CHAPTER 1

PROJECT PLANNING

The parts of the PAH shown in blue and bold should only be updated by Works Branch of Development Bureau. Amendment No. 3/2009

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<td>14 November 2008</td>
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2008 Edition
SYNOPSIS

This chapter gives a general view of the overall process of planning a project, from identification of the need through various stages of detailed planning to physical implementation. While the actual work involved in planning differs from one project to another, some general patterns and sequence of work are common to all projects. Proper planning saves manpower and financial resources and ensures smooth progression of a project.

This chapter also gives general guidance on the consultation required at various stages of planning, on sources of information that may be needed, and on the standard requirements for keeping essential records and reporting on progress.

A general description of the various stages of a project in the Public Works Programme is given in this Chapter. However, details of the procedures to be followed in processing a project through the Public Works Programme are given in Chapter 2 “Project Approval”.

Reference should also be made to the Project Management for the Public Works Programme - Technical Manual, and other manuals, guidelines and circulars issued by relevant authorities.

Works departments are urged to adopt the Project Management Approach in the delivery of public works projects to ensure clear accountability and allocation of responsibilities. Some measures have been introduced to streamline the delivery of public works projects. These include replacing the Client Project Brief and the Preliminary Project Feasibility Study by the Project Definition Statement and the Technical Feasibility Statement, parallel action between the EIA process and the statutory gazetting of projects, initiating works-related tendering and consultant selection procedures before funding is secured, and shortening the administrative procedures for land resumption.
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I. ABBREVIATION

I.01 The meaning of the abbreviations assigned in this Chapter of the Project Administration Handbook for Civil Engineering Works shall only apply to this Chapter.

I.02 The following list shows the meaning of the abbreviations for the common terms used in this Chapter of the Project Administration Handbook for Civil Engineering Works:

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<thead>
<tr>
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<th>Term</th>
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<td>ACABAS</td>
<td>Advisory Committee on the Appearance of Bridges and Associated Structures</td>
</tr>
<tr>
<td>AFCD</td>
<td>Agriculture, Fisheries and Conservation Department</td>
</tr>
<tr>
<td>APE</td>
<td>Approved Project Estimate</td>
</tr>
<tr>
<td>Arch SD</td>
<td>Architectural Services Department</td>
</tr>
<tr>
<td>CEDD</td>
<td>Civil Engineering and Development Department</td>
</tr>
<tr>
<td>DSD</td>
<td>Drainage Services Department</td>
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<tr>
<td>DEVB</td>
<td>Development Bureau</td>
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<tr>
<td>DEVB TCW No.</td>
<td>DEVB Technical Circular (Works) No.</td>
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<tr>
<td>DoBs</td>
<td>Directors of Bureaux</td>
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<tr>
<td>D of L</td>
<td>Director of Lands</td>
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<tr>
<td>DLO</td>
<td>District Lands Office</td>
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<tr>
<td>EMSD</td>
<td>Electrical and Mechanical Services Department</td>
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<tr>
<td>ENB</td>
<td>Environment Bureau</td>
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<td>EPD</td>
<td>Environmental Protection Department</td>
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<td>ETWB</td>
<td>Environment, Transport and Works Bureau</td>
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<td>ETWB TCW No.</td>
<td>ETWB Technical Circular (Works) No.</td>
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<td>FC No.</td>
<td>Financial Circular No.</td>
</tr>
<tr>
<td>F_M</td>
<td>Functional Manager</td>
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<tr>
<td>FSTB</td>
<td>Financial Services and the Treasury Bureau</td>
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<tr>
<td>HA</td>
<td>Housing Authority</td>
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<td>HAD</td>
<td>Home Affairs Department</td>
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<td>HD</td>
<td>Housing Department</td>
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<tr>
<td>HKPF</td>
<td>Hong Kong Police Force</td>
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<tr>
<td>HPLB</td>
<td>Housing, Planning and Lands Bureau</td>
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<tr>
<td>HyD</td>
<td>Highways Department</td>
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<td>HyDTC No.</td>
<td>Highways Department Technical Circular No.</td>
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<td>Lands D</td>
<td>Lands Department</td>
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<td>LD</td>
<td>Labour Department</td>
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<td><strong>Abbreviation</strong></td>
<td><strong>Term</strong></td>
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<td>LR</td>
<td>Land Registry</td>
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<td>LCSD</td>
<td>Leisure and Cultural Services Department</td>
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<td>LW BTC No.</td>
<td>Lands and Works Branch Technical Circular No.</td>
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<td>MD</td>
<td>Marine Department</td>
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<tr>
<td>MOD</td>
<td>money-of-the-day</td>
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<td>PAH</td>
<td>Project Administration Handbook for Civil Engineering Works</td>
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<td>PDS</td>
<td>Project Definition Statement</td>
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<td>PE</td>
<td>Project Engineer</td>
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<td>Plan D</td>
<td>Planning Department</td>
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<tr>
<td>P_M</td>
<td>Project Manager</td>
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<tr>
<td>QS</td>
<td>quantity surveyor</td>
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<td>RAE</td>
<td>Resource Allocation Exercise</td>
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<td>RAS</td>
<td>Resource Allocation System</td>
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<tr>
<td>SEN</td>
<td>Secretary for the Environment</td>
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<tr>
<td>SDEV</td>
<td>Secretary for Development</td>
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<td>SFST</td>
<td>Secretary for Financial Services and the Treasury</td>
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<tr>
<td>SO(Q)</td>
<td>Survey Officer (Quantity)</td>
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<td>SPR</td>
<td>Stores and Procurement Regulations</td>
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<tr>
<td>STH</td>
<td>Secretary for Transport and Housing</td>
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<tr>
<td>TD</td>
<td>Transport Department</td>
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<td>TFS</td>
<td>Technical Feasibility Statement</td>
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<td>THB</td>
<td>Transport and Housing Bureau</td>
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<tr>
<td>WSD</td>
<td>Water Supplies Department</td>
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II. GLOSSARY OF TERMS

II.01 Words and expressions to which meanings are assigned in this Chapter of the Project Administration Handbook for Civil Engineering Works (PAH) shall only apply to this Chapter.

II.02 In this Chapter of the PAH the following words and expressions shall have the meaning hereby assigned to them except when the context otherwise requires:

“Government” means the Government of the Hong Kong Special Administrative Region.

“project office” means the office responsible for the planning, design and construction of the project.

(Where these functions are performed by different offices at different stages, the project office shall mean the office responsible at each particular stage.)


“Schedule of Rates” and “Works Order” are as defined in the General Conditions of Contract for Term Contracts for Civil Engineering Works (2002 Edition).

“C&D material” is also termed as “construction waste”. (Amendment No. 2/2008)

II.03 Words importing the singular only also include the plural and vice versa where the context requires.
1. OVERVIEW

1.1 GENERAL

This chapter outlines the basic planning requirements for a project. References are made to the latest Manuals, Guidelines, Handbooks, Technical and Financial Memoranda and Circulars, Departmental Instructions, as well as the Project Management for the Public Works Programme - Technical Manual (PMPWP_TM).

The need for a project must be established in the first place and it normally starts from an idea - a response to a problem or an opportunity. To gain a formal status in the Public Works Programmes (PWP), the Policy Bureau makes the idea to the subject of a Project Definition Statement (PDS). The appropriate works department then carries out a Technical Feasibility Statement (TFS) to ascertain the viability, identify development constraints, formulate an implementation strategy, and prepare the project estimates. On completion of the TFS, the works director or his delegated Directorate Officer will sign off the TFS and seek the approval of SDEV (See FC No. 11/2001 [Requirement for Project Definition Statement and Technical Feasibility Statement for Capital Works]) for details).

On approval of the TFS, the project will be in Category C of the PWP. Successful inclusion of the project in the Resource Allocation System (RAS) will entitle it to Category B status. When a project has achieved Category B status, the works department is entitled to carry out further planning and design on it. When the detailed design and working drawings are substantially complete, the director of the works department with the support of the corresponding policy secretary will seek funding for the project from the legislature through the presentation of the Public Works Sub-committee (PWSC) paper. (See FC No. 3/2008 [User Guide on the Finance Committee, Establishment Subcommittee and Public Works Subcommittee] for details.) (Amendment No. 2/2008) The Finance Committee’s approval upgrades the project to Category A status. When a project has achieved Category A status, the works department can put out the work to tender. After receipt of competitive tenders, the authority to accept a tender shall be given from either the relevant tender board or the Controlling Officers, depending on the value of the contract and whether the contract is awarded to the highest combined price-quality scorer or not (See WBTC No. 24/2001 for details). When the authority has given its approval, the works department can accept the tender and get construction under way. Under special circumstances, approval can be sought from the respective Directors of Bureaux (or their Permanent Secretaries if authorised in writing to do so) to go for tendering in parallel with the PWSC procedures before the project has been upgraded to Category A (See FC No. 2/2003 (Initiating Works-related Tendering and Consultant Selection Procedures before Funding is Secured) for details). Details of the Public Works Programme procedures are given in Chapter 2 - Project Approval.

The works department should monitor the planning, design and construction of the works to ensure that there is adequate consultation among the parties concerned, including the maintenance department(s), on all interface and technical works implementation issues as well as the arrangement for handing over of completed works to the maintenance authority for operation and maintenance. Any unresolved issues should be promptly brought to the attention of higher-ranking directorate officers, or should the situation warrant it, the Directors of the departments concerned for an early resolution of the
issues (See WBTC No. 25/2000 for details). The project department should identify and avoid environmental problems, especially in project conceptual stage, by maintaining a close liaison with EPD during the whole project lifecycle.

When the project is completed, it is handed over to the relevant department and maintenance authority for ongoing operation and maintenance.

For small-scale Category D projects costing not more than $21 million, the preparation of a PDS and TFS is not required under normal circumstances, but may be advisable in certain cases. Discretion to undertake a TFS in such cases rests with the appropriate Policy Bureau.

1.2 **NEED FOR A PROJECT**

The need for a project may arise:

(a) to meet planning and development requirements,
(b) to improve existing facilities/services,
(c) to complete an existing development programme,
(d) to address issues raised in Policy Address and/or Policy Agenda, or
(e) to enhance the reliability of the existing service

In order to establish the need for a project, general consideration should be given to:

(a) the problem requiring action,
(b) solution options, including an assessment of relative merits and demerits,
(c) reasons for the choice of the preferred option vis-a-vis other possible solutions, and
(d) consequences of doing nothing.

1.3 **PROCEDURE FOR IMPLEMENTATION**

Once the need for a project is established, the respective Bureau Secretary is required to sign off a PDS for the capital works project. This PDS explains the rationale for the project. Based on the PDS, the works department prepares the TFS to demonstrate the feasibility of the project. Successful projects are upgraded to Category C, and only these can be upgraded to Category B through the annual Resources Allocation Exercise (RAE).
The PDS and TFS are complementary processes to make sure that the projects upgraded to Category B are no longer simply ‘good ideas’, but are well defined in terms of their description, rationale, scope and implementation.

