative.

## **13. Control of the Project and Assignment**

A Steering Group chaired by the Director's Representative will be formed and function during the course of the Assignment and will meet when necessary to monitor progress, provide guidance and consider the Consultants' submissions. The Project Director and other appropriate staff of the Consultants are expected to attend, serve or report to all the Steering Group and Working Group meetings during the Assignment period. Appropriate staff of the Consultants is also expected to attend a maximum of four meetings with regard to District Broads, Rural Committees, the Advisory Council for the Environment, etc. The Consultants shall be paid for attending any additional meetings as requested by the Director's Representative on a time charge basis. The Consultants are not required to write minutes for the Steering Group, Working Group and other meetings stated in this Section. Formal decisions and minutes of the Steering Group meetings will be advised to the Consultants by the Director's Representative, who will issue to the Consultants all necessary instructions from the Steering Group's decision.

## **14. Information and Facilities Provided by the Employer**

14.1 All available information relevant to the Assignment will be provided to the Consultants. The Consultants shall indicate for guidance those documents which they currently hold and those of which a copy may be needed, should the Assignment be awarded to them. A copy of each of the documents indicated as needed will be supplied free of charge by the Director's Representative on request from the Consultants, except those currently available from the Sales section of the Information Services Department.

14.2 The following documents are available for the Consultants' reference:

- "Monitoring of Municipal Solid Waste 1993 and 1994 Hong Kong", Environmental Protection Department, Hong Kong Government, 1995
- "Monitoring of Solid Waste in Hong Kong 1995", Environmental Protection Department, Hong Kong Government, 1997
- "Monitoring of Solid Waste in Hong Kong 1996", Environmental Protection Department, Hong Kong Government, 1997
- "Monitoring of Solid Waste in Hong Kong 1997", Environmental Protection Department, Hong Kong Government, 1998
- "Waste Reduction Framework Plan, 1998 – 2007", Planning, Environment and Lands Bureau, 1998
- Contract Documents of the Development and Management of SENT, NENT and WENT Landfills, relevant volumes

## **15. Consultants' Office and Staffing**

The Consultants shall maintain for the duration of this Agreement an office in Hong Kong under the control of a Project Director of the Consultants who shall be responsible for the Project. He shall have adequate authority and sufficient professional, technical and administrative support staff in all relevant disciplines to ensure progress to the satisfaction of the Director's Representative.

## **16. Specialist and Sub-consultant Services**

The Consultants shall provide all specialist and sub-consultant services required for the satisfactory completion of the Assignment. No additional fees or expenses for the provision of such services rendered locally or overseas shall be payable by the Employer except as otherwise provided for in the Schedule of Fees.

## **17. Surveys**

One velograph and two prints of topographical mapping at 1:20,000, 1:5,000 and 1:1,000 scales prepared by the Survey and Mapping Office of the Lands Department, where available for the area covered by the Project of which the Assignment forms a part, can be obtained free of charge on application to the Director's Representative. All field survey work required for the proper execution of the Assignment shall unless otherwise provided for in the Agreement, be the duty of the Consultants. A copy of field notes, field data and resultant plans arising from these surveys shall be handed over to the Director's Representative upon completion of the Assignment. The accuracy as well as presentation of these surveys should be of a standard agreed by the Director's Representative. Appendix A specifies the division of responsibility for other surveying between the Consultants, the Lands Administration Office and Survey and Mapping Office as well as the relevant sub-offices at district level of the Buildings and Lands Department.

## **18. Insurance**

The amount of insurance cover to be maintained in accordance with sub-clause (A) of Clause 47 of the General Conditions of Employment shall be HK\$3,400,000.

**AGREEMENT NO. CE 45/99****Responsibility for Survey Work**

The division of responsibility among the Consultants, the Lands Administration Office, and the Survey and Mapping Office of the Buildings & Lands Department for surveying required in connection with the Assignment shall be as follows :-

<u>Task</u>	<u>Responsibility of</u>
(1) (a) Provision of basic horizontal and vertical survey control  (b) Checking of given control point values and establishment of survey control net-work(s) based on survey control given vide (a)	Survey and Mapping Office  Consultants
(2) (a) Provision of basic mapping (at 1/1000 or other standard mapping relevant to the Assignment)  (b) Updating and verification of accuracy of information shown on plans supplied vide (a) as necessary in relation to the Assignment  (c) Carrying out detailed surveys for site investigation and for preparation of design and contract documents as necessary in relation to the Assignment	Survey and Mapping Office (excluding those specified as to be provided by the Consultants in the Assignment)  Consultants  Consultants
(3) Supply of existing cadastral plans and records and co-ordinate data	District Survey Office
(4) Computation of detailed dimensioned layouts of roads, drainage and WSD reserves, platforms, etc.	Consultants (checked and accepted by District Survey Office)

	Task	Responsibility of
(5)	Determination of site/lot boundaries, calculation of areas, etc. in connection with the agreed dimensioned layouts	District Survey Office (in liaison with District Lands Office)
(6)	(a) Processing of resumption and surrender for privately owned land in Development Area	District Lands Office (in liaison with District Survey Office and Consultants)
	(b) Resumption and surrender plans and demarcation of lands to be resumed	District Survey Office (in liaison with District Lands Office and Consultants)
(7)	(a) Setting-out of roads, drainage works, formation areas, etc.	Contractors (checked and accepted by Consultants, usually by resident site staff under their supervision.)
	(b) Initial site survey, and interim and final payment surveys	Consultants, usually by resident site staff under their supervision (joint survey with contractors or agreed survey with contractors)
(8)	Preparation of proposal plans for Government land allocations, and grants	District Survey Office (in liaison with District Lands Office)
(9)	Preparation of dimensioned plans and setting out of boundaries of sites and lots for Government land allocation and for grant to architects (Government and Housing Authority)	District Survey Office
(10)	As-constructed surveys (including records of levels on all underground pipelines, etc.)	Consultants, usually by resident site staff under their supervision.