Sometimes, for expediency, convenience, economy and timing of implementation, the project may warrant entrusting to an outside body. See Chapter 2 (Project Approval) and Chapter 8 (Maintenance and Minor Works and Works for and by Others) for further information.

All Category C, B, and A projects in the Public Works Programme (PWP) must be registered in the Public Works Programme Information System (PWPIS) except subvented projects (See Chapter 2 for more details).

1.4 GENERAL PLANNING CONSIDERATIONS

1.4.1 At the Commencement of Preliminary Project Planning

At the commencement of preliminary project planning a Project Definition Statement (PDS) and a Technical Feasibility Statement (TFS) together with minor investigations should normally be carried out for all public works projects except for Category D projects (or Head 708 building projects) costing not more than $21 million or projects which themselves are purely studies, prior to funds being earmarked under the Resource Allocation Exercise (RAE).

To commission a TFS, a PDS will need to be drawn up to provide justifications and scope of each proposed capital works project and must be signed off by the Policy Secretary or his delegated Deputy Secretary. The works department acting as a works agent is expected to complete a TFS by using in-house resources within four months and without recourse to consultancy support. However, if the works director is personally satisfied that consultant input through a feasibility study is required for a proposed project before he is in a position to recommend that funding be earmarked and that the project is technically ready for upgrading to Category B in the Capital Works Programme, he can submit the relevant extract of the feasibility study in lieu of a TFS for approval. Under no circumstances should a consultant be engaged exclusively for the sake of completing a TFS.

See FC No.11/2001(Requirement for Project Definition Statement and Technical Feasibility Statement for Capital Works Projects) for details and ETWB TCW No. 30/2003 for control of client-initiated changes for capital works projects.

1.4.2 Value Management (Ref.: ETWB TCW No. 35/2002)

In general, whenever it is perceived that there are likely to be net benefits, a Value Management (VM) study should be conducted for every major project with an estimated project cost exceeding $200M. Adequate support from top management must be obtained before commencing any VM study. For a complex project, the VM study should be conducted at the feasibility study stage. For a less complex project, which does not require a feasibility study, the VM study could be deferred to the earlier parts of the preliminary design stage.
DEVB maintains two Lists of qualified VM facilitators. Departments can choose from the two Lists or other sources the most suitable facilitators according to the nature of the project, complexity of the problem and their own budgets. To provide a reference for project teams in selecting facilitators, project teams shall compile a report for each VM study and submit it to the departmental coordinator within 28 days after each VM workshop for the maintenance of a reference system.

The details and guidelines on the implementation of value management are given at Appendix 1.4.

Amendment No. 3/2009

1.4.3 Geotechnical Control

ETWB TCW No. 29/2002 and 29/2002A outline the policy and procedures on geotechnical control for man-made slopes and retaining walls in Government projects undertaken by departments or consultants.

ETWB TCW No. 4/2004 outlines the policy and procedures on geotechnical control for foundation works within the Scheduled Areas of the Northwest New Territories and Ma On Shan, and in the Designated Area of Northshore Lantau in Government projects undertaken by departments or consultants.

ETWB TCW No. 15/2005 outlines the policy and procedures for geotechnical control of planning, design and construction for tunnel works undertaken by departments or consultants.

GEO, CEDD should be approached at an early stage in preparing the TFS.

1.4.4 Systematic Risk Management

ETWB TCW No. 6/2005 sets out the requirements and policy on the application of Systematic Risk Management (SRM) in Public Works Projects. Works departments should start preparing the Risk Management Plan at the early stage of a project once it is identified. The Risk Register should be submitted to the headquarters of the Works departments on an annual basis from the project’s inclusion in Cat C until the completion of the project.

1.4.5 Sustainability Evaluation

SA No. 1/2006 sets out the detailed arrangements for the sustainability assessment (SA) system. The department responsible should include a paragraph on sustainability implications in each of its major submission proposals to the Policy Committee and the Executive Council to explain the main findings of its SA. Examples of these proposals include the regional or sub-regional planning studies, comprehensive transport studies, waste management plans, etc.
1.5 CONSULTATION WITHIN GOVERNMENT

During all stages of planning a project, the relevant Government departments and offices should be consulted to obtain comments and agreement to the proposals, and to ensure smooth co-ordination.

The following list, which is not necessarily exhaustive, is given for general guidance:

Advisory Committee on the Appearance of Bridges and Associated Structures (ACABAS) - on aesthetics, visual and greening of highway bridges and associated structures (See ETWB TCW No. 36/2004).

Agriculture, Fisheries and Conservation Dept (AFCD) - if vegetation inside Country Parks and Special Areas under the Country Parks Ordinance, Government woodlands established by Civil Engineering and Development Department around New Towns, vegetation on Systematic Identification of Maintenance Responsibility of Slopes are involved and on matters related to ecological conservation, and details over ecological impact assessment such as ecological important streams/rivers, etc where necessary.

Antiquities and Monuments Office of LCSD - if structures, objects or areas of historical and archaeological interests are affected.

Architectural Services Dept (Arch SD) - on aesthetics design of ancillary buildings in engineering projects, other than highway bridges and associated structures, and on fixed items which are provided for leisure and amenity or the like purpose (See ETWB TCW No. 8/2005).

Civil Aviation Dept (CAD) - if Hong Kong International Airport is affected.

Development Offices, Civil Engineering and Development Dept (CEDD) - on planning, project liaison matters, and requirements for landscape input for most areas.

District Lands Office (DLO), Lands Dept (Lands D) and Government Property Agency (GPA) - on all land and land-related matters.

District Office (DO), Home Affairs Dept (HAD) - on matters which affect the public interest at large and on matter of grave removal.
<table>
<thead>
<tr>
<th>Department</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Drainage Services Dept (DSD)</td>
<td>on matters related to temporary flow diversion and temporary works affecting capacity in stormwater drainage system, matters which involve or affect existing or proposed drainage and sewerage facilities, or which will alter the flow regime of a drainage basin, particularly in flood prone areas and also on matters related to DIA (see ETWB TCW No. 5/2005 and 2/2006), Drainage Reserves and flood relief paths.</td>
</tr>
<tr>
<td>Electrical and Mechanical Services Dept (EMSD)</td>
<td>if major mechanical and electrical installations are involved.</td>
</tr>
<tr>
<td>Environmental Protection Dept (EPD)</td>
<td>on matters related to environmental and pollution aspects, waste treatment and disposal, existing or proposed sewerage facilities, potentially hazardous installation consultation zones and landfill gas consultation zones and also on matters related to EIA (see ETWB TCW No. 13/2003 &amp; 13/2003A), dredging and disposal of sea mud (see ETWB TCW No. 34/2002), use of PFA as general filling material for reclamation (see WBTC No. 14/94), establishment of a site crusher (see WBTC No. 11/2002), and application of Environmental Legislation to the Government (see GC No. 4/99), designation of C&amp;D materials disposal sites (see ETWB TCW No. 31/2004), incorporation of information on C&amp;D material management in PWSC papers (see WBTC No. 25/99 &amp; 25/99A and Environmental Management on Construction Sites (see ETWB TCW No. 19/2005).</td>
</tr>
<tr>
<td>Food And Environmental Hygiene Department (FEHD)</td>
<td>on street cleaning and litter picking from amenity areas</td>
</tr>
<tr>
<td>Fire Services Dept (FSD)</td>
<td>on clearances between highway structures and adjacent buildings and if fire service installations are involved, e.g. fire hydrants, emergency accesses, etc.</td>
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</tbody>
</table>
The project office shall agree with the GEO the scope and extent of all necessary geotechnical investigations and studies to be carried out as part of the project and shall secure adequate funding for carrying out such works.

The project office shall make due allowance in the project programme for these investigations and studies and for the time required to make submissions to the GEO for consultation and audit. For tunnel works, in particular, the project office or its consultants shall consult Hong Kong Geological Survey through CGE/Planning of the GEO to obtain geological advice, especially on identification of geological features. A maintenance agent should be identified for each geotechnical feature at an early stage.

For a project (or its associated facilities) involving land use with potential for rock cavern development (see examples in Table 1, Chapter 12 of HKPSG), the project office or its consultants shall consult CGE/Planning of the GEO to obtain advice on the potential cavern sites. (Amendment No. 1/2009)

Consultation with Regional Office of HyD for the Utility Management System where road openings or closures are proposed.

For natural vegetations, tree preservation and landscape works within the boundary of expressway and on SIMAR slopes maintained by HyD.

If railway reserves or proposals are affected.

On all traffic control aspects.
Hospital Authority (HA) - if hospital facilities or proposals are affected.

Housing Dept (HD) - if public housing proposals are affected.

Leisure and Cultural Services Dept (LCSD) - on matters related to natural vegetation and landscape works and also on matters related to registration and preservation of trees (See WBTC No. 29/2004 and ETWB TCW No. 3/2006, heritage (See DEVB TCW No. 6/2009) Amendment No. 13/2009 amenity, civic, community and recreational facilities etc.

Lighting Division, HyD - if street lighting installations are involved.

Marine Dept (MD), and Port Works Division of CEDD - if marine facilities are affected, and if reclamation works are involved and also on matters relating to Marine Traffic Impact Assessment.

Marine Fill Committee (MFC) and Public Fill Committee (PFC), CEDD - on matters related to management of construction and demolition material (C&DM), fill management (see WBTC No. 12/2000 & ETWB TCW No. 34/2002) and reclamation works requiring dumping grounds and filling by using surplus C&DM or by using borrow areas (see WBTC No. 2/93 & 2/93B, ETWB TCW No. 31/2004 & paragraph 4.1.3 of Chapter 4 of the PAH (Amendment No. 4/2008)) and also on matters related to the use of public fill in reclamation and earth filling projects (see WBTC No. 4/98 and 4/98A), on-site sorting and temporary storage of C&D materials (see ETWB TCW No. 19/2005) and on establishment of a site crusher (see WBTC No. 11/2002).

Mines Division, Geotechnical Engineering Office (GEO), Civil Engineering and Development Dept (CEDD) - if transport, storage and use of explosives are involved; or existing quarries in operation (Anderson Road Quarry, Shek O Quarry and Lam Tei Quarry) may be affected.

Planning Department (Plan D) - on all major projects of strategic planning importance such as major port facilities, major highway and drainage projects. For projects at the district level, the relevant District Planning Office should be consulted.

- Site search for all new land development projects (see HPLB GC No. 1/2004).
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Property Vetting Committee, ArchSD - on matters of Schedule of Accommodation.

Railway Development Office, HyD - if existing railway projects are affected and on all railway matters.

Regional Offices and Bridges and Structures Division, HyD - on matters involving or affecting proposed or existing public roads, tunnels and associated structures.

Research & Development Division, HyD - on matters involving design of highway pavement.

Security Bureau, Permanent Secretary for Security - if military land/property is affected, or on security measures for Government installations.

Survey and Mapping Office (SMO) of Lands Dept (Lands D) - on preservation of survey monuments and marks (see WBTC No. 25/95)

Sustainable Development Division under the Environment Bureau - on application of sustainable assessment system on major programmes which may bring about noticeable or persistent implications on the economic, environmental and social conditions of Hong Kong.

Traffic Engineering Divisions, Transport Dept (TD) - on traffic matters, traffic aids, road alignment and layout generally and also on matters relating to Land Traffic Impact Assessment and Tramway.

Transport Operations Divisions, TD - if public transport is likely to be affected.

Water Supplies Dept (WSD) - on matters related to water supply, or if water gathering grounds, waterworks reserves and waterworks installations are affected and also for incorporation of waterworks into roadworks contracts (see WBTC No. 29/93 and 4/2001).

Other departments, offices and divisions - if their areas of responsibility are affected by the project, or if they will be responsible for the management and/or maintenance of the works when completed.

1.6 CONSULTATION WITH DISTRICT COUNCILS AND OTHERS

1.6.1 Consultation with District Councils

It is advisable that public works projects are presented to the relevant District Council and / or its committees, e.g. Transport & Traffic Committee, Environmental
Improvement Committee etc., when it is considered appropriate by the project office/division and after consultation with the relevant District Office and/or the appropriate Development Office. For projects in rural areas, District Councils quite often require prior consultation with Rural Committee(s) concerned, and consultation with Heung Yee Kuk or major local interested parties may also be required as advised by the District Officer. Such presentations should be made after the proposals have been circulated and agreed within Government departments/offices/divisions. Normally for a works project, consultations will be carried out:

(a) on the completion of the feasibility study,
(b) on completion of EIA, TIA, DIA HIA and other review studies,
(c) before gazetting projects under the Foreshore and Sea-bed (Reclamations) Ordinance and Roads (Works, Use and Compensation) Ordinance, Water Pollution Control (Sewerage) Regulation and Lands Resumption Ordinance.
(d) before tender invitation on related greening works with an estimated value exceeding $3M, see ETWB TCW No. 34/2003.

However, the project officer/division may seek consultation with District Councils at early planning stage for sensitive project with social impacts.

1.6.2 Consultation with Others

Early consultation with the following bodies, as appropriate, is advisable when planning a project:

Advisory Council on the Environment (ACE) - if the project is environmentally and/or ecologically sensitive

Airport Authority - if Hong Kong International Airport is affected.

Bus companies - if bus routes and/or bus stops are affected.

Ferry companies - if ferry piers and/or ferry routes are affected.

Hong Kong Tramways Co. Ltd - if tramways are affected.

Mass Transit Railway Corporation Ltd (MTRCL) - if KCRC (HK) section, Tsim Sha Tsui Extension, Ma On Shan Rail, Light Rail and West Rail reserves or proposals are affected (See ETWB TCW No. 33/2003 & 2/2005 for details).

Mass Transit Railway Corporation Ltd (MTRCL) - if Mass Transit Railway or Airport Railway reserves or proposals are affected (See WBTC No. 19/2002 for details).
Rehabilitation Associations - if the project requires to gather and address the user’s views on facilities for the Disabled.

Rehabilitation Advisory Committee Sub-Committee on Access - (i) the project has implications to the policy of access of disabilities; and (ii) Road/footbridge projects that will remove the existing access for Persons with Disabilities (PWDs) without reprovisioning or with re-provisioning in other manner, or where some of the facilities for PWDs will be of non-standard design.

Town Planning Board (TPB) - if the project will have major planning implications (to be advised by PlanD on the requirement for TPB consultation).

Utility undertakers (including CLP Power Hong Kong Ltd., Hongkong Electric Co., Cavendish Construction Ltd., Hong Kong & China Gas Co., Pacific Century Cyber Works – HKT Ltd., Hong Kong Cable Television Ltd., Hutchison Global Communications Ltd., Wharf New T&T Hong Kong Ltd., New World Telecommunications Ltd., Hong Kong Broadband Network Ltd. etc.) - if major utilities facilities / installations proposals are affected.

The project offices should not commit a third party to performing a task, unless the third party’s prior consent had been obtained, in order to avoid creating potential financial liabilities for the Government (See S for W’s memo WB(CR) 172/59(2002) Pt 1 dated 8.5.2002 for details).

1.7 INTERNAL COMMUNICATION FOR MEGA-SIZE PROJECTS

For a mega-size project, there could be several project teams involved, each handling only part of the project. To guard against any possible breakdown in communication, the officer in charge of the project office, who takes up the overall responsibility for the project, should clearly define the duties and responsibilities of each project team. In addition, he should set up channels, such as regular meetings, to ensure effective communication is achieved amongst the project teams.
### 2. POLICIES, STANDARDS AND GUIDELINES

#### 2.1 GENERAL POLICIES

All engineering projects are formulated and approved in accordance with the policies set down by the Government through individual policy committees or on recommendations of the appropriate advisory committee.

The following list, which is not necessarily exhaustive, is given for guidance:

<table>
<thead>
<tr>
<th>Category</th>
<th>Committees/Commissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land development and Reclamation</td>
<td>Committee on Planning and Land Development (CPLD)</td>
</tr>
<tr>
<td></td>
<td>Antiquities Advisory Board</td>
</tr>
<tr>
<td></td>
<td>Land Acquisition and Clearance Committee (LACC)</td>
</tr>
<tr>
<td>Marine Works</td>
<td>Ports Committee</td>
</tr>
<tr>
<td></td>
<td>Standing Committee on Waterborne Transport (SCWT)</td>
</tr>
<tr>
<td>Port development strategy and programming</td>
<td>Port Progress Committee (PPC)</td>
</tr>
<tr>
<td></td>
<td>Hong Kong Port Development Council</td>
</tr>
<tr>
<td></td>
<td>Port Co-ordination Committee (PCC)</td>
</tr>
<tr>
<td>Potentially hazardous installations</td>
<td>The Co-ordinating Committee on Land-use Planning and Control relating to Potentially Hazardous Installations (CCPHI)</td>
</tr>
<tr>
<td>Preventive or remedial works to existing slopes</td>
<td>Landslip Preventive Measures Committee (LPMC)</td>
</tr>
<tr>
<td>Reclamation work involving marine fill and disposal</td>
<td>Marine Fill Committee (MFC)</td>
</tr>
<tr>
<td>Management of Construction and Demolition Materials</td>
<td>Public Fill Committee (PFC)</td>
</tr>
<tr>
<td>Road projects</td>
<td>Transport Policy Co-ordinating Committee (TPCC)</td>
</tr>
<tr>
<td></td>
<td>Transport Advisory Committee (TAC)</td>
</tr>
<tr>
<td></td>
<td>Standing Conference on Road Use (SCRU)</td>
</tr>
<tr>
<td></td>
<td>Advisory Committee on the Appearance of Bridges and Associate Structures (ACABAS)</td>
</tr>
<tr>
<td></td>
<td>Antiquities Advisory Board</td>
</tr>
<tr>
<td>Sewage Treatment / Disposal and Environmental issues and mitigation measures</td>
<td>Advisory Council on the Environment (ACE)</td>
</tr>
</tbody>
</table>
The terms of reference and composition of some of these permanent committees and bodies can be found in “Civil and Miscellaneous Lists” published by the Government of the Hong Kong Special Administrative Region.

2.2 GENERAL STANDARDS

The basic planning standards for development projects are given in the “Hong Kong Planning Standards and Guidelines” (HKPSG) which is mainly concerned with policy guidelines, provision standards, location factors and site requirements. The HKPSG are applicable to the three tiers of land use planning in the Hong Kong Special Administrative Region, namely territorial, sub-regional and district. They are also used in the preparation of development statements and planning briefs. Local variations to the standards and guidelines set forth may be necessary having regard to such factors as:

(a) socio-economic structure of the population,
(b) population density,
(c) location, and
(d) topography.

Wherever modifications to the stipulated standards, dimensions, site areas and location factors are deemed necessary, the relevant planning authority, the Architectural Services Department and the client department should be consulted and agreement sought as appropriate.

For detailed project planning and general design standards, reference should be made to the following:

PWP projects - Project Administration Handbook for Civil Engineering Works
                  Project Management for the Public Works Programme - Technical Manual

Traffic, roads and highway structures - Structures Design Manual for Highways and Railways
                  Transport Planning & Design Manual
                  Hong Kong Planning Standards and Guidelines, Chapter 11, Section 7 – Use of Land Beneath Flyovers and Footbridges

Highway projects - Highways Department Road Notes, Highways Department Guidance Notes, Pavement Design Manual, Public Lighting Design Manual and, Highways Department Standard Drawings
Sewerage, stormwater drainage, sewage treatment and disposal - DSD Practice Notes, Stormwater Drainage Manual and Sewerage Manual
DSD Standard Drawings

Port works - Port Works Design Manual
CEDD Standard Drawings
Control of wave reflection in Victoria Harbour

Geotechnical works - A list of technical guidance documents used by the GEO, CEDD as defacto geotechnical standards is given in Technical Guidance Note No. 1 (TGN 1) and CEDD Standard Drawings

Waterworks - WSD Project Management Manual
WSD Civil Engineering Design Manual
WSD Project Administration Manual
Hong Kong Waterworks Standard Requirements
WSD Standard Drawings
WSD Technical Notes
WSD Departmental Instructions
A note on Unit Cost Ready Reckoner System
WSD Guidance Notes / Manual of Mainlaying Practice

Environmental protection - Environmental Protection Department (EPD)
Technical Memorandum on Environmental Impact Assessment Process
EPD Professional Persons Environmental Consultative Committee Practice Notes (ProPECCPNs)
EIAO Guidance Notes
Greening - Hong Kong Planning Standards and Guidelines, Chapter 4, Section 2 – Greening
WBTC No. 25/92 - Allocation of Space for Urban Street Trees
WBTC No. 25/93 – Control of Visual Impact of Slopes
Cyber manual for Greening as detailed in ETWB TCW 11/2004
WBTC No. 17/2000 – Improvement to the Appearance of Slopes
ETWB TCW No. 34/2003 – Community involvement in Greening Works
WBTC No. 7/2002 – Tree Planting in Public Works
ETWB TCW No. 2/2004 – Maintenance of Vegetation and Hard Landscape Features
ETWB TCW No. 29/2004 – Registration of Old and Valuable Trees and Guidelines for their Preservation.
ETWB TCW No.10/2005 – Planting on Footbridges and Flyovers.
ETWB TCW No. 3/2006 – Tree Preservation
HyDTC No. 10/2001 – Visibility of Directional Signs
HyDTC No. 7/2006 – Independent Vetting of Tree Works under the maintenance of HyD
Greening Master Plans developed by CEDD and published in its website for the relevant districts, if available

2.3 REPORTS ON MAJOR STUDIES

Much useful information is contained in major study reports which have been used as a basis for formulating general policy and development guidelines for the Territory as a whole. A comprehensive listing of these reports is available in departmental libraries and in the THB and DEVB Library.
3. PRELIMINARY STAGE

3.1 PRELIMINARY PROJECT APPRAISAL

3.1.1 Project Definition Statement (PDS)

In the preparation of a PDS, the following requirements should be observed:

(a) the need for the project has been identified and justified,

(b) the proposed project will meet the need in full or in part,

(c) the proposed project will not duplicate or be in conflict with any other existing or planned projects, and

(d) the proposed project is in line with approved policy and approved plans.

3.1.2 Technical Feasibility Statement (TFS)

The works department will carry out a TFS after an approved PDS is obtained.

A completed TFS will need to be submitted to SDEV for approval.

A TFS should contain the following information:

(a) Project scope and description with preferred development option and outline layout plan.

(b) Land requirements stating the location, present zoning and whether planning permission amendment to the existing zoning is required. Also, the advice from Director of Lands on whether clearance/land resumption is required and the estimated time for site hand-over should be included in the TFS (See ETWB TCW No. 27/2003 for details and HPLB GC No. 1/2004 for new projects that required site search and reservation).

(c) Development constraints. This should include, but not limited to, the following major issues:

(i) Geotechnical aspects

Include a preliminary geotechnical appraisal (PGA) of the site in order to identify geotechnical constraints and risks affecting cost and programme, and man-made slopes and retaining walls which would affect or be affected by the project, and state whether geotechnical studies are required. The project office shall approach the GEO for advice at an early stage of the preparation of the TFS that contains any geotechnical content. This includes advice on the control and use of explosives, when blasting is
anticipated, e.g. major site formation or tunnel works with substantial excavation in rock.

The project office shall seek comments from the GEO on the draft Consultancy Brief for Feasibility Study for a new project, which may require blasting works. Paragraph 8 of Appendix 1.3 provides guidelines on the preparation of the PGA and TFS for projects involving blasting.

Agreement should be reached with the GEO to define the extent of man-made slopes and natural hillsides to be investigated and studied in the project, and the extent of all necessary geotechnical investigation and studies to be carried out as part of the project. Only a desk study of available information is expected to be carried out for the preliminary geotechnical appraisal. The Hong Kong Geological Survey maps and memoirs, Geoguide 2 and the relevant geotechnical guidance documents listed in GEO Technical Guidance Note No. 1 (TGN 1) provide useful information for planning purposes. Reference should also be made to Appendix 1.4, TGN 1 and GEO Report No. 138 for guidance on dealing with natural terrain hazards.

In preparing the PGA for projects involving tunnel works and in undertaking any supporting engineering feasibility studies (EFS), the project office or its consultants shall consult the Hong Kong Geological Survey through CGE/Planning of the GEO to obtain general geological advice, especially on identification of geological features. The EFS and the PGA of the project should cover geotechnical considerations such as identification of problematic ground, formulation of preliminary ground models, including the hydro-geological models, and preliminary assessment of geotechnical risks (both during construction and in the long-term when the facility is operating).

The project office shall conduct a risk assessment to determine whether the proposed tunnel works under the project would pose a significant risk to public life and property and include in the EFS and PGA the possible scope and extent of site investigations and geotechnical studies required to reduce uncertainties and risks.

The project office shall consult the GEO, take into account GEO’s response in finalising these documents and submit a copy of the final versions to the GEO. GEO Technical Guidance Notes 24 and 25 provide useful information on site investigation for tunnel works and geotechnical risk assessment for tunnel works, respectively, and requirements relating to the geotechnical control for tunnel works are given in ETWB TCW No. 15/2005.

For foundation works within the Scheduled Areas in Northwest New Territories and Ma On Shan, and in the Designated Area of Northshore Lantau, GEO Technical Guidance Notes 12 and 26 provides useful information and guidance, and ETWB TCW No.
(ii) Disposal of dredged marine mud

For projects which involve the marine disposal of dredged/excavated sediment, the management framework for such sediment should be considered at an early stage. It would be beneficial to consult the Marine Fill Committee (MFC) to identify the principles for mud dredging/excavation proposals and the need for disposal sites that are required by the project. See ETWB TCW No. 34/2002 for details.

(iii) Management of Construction and Demolition (C&D) Material

Early consideration should be given to minimise C&D material generation and to reuse inert material generated including rock as far as possible. For reclamation and earth filling projects, the maximum use of public fill should be identified and advice from the Public Fill Committee (PFC) should be sought if necessary. For projects which involve disposal of public fill, the PFC should also be consulted on the availability of suitable public filling facilities. See WBTC No. 2/93, 2/93B, 4/98, 4/98A, 11/2002, and ETWB TCW No. 31/2004, 19/2005 and paragraph 4.1.3 of Chapter 4 of the PAH for details (Amendment No. 4/2008).

(iv) Drainage aspects

Preliminarily assess the likely impacts of the project on existing and planned drainage systems, natural streams and rivers both during the construction phase and in its completed state. Early notification to DSD to determine the necessity of Drainage Impact Assessments may be required. See ETWB TCW 2/2006 for details. The project office should avoid any potential impact on natural streams/rivers, particularly the Ecologically Important Streams as advised by AFCD from time to time. If this is unavoidable, the project office should assess the feasibility of appropriate measures to minimize or compensate such impacts. See ETWB TCW No. 5/2005 for details.

(v) Traffic impact

Assess the major traffic impact due to construction of the project. For transport infrastructure projects, a preliminary investigation of the adequacy of the proposal in the Project Definition Statement from traffic and transport view point and any other alternative
proposals should be included. Early liaison with TD on Traffic Impact Assessment may be required.

(vi) Air Ventilation

To check the requirements for air ventilation assessment in accordance with ETWB TCW No. 1/06.

(vii) Interface problems

Anticipated major interface problems should be identified as early as possible. This is particularly important for projects which would have significant interface with other existing and/or planned projects, either carried out by Government or by a third party.

(viii) Other considerations

If necessary, include other development or engineering constraints that could be identified at this early stage and that may have significant cost and/or programme implications to the project. These may include project-specific issues or general technical matters, such as major impacts on waterworks installations, major utility diversion tree felling/preservation, preservation of survey monuments/marks, control of landscape and visual impact of the proposed works, i.e slopes, roadside structures, scenic features etc or the use of hand-dug caissons and a summary of all further studies needed to be carried out when the project is upgraded to Cat. B.

(d) Environmental Considerations. The works department, in consultation with DEP where necessary, should categorize the project as to whether it is a designated project or not under the Environmental Impact Assessment Ordinance (EIAO). For designated projects under the EIAO, the works departments are required to either (a) conduct an EIA study in accordance with the Technical Memorandum on EIA Process or (b) seek permission to apply directly for an Environmental Permit (See ETWB TCW No. 13/2003 & 13/2003A and Paragraph 4.1.3 for details). For non-designated projects, the works department’s undertaking should be included to either provide the mitigation measures to implement standard pollution control measures during construction or to carry out a Preliminary Environmental Review of the project, as appropriate. See also WBTC No. 4/97 (Guidelines for Implementing the Policy on Off-site Ecological Mitigation Measures) and GC No. 4/99 (Application of Environmental Legislation to the Government). During the course of project implementation, the works agent should take a proactive role in protecting the environment.

(e) Project Programme. Attach a Gantt chart covering major activities from receipt of the PDS to physical completion, highlighting the critical path.
(f) Capital Cost Estimates. To prepare a preliminary project estimate at constant prices with rough breakdown into categories of design and related services (including consultancy fees and resident site staff cost), site investigation, construction works, energy efficient features and/or renewable energy technologies as described in ETWB TC 16/2005, green government buildings as described in DEVB TCW No. 5/2009 and Amendment No. 13/2009 other costs not covered by project main contracts, contract contingencies and project contingencies.

(g) Management of Contaminated Site. The likelihood of encountering contaminated soil on a site should be identified at the outset of the TFS. This can be based on tracing the land-use history of the site. Where contaminated soil is encountered, the appropriate assessment and remediation measures should be considered in accordance with the “Guidance Note for Contaminated Land Assessment and Remediation” issued by EPD and posted on its website: http://www.epd.gov.hk/epd/english/envir_standards/non_statutory/esg_non_stat.html. As a general principle, project proponents should minimise the disposal of contaminated soil by maximising its reuse as far as possible. Owing to the limited capacity of landfills, landfill disposal should be considered as a last resort. Where landfill disposal of the contaminated soil is considered unavoidable, project proponents should consult EPD at an early project planning stage and near the time of implementing the project to establish the amount of contaminated soil that can be accepted for disposal at landfills and a tentative disposal programme as far as possible. Contaminated soil should not be disposed of at public fill reception facilities or sorting facilities (See also Paragraph 3.5.4 of Chapter 3).

(h) Heritage Considerations. The works department should confirm to the Antiquities & Monuments Office (AMO) (i) whether there is/are any declared monuments, proposed monuments, sites and buildings graded by the Antiquities Advisory Board, sites of archaeological interest or Government historic sites identified by AMO within or in the vicinity of the project boundary; and (ii) whether a Heritage Impact Assessment for the project is required to be conducted. (See DEVB TCW No. 6/2009 for details) Amendment No. 13/2009.

Whenever waterworks are involved in projects that are carried out in association with new town or strategic growth areas (SGA) developments, its placement in the PWP shall follow the model as illustrated in WB TC No. 4/2001 (Appendix A). This is to determine how these waterworks projects should be grouped together with the new town or SGA works as a conglomerate PWP item.

3.2 FEASIBILITY STUDY

3.2.1 Need for a Feasibility Study
It is possible that a TFS or other planning process may conclude that a further wider feasibility study be undertaken prior to proceeding to preliminary design. Such feasibility studies may cover various aspects of engineering development, such as land development, transportation and building development.

Major proposals for land development, e.g. reclamation, have to be considered at the planning stage by the Committee on Planning and Land Development (CPLD) before a commitment to undertake a major planning or development study is entered into. A submission to CPLD explaining the purpose and the need for the study is required.

If major transportation planning considerations are also involved, the submission must be considered by the Development Bureau.

The need for a feasibility study may also arise when it is required to study the various options for implementing certain Government policies. As an illustration, it may be that a certain area has been earmarked for various types of future land development in an Outline Development Plan. At a later stage, a change in Government development strategy may require that the development potential for an increased population in this area be examined. A feasibility study will then need to be undertaken to estimate the development potential of the area.

Instead of a clearly defined stage, many feasibility studies form part of an on-going process from the very early stage of planning of a project. The drafting of an Outline Development Plan should always take into account the engineering feasibility of the proposals.

3.2.2 Feasibility Study In-house

Feasibility studies are usually undertaken in-house if the necessary expertise and resources are available. The activities could include the collection of background information such as maps, plans and previous investigation results, planning and design considerations, consultation with other Government departments/offices and/or outside bodies, estimation of costs and revenue, preparation of implementation programmes, etc.

3.2.3 Feasibility Study by Consultants

Consultants may be engaged to undertake a feasibility study on an important or a major development project if:

(a) The necessary expertise cannot be found in-house, and/or

(b) A team of multi-disciplinary professionals are involved, and/or

(c) Sufficient manpower resources are not available in-house to carry out the study.

For projects managed by CEDD, studies are normally carried out by consultants. Reference should also be made to “Handbook on Selection, Appointment and Administration of Engineering and Associated Consultants” (EACSB Handbook), WBTCs No. 16/95, 16/95A & 16/95B - Selection and Remuneration of Engineering and Associated Consultants.
Studies undertaken by consultants may be broadly classified into two types:

(a) A feasibility study on a proposal that does not fall within the scope of an existing item in the PWP. Such a study normally includes investigating the feasibility of a development or a project, considering alternatives, and searching for the best method of implementation.

(b) A review study on a project to update the previous feasibility studies, ascertaining data integrity and updating requirements and standards. There is usually little doubt about the feasibility of the project. Such review studies will normally be undertaken to find the best method for implementing the project.

Consultancies usually begin with a Brief to the consultant stating the purpose and scope of the study, and conclude with a final report. Preliminary, interim or draft reports are normally compiled during the study and circulated to relevant Government departments/offices and outside bodies for comments. Circulation of reports to outside bodies during the study has to be carefully managed in light of the sensitivity of study findings that are still under the Government’s consideration. The studies should be co-ordinated through a Steering Group chaired by the project office, and composed of representatives from selected Government departments, other parties concerned and the consultant, which meets periodically to review progress, address problems and offer advice for progressing the study to its conclusion. Methods of funding feasibility studies are described in Chapter 2.

3.2.4 Feasibility Study Report

The Feasibility Study Report should contain the following information:

(a) The scope, purpose and background of the study. In the case where a feasibility study is undertaken by a consultant, such information is normally included in the Brief.

(b) An executive summary of the study (in both English and Chinese).

(c) Planning considerations, such as consideration of different options, public acceptance and problems at construction stage, population predictions, schedule of land use, marine impact, clearance/resumption requirements, land acquisition, re-provision of existing facilities, and any related social or financial implications.

(d) Engineering considerations including consideration of different options.

(e) Traffic and transportation considerations, such as an adequate road network, traffic impact assessment for different stages of the project, effect on external links, public transport requirements and options.
(f) Assessment of drainage impacts of the project, and recommendations of measures to mitigate these impacts and on appropriate land reserve required for drainage facilities and mitigation measures.

(g) Recommendations for the execution of the project, including programme for implementation.

(h) Estimates of costs and revenues.

(i) Assessment of environmental impact at different stages of project including but not limited to air, noise, water waste, ecological, visual and landscape aspects, and recommendations of appropriate mitigation, environmental monitoring and audit measures. Viability of alternatives should also be considered to avoid and minimize impacts.

(j) Sustainability assessment may be required for territory-wide or strategic studies and major projects.

(k) Alternative or contingency plans.

(l) Report drawings.

The draft, preliminary and interim reports produced throughout the study are circulated to relevant Government departments/offices and outside bodies for comments.

3.3 REVIEWS

The implementation of new town developments and major projects are usually in phases and may take more than 10 years from commencement to completion. Different phases of implementation are treated as different projects. Separate PDS and TFS have to be completed before funds can be allocated for detailed design. In the event that there is a long time lapse between the feasibility study and the detailed design, a review on the previous findings and the current situation together with ground investigation, EIA, TIA, HIA and DIA etc. should be carried out before commencing the detailed design of works in subsequent phases.

If the preliminary design of a project was carried out by consultants or entrusted works agents, it should be reviewed before proceeding with the detailed design. See ETWB TCW No. 19/2003 for details.

3.4 CLIENT-INITIATED CHANGES FOR CAPITAL WORKS PROJECT

ETWB TCW No. 30/2003 sets out the control of changes in capital works projects initiated by Client Policy Bureaux, Client departments or subvented bodies, which involve a change in the policy, user requirements or timing of the project from those originally stated in the PDS/TFS for Category B and Category C projects, or PWSC submissions not involving an increase in the Approved Project Estimates. It also contains a flow chart to illustrate the necessary procedure for easy reference.
4. STAGES IN THE PUBLIC WORKS PROGRAMME

4.1 PWP CATEGORY C STAGE

4.1.1 Definition of Project Requirements

A project is included in Category C of the PWP on completion of a TFS which is approved by SDEV. Through the TFS, the requirements of the project are defined and a rough order of cost, together with the technical feasibility of the project, is identified. The extent of works as well as a programme for implementation are also defined.

All Category C projects in the PWP, except subvented projects, must be registered in the PWPIS, which is administrated by the Public Works System Administration Section of DEVB. Works department is responsible for recording and updating of project and contract data in the PWPIS in respect of programme, estimates, expenditure and other important information. Project officers should follow the data administration procedures in PWPIS Data Administration Manual, which is issued by DEVB and posted on PWPIS web page.

4.1.2 Consideration of Resources

Under normal circumstances, the works department and enabling departments should have no works commitment at this stage. Consideration should, however, be given to the availability of resources required to undertake the project prior to the inclusion of the project in the latest six-year Capital Works Reserve Fund Resource Allocation System (CWRF RAS) exercise, i.e. upgrading to Category B. In addition, the recurrent financial and staff implications of the project after completion should also be considered.

In special cases, where justified, SFST may agree to the employment of consultants to undertake a preliminary design for projects in Category C. Expenditure for these purposes should be dealt with either by part upgrading of the project to Category A or by charging the expenditure to the appropriate block allocation as a Category D item, if the expenditure is not more than $21M.

Should there be any change to the scope of a project after its TFS is completed and approved and/or is included in Category B, policy support should be obtained from the relevant Policy Bureau before seeking approval from DEVB.

4.1.3 Notification to EPD

Completion of the TFS will involve EPD and their comments on the project will form part of the documentation. With the EIA Ordinance coming into operation on 1 April 1998, it is necessary for a designated project to either (a) obtain an EIA study brief from EPD for the conduct of a EIA study in accordance with the Technical Memorandum on EIA Process or (b) seek permission to apply directly for an Environmental Permit (See ETWB TCW No. No. 13/2003 and 13/2003A for details) upon upgrading the project to Category B. Project profiles shall be submitted in both English and Chinese for application for an EIA study brief. For non-designated projects, the project proponents’ undertaking should be included to either provide the mitigation measures to implement standard pollution control measures during construction or to carry out a Preliminary Environmental Review of the
project as appropriate. See ETWB TCW No. No. 13/2003 and 13/2003A for details of necessary procedures required under the EIA Ordinance. During the course of project implementation, the works agent should take a proactive role in protecting the environment.

4.1.4 Preparation for the Resources Allocation Exercise (RAE)

All Capital Works RAE bids must be accompanied by a PDS and a TFS approved by SDEV. The policy bureau concerned will need to submit other information as set out in RAE call circulars, including for instance the recurrent implications arising from the proposed project. The policy bureau, after receiving returns from works departments, will prioritise the projects in the RAE. See FC No. 11/2004 for Capital Works Programme.

Under normal circumstances, the project in Category C will automatically be deleted from PWP if it is not upgraded within three years.

4.1.5 Preparation of the Schedule of Accommodation

For projects that involve the provision of buildings to accommodate operational staff, plant installations, storerooms etc., a schedule of accommodation should be prepared and submitted to the Government Property Agency to obtain approval of the size of functional parts of the building. A specimen submission to the Chairman, Property Vetting Committee is given at Appendix 1.1. The preparation of the schedule should normally be made in consultation with the works and maintenance departments and the schedule should include, where required, the staff it is intended to accommodate in the building. If the detail requirements cannot be confirmed at this stage, the submission of the schedule of accommodation can be done at the Category B Stage.

The standard space entitlement for Government offices is set out in the Accommodation Regulations, copies of which are kept by the department / office headquarters.

4.2 PWP CATEGORY B STAGE

4.2.1 General

Projects in Category C will compete for resources under the RAS. Successful projects will achieve Category B status. The works department should, in accordance with ETWB TCW No. 4/2006 and the supplementary guidelines “Timeframe for Resolution of Public Objections” issued by the DEVB via emailing on 2 Sep 2009 at Appendix 1.5 (Amendment No. 9/2009), carry out the planning and design works. It should be noted that Works Departments could discuss with the enabling bureaux/departments in respect of exceptional cases to shorten the normal processing time. (Amendment No. 9/2009)

This is the stage when ground investigation, detailed planning and design, tender documentation and any necessary statutory procedures are carried out. Acquisition and clearance of the land required for the project, and allocation of the works area should be requested to tie in with the target start date included in the latest CWRF RAS programme.
Consultation with other departments on anticipated problems or requirements during construction should be made. Sufficient time should be allowed for obtaining DEP’s approval of an EIA study report under the EIAO. Of particular importance is the timely gazetting and authorisation of Outline Zoning Plan (OZP), reclamations, roadworks and sewerage works under the Town Planning Ordinance, Foreshore and Sea-Bed (Reclamations) Ordinance, Roads (Works, Use and Compensation) Ordinance and Water Pollution Control (Sewerage) Regulation respectively.

A detailed estimate of the cost of the project should be prepared when detailed design is nearing completion. Where re-provisioning works for the existing installations are required, the project fund should cover the cost for the necessary re-provisioning works including any administrative costs, such as fees, expenses, etc. (See WBTC No. 29/93). The estimate of recurrent consequences of the project should also be updated at this stage. (Note: agreement on the division of maintenance responsibility should be made at this stage.)

For WSD projects, detailed planning which commenced upon inclusion of the project in Category C may continue in this stage and planning reports are produced. Ground investigation, detailed design and tender documentation etc., will be implemented in accordance with the programme set out in the planning report. The relevant WSD project vote should cover the cost for any new waterworks and/or improvements to existing waterworks (See WBTC No. 29/93).

When a project is in Category B and it is planned to call tenders for the project in the next financial year, it will be necessary to include the project in the Draft Estimates for that year.

When detailed design and tender documentation are substantially complete, legal procedures are cleared and the project is ready in every respect for tenders to be called, steps should be taken to upgrade the project to Category A.

4.2.2 Public Works Programme Information System (PWPIS)

All the data administration procedures are set out in the Data Administration Manual for the PWPIS. The project manager of every project is responsible for maintaining the updateness of the data under the project in the PWPIS.

4.2.3 Consideration of Resources for Project Implementation (CEDD, DSD, HyD and WSD Projects)

Consideration should be given to the availability of staff resources to undertake detailed planning, design, and construction management, taking into account the urgency of the project and the proposed programme of implementation.

In cases where the necessary resources or expertise are not available in the works department, the employment of consultants to undertake the work may be considered, provided that the necessary financial resources can be found and the agreement of the head of department is sought. Entrustment of the project to an outside body (such as MTRCL) may also be considered where overall economy, urgency of completion and/or engineering constraints of the project justify this method of implementation. Prior approval from SFST
is necessary before entering into any commitment with an outside body (See Chapter 2 for more details). Clear recommendations on proposals for employment of consultants or for entrustment should be made in the TFS.

4.2.4 Partial Upgrading for Consultant’s Fees and Ground Investigation Costs (CEDD, DSD, HyD and WSD Projects)

Where the need to employ consultants to carry out detailed design and ground investigation on CEDD, DSD, HyD and WSD projects has been established, funds for these purposes can routinely be obtained from a separate Category D item if the total cost of the pre-construction works of the project is not more than $21M, or by part upgrading to Category A if such cost is more than $21M.

The same procedures apply to undertaking ground investigations for projects carried out in-house.

4.2.5 Charging of Consultants’ Fees for CEDD Projects

Detailed design for infrastructure works for New Towns and major development areas, and associated feasibility studies are normally undertaken by consultants. However, before making a decision to employ consultants, development offices should request relevant works departments to consider undertaking the project in-house in accordance with the planned programme. In the case of existing ongoing agreements with consultants, the fees for detailed design and investigation are charged to either a design and investigation item already in Category A of the PWP or to the relevant Category A project vote as appropriate. Depending on circumstances, a part of the relevant PWP item may be upgraded to Category A in advance of the main works to fund the consultants’ fees for detailed design and ground investigation.

4.3 PWP CATEGORY A STAGE

Projects in Category A of the PWP are normally funded by corresponding subheads in the Capital Works Reserve Fund and such funds are approved by the Finance Committee. The works department should ensure that all planning and design requirements, including the preparation of working drawings and contract documents, are complete, that the project site and works area (if required) are available, and that the necessary statutory procedures have been complied with. Once upgraded to Category A, the projects should be started and completed as soon as possible with minimum interruptions. It should be noted that only works falling within the scope of the project as set out in the approved PWSC paper may be undertaken.

Apart from projects that have been completed with account finalised, a PWSC paper, addressed to PWSC, copied to the DEVB and other relevant policy bureaux, is required for proposals to change the scope of the project. Works departments of the capital works projects will prepare draft PWSC papers to Client Policy Bureaux for their processing and copy to DEVB for comments. The policy bureaux will comment and revise the draft PWSC paper before submitting to FSTB for further submission to PWSC. Works departments should ensure that all works are completed and there are no outstanding claims/disputes and other financial commitments for a project that is proposed for deletion.
The implementation plan for a Category A project is first baselined when the project is in Category B. When the project is upgraded to Category A, the implementation plan recorded within the PWPIS must match the proposals endorsed by the PWSC and approved by the Finance Committee. If the FC approves the PWSC paper then the date of upgrade to Category A is the date of the FC decision.

It is necessary to control the timing of upgrading the projects to Category A so that it should not coincide with the summer recess of Legislative Council, which normally runs from July to September.

4.4 PWP CATEGORY D PROJECTS

For projects with pre-construction works that cost not more than $21M, the scale and timing of the works usually do not warrant the effort required for routing the projects through the normal public works procedures. Provision has therefore been made for such projects to be listed under a separate Category D of the PWP.

Minor works and ground investigations costing not more than $21M can be carried out as Category D items.

The works department should ensure that there are available funds and staff resources to allow the Category D project to start within 6 months of it being approved and complete the project as soon as possible. See Chapter 2 and FC No. 11/2004 (Capital Works Programme) and SDEV’s memo Ref (3) in L/M in DEVB(CR)(W)1-106/33 (2009) Pt.1 dated 22 April 2009 for more details. (Amendment No. 6/2009)
5. PLANNING OF LAND MATTERS

5.1 LAND REQUIREMENTS IN PROJECT PLANNING

For matters relating to land reservation, allocation, acquisition and clearance, see Chapter 3. This section only sets out the skeleton of the procedures involved and the major considerations required for project planning.

Any project will be associated with land requirements either temporarily or permanently. Even if the project falls within Government Land, allocation of the area from the relevant District Lands Office (DLO) will have to be given. Reclamation projects will have to be gazetted under the Foreshore and Seabed (Reclamations) Ordinance. Construction of roads and drains will involve the Roads (Works, Use and Compensation) Ordinance. Construction of sewerage will involve the Water Pollution Control (Sewerage) Regulation and the Sewage Tunnels (Statutory Easements) Ordinance. If private lots are affected, land resumption, re-housing, and clearance will be required. As the lead time required for securing the necessary works site and works areas is usually very long, early preparatory work in this aspect is important. For projects with average size resumption and clearance involvement, the time required for resolving land issues may be up to 560 working days. Reference should also be made to Lands Administration Office TC No. 715.

Reference should also be made to ETWB TCW No. 27/2003 concerning prioritisation of projects that require Lands Department’s input in respect of land acquisition, land clearance and compensatory assessments. Reference should be made to HPLB GC No. 1/2004 concerning site reservation for new land development projects.

5.2 LAND MATTERS IN DIFFERENT STAGES OF THE PROJECT

In the preparation of the TFS, the preliminary land requirement will have to be sent to the relevant DLO for consideration of their involvement, programme, capital outlay, staff resources required to meet the project requirements etc. The DLO will advise on the land status with regard to any land resumption/clearance requirements and the estimated time for site hand-over from the submission of the final Clearance Application Form. A land requirement plan together with a land requirement report are required for all new projects other than new Landslip Preventive Measures (LPM), Rural Planning and Improvement Strategy (RPIS), Private Street Improvement Scheme (PS) and Non-development Clearance (NDC) Projects (see ETWB TCW No. 27/2003). The land requirement report is needed for prioritisation of projects that require Lands Department’s input to acquire/clear land.

When the project is in Category C, up-to-date information on the land required for a PWP project must be recorded in the PWPIIS.

When a project is in the Category B stage, a preliminary project plan will have to be prepared containing the finalised site boundaries agreed by departments concerned. This plan together with the Clearance Application Form will have to be sent to DLO for further processing of gazettals, land resumption clearance, and allocation.
The works sites and works areas are handed over to the contractor for construction works. The project office will have to ensure the proper management of the site by the contractor during the period concerned under the terms and conditions of the contract documents.

On completion of works, the contractor will have to vacate the sites and hand them over as required under the contract documents. A joint site inspection is normally required before the handing over.

5.3 EXCAVATION IN UNLEASED LAND OTHER THAN STREETS UNDER LAND (MISCELLANEOUS PROVISIONS) ORDINANCE (LMPO)

The LMPO came into operation on 1 April 2004 on control of excavation in unleased land. Lands Department (LandsD) is responsible for control of excavation in unleased land other than streets whilst Highways Department (HyD) is responsible for control of excavation in unleased land which is a street maintained by HyD. The implementation arrangements relating to LandsD are set out in Land Administration Office TC No. 737 and 737A.

For new works project, the project office shall during the planning stage apply to the respective DLOs for simplified temporary land allocation (STLA) of the works site (excluding any public roads or existing GLAs) and/or temporary land allocation (TLA) of the works area. To shorten the processing time of STLA, the project office shall provide plans showing the works limit / scheme boundary for attachment to the allocation memo.

For works involving minor excavation in unleased land other than streets, exemption may be made under Section 10B(2). The authority of exemption has also been delegated to AFCD, ArchSD, CEDD, DSD, EMSD, HAD, HD, HyD, LCSD & WSD.

For cases of special nature which cannot be covered by land allocation or not within the category of exemption under Section 10B(2), government contractors shall apply to the respective DLO for an excavation permit under Section 10A of LMPO. A prescribed fee will be charged under the Ordinance. DSD has been delegated the authority to issue excavation permit in respect of areas of DSD contracts.
6. FINANCIAL CONSIDERATIONS

6.1 FORECAST OF NON-RECURRENT EXPENDITURE

The process of project planning should include an estimate of the non-recurrent cost of the project and a forecast of the phasing of expenditure in the TFS for inclusion in Category C. Successful bidding of funds in the RAS will enable the project to be upgraded to Category B. Guidance on estimating costs is given in Chapter 4. For details of charging for services provided by the Electrical and Mechanical Services Trading Fund, see FC No. 6/2004.

A forecast of non-recurrent expenditure should be made when the project is in the TFS stage, and updated at appropriate intervals and immediately prior to upgrading to Category A. Initially, the forecast of expenditure should be based on the programme for detailed design, contract documentation, tender procedures and the anticipated rate of expenditure during the construction stage. The forecast should subsequently be updated in the light of actual progress on detailed design and project implementation. This forecast is required in the PWSC paper seeking upgrading to Category A and also in every subsequent submission.

The non-recurrent expenses for projects are met from the Capital Works Reserve Fund which in turn is credited from the General Revenue. In order to limit expenditure to within budgetary provision, a forecast of non-recurrent expenditure for all public works projects, whether on-going or proposed, is required. This usually includes:

(a) forecast of expenditure for on-going projects requiring funding in the next and subsequent financial years,

(b) forecast of expenditure for new projects proposed for a start in the next year, and

(c) forecast of expenditure under block votes.

The forecast is usually co-ordinated by departmental headquarters and forms the basis for preparing the RAE, and for preparing the Draft Estimates for the following year.

6.2 FORECAST OF RECURRENT CONSEQUENCES OF PROJECTS

For most types of engineering projects, the completion of the capital investment usually carries with it an implication of recurrent expenditure. For example, a highway requires maintenance work such as minor resurfacing or repairing movement joints after a certain time, and a sewage treatment plant requires staff to operate and maintain it, plus there are charges for electricity etc. The forecast of the recurrent consequences of a project is an important part of the project planning process. It is pointless to implement the project if:

(a) the necessary expertise in operating and/or maintaining the facility cannot be found, or
(b) sufficient manpower or financial resources will not be available for the facility to function properly.

PWP procedures require an appraisal of the recurrent consequences of a project to be carried out:

(a) while the project is in Category B and when detailed design and cost estimates become available,

(b) when seeking upgrading of the project to Category A, and

(c) when applying for a change in the scope of a project in Category A.

The format of the appraisal and other details are set out in FC No. 2/2005. Any revenue generated should also be assessed.

6.3 LIMITATION ON COMMITMENT

Expenditure on projects in the PWP is met from the Capital Works Reserve Fund and within the resources available in the Fund, expenditure on each project in Category A or D is limited by its approved project estimate. See FC No. 23/82 Procedures for the Financial Control of the Capital Works Reserve Fund and FC No. 2/2007 Administration of capital expenditure items under the Capital Works Reserve Fund.

It is Government’s intention that once a project is upgraded to Category A, work on it should start as soon as possible. While the actual start date is determined having regard to financial implications and to the estimated expenditure for the year, the upgrading of a project to Category A is in effect a commitment to provide funds for it, as required, within the approved project estimate. For Category D projects, it is necessary to note the requirement stated in FC No. 8/2001 that the works department should ensure that staff resources and funds are available to allow the project to start within 6 months.
7. SOURCES OF INFORMATION

7.1 STRATEGIC STUDIES

The development trend in the Territory is determined by studies at a strategic level. Approved recommendations from these studies will form the framework for development in the years to come. Reference should be made to these studies to gain understanding of the background information, the needs and the justifications/reasons leading to their recommendations. Currently available study reports include:

(a) The Third Comprehensive Transport Study (CTS-3),
(b) Port Development Strategy Review (PDSR),
(c) Railway Development Strategy 2000 (RDS-2000) and Second Railway Development Study (RDS-2),
(d) Harbour Area Treatment Scheme (HATS),
(e) Hong Kong 2030: Planning Vision and Strategy, and
(f) Study on Sustainable Development for the 21st Century (SUSDEV 21).
(g) Study on Review of Metroplan and The Related Kowloon Density Study Review

It is common that a strategic study would include strategic environmental assessment (SEA) to assist the formulation of the preferred option/framework. EPD’s website has included a specific SEA website (under “EA & Planning” and strategic Environmental Assessment”) covering much information on SEA, including an SEA Manual, which provides a systematic guidance with examples on the SEA process.

7.2 TOWN PLANS

7.2.1 General

Information regarding the broad or detailed outline land use patterns and road system of particular areas can be obtained from town plans prepared by the Planning Department (Plan D). These plans can be grouped into two main categories, namely:

(a) statutory plans, and
(b) departmental plans.
7.2.2 Statutory Plans

Statutory plans include Outline Zoning Plans (OZP) and Development Permission Area Plans (DPA plans). Statutory plans are prepared by Town Planning Board (TPB) under the directive of the Chief Executive. Under the Town Planning Ordinance, the Chairman of the TPB may require the Director of Planning to prepare the plans.

OZPs are normally prepared within the framework of the Sub-regional Development Strategies which translate territory-wide goals of the Territorial Development Strategy (TDS) into sub-regional objectives. Further details of these are given in the publication “Town Planning in Hong Kong” issued by Planning Department. The majority of the OZPs are drawn on a scale of 1:5000 for districts in main urban areas and 1:10000 for New Towns in the New Territories. OZPs for the rural areas (Rural OZPs) are on a scale of 1:7500 while DPA plans are on a scale of 1:5000. All the Notes on the plans are given in both English and Chinese. They show the broad land use pattern and major road systems of the planning areas. In general, areas are zoned for residential, commercial, industrial, Government/institution/community, open space, green belt or other specified uses.

Any OZP, once gazetted, has legal effect. According to the Buildings Ordinance, the Building Authority may refuse to give its approval to any building plan which would contravene any approved or draft plan prepared under the Town Planning Ordinance.

DPA plans were introduced with the enactment of the Town Planning (Amendment) Ordinance 1991 for areas (mainly rural areas in the New Territories) which require immediate planning control prior to the preparation of OZPs. Unlike OZPs, DPA plans may contain large areas without any definitive zoning. Any development in these areas other than a permitted use stated in the Notes, will require permission from the Town Planning Board. It should be noted that DPA plans are to remain effective for three years from the date of first publication and will be replaced by OZPs within the period.

7.2.3 Departmental Plans

(1) General

Departmental plans are used mainly within the Government for administrative purposes as details on these plans may be subject to frequent changes. Although such plans have no statutory effect, they are binding on all Government departments. The major uses of departmental plans are as follows:

(a) As the basis for formulating lease conditions and conditions of grant for new development areas.

(b) As the basis for formulating development programmes.

(c) If no OZP exists for the area, they will provide the basis for any OZP which may subsequently be prepared for the area.

Departmental plans generally comprise Outline Development Plans and Layout Plans.
(2) Outline Development Plan

Outline Development Plans (ODPs) show greater details of development proposals when compared with OZPs such as more specific land use designations, roads and footbridges, density restrictions and disposition of sites. If an OZP exists for the area, the function of the ODP is to supplement the former and to show the land use and road framework in greater detail. In addition, the ODP serves as a guide for land sales and for inter-departmental reservation and allocation of Government sites. These plans are normally drawn to a scale of 1:2500.

(3) Layout Plan

Layout plans usually indicate detailed land use and development proposals for an area covered by an OZP or an ODP, but in some circumstances they may be prepared independently. They are usually of local significance and are prepared mainly for unformed and newly formed land or for re-development areas that require comprehensive planning. These plans usually show in more detail the planning proposals for the area, including information such as road and formation levels, disposition of land uses and development restrictions on individual lots or buildings. They are also used as a basis for land sales and allocations as well as for the implementation of land formation projects, construction of roads, and other engineering and building works. Such plans are normally drawn to a scale of 1:1000 and 1:500.

7.3 LAND SURVEY INFORMATION

7.3.1 General

The Survey and Mapping Office (SMO) of Lands D is the central authority for land survey and mapping in Hong Kong. It is responsible for the maintenance of the geodetic network, continuously updating large scale basic map sheets by ground and aerial survey methods, photogrammetric survey, land boundary (cadastral) survey, computerised land information management, the provision of cartographic and reprographic services and miscellaneous land survey services. All the survey and mapping products are available to government departments that need them for their projects. Details of SMO products can be found on Lands Department’s web site at www.info.gov.hk/landsd/mapping.

7.3.2 Digital Map Database

The Digital Map Database covering the whole Territory is being continuously updated and the map details are represented as single points, lines, or polygons. Co-ordinates of the databases are in Hong Kong 1980 Grid, and heights are in metres above the Hong Kong Principal Datum. The databases, except for Geo-Reference and Geo-Community Databases in ASCII and EXCEL formats respectively, can be supplied in ArcInfo (Export), ASCII, DXF and DGN formats. Types of Digital Map Database include:
(a) B1000 (1:1000 Digital Topographic Map Database)

(b) B5000 (1:5000 Digital Topographic Map Database)

(c) B20000 (1:20000 Digital Topographic Map Database)

(d) C1000 (1:1000 Digital Land Boundary Map Database)

(e) G1000 (Geo-Reference Database with information on buildings and road network)

(f) GeoCom (Geo-Community Database with information on point of interests)

7.3.3 **Paper Maps, Aerial Photograph and Survey Information**

Major products include:

(a) HP1C (1:1000 Large Scale Basic Maps)

(b) HP5C (1:5000 Medium Scale Derived Map)

(c) HM20C (1:20000 Topographic Map)

(d) HM50CL (1:50000 Topographic Map)

(e) HM100CL (1:100000 Topographic Map)

(f) HM200CL (1:200000 Topographic Map)

(g) Black and White Aerial Photograph (Vertical and Oblique)

(h) Coloured Aerial Photograph (Vertical and Oblique)

(i) Digital Orthophoto (DOP10000) in TIFF

(j) Horizontal and Vertical Control Points

(k) Survey Record Plans

(l) Land Boundary Plans

(m) Lot Index Plans
7.3.4 Aerial Photographs

The Survey and Mapping Office (SMO) of the Lands Department is responsible for taking aerial photographs in the Hong Kong Special Administrative Region (HKSAR). The HKSAR is covered by large format (23cm x 23cm) vertical aerial photographs taken from fixed-wing aircraft and supplemented by small-format (6cm x 6cm) oblique aerial photographs taken from helicopters. These aerial photographs can be enlarged if required.

Whenever weather permits, large format vertical aerial photography will be done according to an Aerial Photography Program. Photographs at 1/8000 scale for built-up areas are provided twice yearly (in June/July and November/December). Photographs at 1/20000 scale and 1/40000 scale covering the whole territory are produced annually (in November/December).

Upon request from government departments, small format oblique aerial photography for reconnaissance, progress reports, project publicity, etc. is carried out. Government departments can also approach the Government Flying Service for using the helicopters to take small format photographs.

In emergency survey cases for landslide, flooding, aircraft crash, etc. which require aerial photographs for subsequent measurement and investigation, large format oblique aerial photographs taken from helicopter can also be provided.

Indexes of all aerial photographs are distributed, upon request, to relevant government departments for record purpose. The indexes are also deposited at the Map Publication Centres and District Survey Offices of the Lands Department for public inspection.

The Photogrammetric and Air Survey Section of the SMO employs the aerial photographs and photogrammetric survey techniques to supply digital mapping and digital terrain model data to government departments. Those government departments requesting the photogrammetric survey may be required to provide the necessary survey control.

7.3.5 Main Survey Control

All surveys are related to the Hong Kong 1980 Grid which has its origin to the south-west of the Territory so that all co-ordinates are positive. All engineering surveys must use the HK 1980 Grid to facilitate inter-relationship between surveys and various existing and proposed works.

The major triangulation system was readjusted in 1980, and co-ordinate values subsequent to this readjustment may be recognised in that the first digit of both easting and northing values is 8.

The datum of levels for HK is known as “Hong Kong Principal Datum” (HKPD). This is related, through tide gauges, to all sea levels typically used in engineering surveys. Precise Level Bench Marks related to HKPD have been established throughout the Territory and these should be used as the origin of level surveys.
(Caution: Control marks have been established in Territory wide on the HK 1980 Grid and HKPD by SMO. However, the ground control marks for both the Grid (Triangulation Stations, Main and Minor Traverses) and HKPD (Precise Level Bench Marks) are at the mercy of rapid Territory wide development. Missing control may not be replenished immediately. Therefore, engineering offices and consultants may need to establish necessary control for projects in hand, if control marks have been destroyed.)

The following survey data are available from SMO:

(a) index plans of horizontal and vertical control points,
(b) bench mark record sheets,
(c) traverse station summary sheets,
(d) horizontal control points summary sheets,
(e) steel tape base records, and
(f) Plover Cove EDM base record.
(g) GPS survey control information

The District Survey Office/Kowloon holds data of the whole territories of Hong Kong, and other District Survey Offices hold data for their own districts. Most engineering survey sections hold data which are relevant to their own needs.

For works in the border areas that would involve cross-border liaison with the Shenzhen Authorities, early agreement on the survey control/datum is very important.

7.3.6 Request for Survey and Mapping Products

(a) Digital Map Database and Orthophoto

Requests for Digital Map Database and Orthophoto shall be addressed to the Chief Land Surveyor/Land Information Centre (CLS/LIC) by completing a set of standard Order Form obtainable from LIC by the Project Officer of the Department. Arrangement has been made for Highways Department, Civil Engineering and Development Department and Drainage Services Department to have a complete set of the digital map data and they will supply the digital map direct to the consultants working for them. Projects under the supervision of these departments shall be addressed to the officer-in-charge of the Survey Division/Section of the respective departments for requesting B1000 in DGN format. Other departments intending to supply land survey and mapping data from SMO to their consultants must give prior notice to SMO to ascertain whether the data within the project areas is available. SMO will then supply the required data to the department upon request. See WB TC No. 16/2000 ‘Provision and Collation of Land Survey and Mapping Data’ for details.
(b) Paper Maps, Aerial Photographs and Survey Information

All requests for paper maps, aerial photograph and survey information including survey control information and land boundary data can be made by memo or on the standard LND124A Order Form (for maps and aerial photographs). Requests for paper maps, aerial photographs, and survey information shall be addressed to the Senior Land Surveyor of the DSO. Requests for paper maps and aerial photographs can also be addressed to SCgr/HQ of Hong Kong Map Publications Centre or Kowloon Map Publications Centre. Requests for special aerial survey services can be addressed to Senior Land Surveyor/Photogrammetry of the Lands Department (through the Divisional Land Surveyors, if applicable, in respective departments).

7.3.7 Enquiries

Digital Map Database
Email address “lic_enquiry@landsd.gov.hk”

Paper Maps and Aerial Photographs
HK Map Publications Centre
Email address “smosale1@landsd.gov.hk”
Kowloon Map Publications Centre
Email address “smosale2@landsd.gov.hk”

Paper Maps and Survey Information
DSO/Island
DSO/North
DSO/Sai Kung
DSO/Shatin
DSO/Tai Po
DSO/Tsuen Wan & Kwai Tsing
DSO/Tuen Mun
DSO/Yuen Long
DSO/Kowloon
DSO/Hong Kong

7.4 MARINE SURVEY INFORMATION

7.4.1 Marine Survey Data

Whilst the CEDD Survey Division is responsible for the in-house engineering works’ sounding surveys, the Hydrographic Office of Marine Department (MDHO) is responsible for the charts production’s sounding surveys of the entire Hong Kong waters. Data in paper or digital form are available to Government departments or their consultants on application.
Other marine related data, comprising:

(a) pipelines (as-laid position kept by MDHO);
(b) cables (as-laid position kept by MDHO);
(c) aids navigation lights and buoys (kept by MDHO);
(d) marine borrow areas (kept by GEO, CEDD);
(e) dumping grounds (kept by GEO, CEDD); and
(f) reclamation records (kept by CEO, CEDD).

are also available.

Hong Kong nautical charts covering the entire Hong Kong waters are now available for sale at the GIS bookshop and the MD Headquarters. They are published by the MDHO and are re-produced under licence by the United Kingdom Hydrographic Office.

Real-time tide information at eight strategic locations around Hong Kong waters and an on-line tidal stream atlas (prediction) for major fairways and channels are available on the MDHO web site (http://www.hydro.gov.hk). Past information on tide levels, including records of surge levels during typhoons and current tidal records are also available from the Hong Kong Observatory.

7.5 GEOLGICAL AND TERRAIN INFORMATION

7.5.1 Geological Survey

Fifteen 1:20000-scale geological maps covering the entire land and sea area of the Hong Kong Special Administrative Region and the accompanying descriptive memoirs are available. Archival data collected during the geological survey, including rock samples, thin sections and photographs can be inspected in the offices of the Hong Kong Geological Survey, GEO.

Geological maps at 1:5000 scale and accompanying reports for key development areas comprise:

(a) Yuen Long area - 20 maps and report
(b) Chek Lap Kok - map and report
(c) Tsing Yi - 2 maps and report
(d) North Lantau and Ma Wan - 6 maps and report
(e) Ma On Shan area - map and report
The geology of the offshore areas was compiled using information from seismic reflection profiling, ground investigation boreholes, geological survey boreholes and seabed grab samples, as well as reports of the offshore surveys. These records, which also include information on the location of offshore sources of sand for reclamation fill, are retained by the offices of the Hong Kong Geological Survey and are available for inspection.

7.5.2 Geotechnical Area Studies Programme Reports

The Geotechnical Area Study (GAS) Programme undertaken in the early to mid 1980’s by the Planning Division of the GEO provided terrain evaluation and geotechnical information to assist planning, management and engineering feasibility assessment in the Territory on a regional scale.

A series of eleven GAS Reports at 1:20000 scale provides complete coverage of the Territory. A further series of nine GAS District Reports at 1:2500 contains much more detailed terrain information for nine selected areas. These reports have been distributed to relevant Government departments.

The eleven GAS Reports were published for sale to the public in edited form as a series of twelve Geotechnical Area Studies Programme (GASP) Reports. GASP Report XII is a summary compilation of all the information contained in the other eleven reports.

All GAS and GASP reports are available in the Civil Engineering Library of CEDD.

Terrain mapping and engineering geology mapping have been carried out at a scale of 1:5000 for Northern Lantau. The maps and engineering geology study reports are available from the Planning Division of GEO.

7.5.3 Other Geotechnical Information

The Geotechnical Information Unit (GIU) is a part of the Civil Engineering Library of CEDD and holds the largest and most comprehensive collection of site-specific geotechnical data in Hong Kong.

The GIU contains information from a number of sources, including:

(a) ground investigation and laboratory testing reports (both land and marine),
(b) geophysical surveys (both land and marine)
(c) a catalogue of cut slopes, retaining walls and fill slopes in the Hong Kong Special Administrative Region,
(d) landslide record cards,
(e) rainfall and piezometric monitoring data,

(f) site-specific geotechnical reports,

(g) plans showing sites included in LPM Programme, and

(h) a natural terrain landslide inventory.

In addition, the Civil Engineering Library of CEDD contains a comprehensive collection of geotechnical textbooks, journals, conference proceedings and internal reports by Government departments and their consultants.

The GEO has published a number of reports and publications related to geotechnical engineering in Hong Kong. Copies of these can be obtained from the Publication (Sales) Office of the Information Services Department by individual departments. An updated list of the GEO publications is available from the CEDD.

Further sources of geotechnical information can be found in CEDD’s publication webpage.

7.6 TRAFFIC DATA

Traffic data can be obtained from the various reports issued and kept by Traffic and Transport Survey Division, TD and in particular from the Annual Traffic Census Report and the Monthly Traffic and Transport Digest which are available from TD’s website.

7.7 CEDD DEVELOPMENT STUDIES

A Development Study is a comprehensive feasibility study covering planning, engineering, traffic and transport, environmental, drainage and other related aspects. It also forms a preliminary planning framework with an overall budget and implementation programme. It will provide the overall design criteria and parameters. Sometimes, an integrated Planning and Development Study is carried out jointly by Plan D and CEDD to formulate a comprehensive development proposal for a development area.

7.8 MISCELLANEOUS INFORMATION FROM VARIOUS GOVERNMENT DEPARTMENTS

Useful information can be obtained from various Government departments. For example:

(a) Records of roads, except for those within Hong Kong International Airport which comes under the jurisdiction of Airport Authority, and highways structures can be obtained from HyD.
(b) Drainage records, except for those within Hong Kong International Airport which comes under the jurisdiction of Airport Authority, and plans showing the extents of Sewerage Tunnel Protection Areas can be obtained from DSD.

(c) Approved plans showing the road widening lines can be obtained from TD.

(d) Watermains records and water gathering grounds plans can be obtained from WSD.

(e) Population data can be obtained from the reports on population projects and distribution complied and issued annually by the Working Group on Population Distribution Projects headed by Planning Department.

(f) The project proponent can refer to ecological database managed by the AFCD and other approved EIA reports/Study Briefs/Environmental Permits (accessible from the EIAO Register at 27/F, Southern Centre, 130 Hennessy Road, Wan Chai, Hong Kong; and EPD’s EIAO webpage at http://www.epd.gov.hk/eia/english/register/index.html) to identify sensitive uses being affected by a proposed project.

7.9 OTHER GOVERNMENT PUBLICATIONS

Much useful information is contained in Government publications, such as the Hong Kong Annual Report and departmental annual reports. Reports published by the Hong Kong Observatory and the Department of Census and Statistics often contain information relevant to engineering projects.

There are also engineering and study reports which are directly related to engineering projects other than those mentioned in Chapter 2, and these can be broadly grouped into the following categories:

(a) Regional - this refers mainly to regional feasibility and development studies, e.g. Tseung Kwan O New Town Study, Ma On Shan Transport Study etc.

(b) Statistical - this refers to statistical and data reports, e.g., Data Report Monitoring of Local Waters and Sewage Characteristics, Traffic and Transport Digest etc.

(c) Technical - this refers to technical reports on special subjects and design guidelines, e.g. Tuen Mun Sea Wall Report on Concrete Facing Blocks (Dec 84), Review of Design Methods for Excavations (GCO Publication No. 1/90).
7.10 OTHER SOURCES

Other useful information can be obtained from technical and research reports and publications issued through journals, periodicals, research papers etc. Enquiries should be addressed to the Technical Secretary of the relevant office.
8. PROGRESS REPORTING & RECORDS

8.1 PROJECT FILE

The project files are designed and used to record the whole of project from conception to its completion/deletion from the PWP. These are official records which should be kept by the office general registry. Where a project is split from a parent item, cross reference should be clearly made in both project files.

8.2 PROJECT HANDBOOK

8.2.1 Purpose

The project handbook is designed to provide a handy reference as to the current status of a project and to the significant events/procedures that have occurred. With properly updating, the project handbook will serve as:

(a) a record of the essential procedures undertaken in progressing the project to its current status,
(b) a reminder of the outstanding procedures that are necessary to bring the project to completion,
(c) a record of cost estimation and the programme of the works, and
(d) a dossier of essential information for another officer to take up the project.

The project handbook contains copies of important document, and it is an official record similar to other project files. However, it is normally kept by the project engineer instead of the general registry to facilitate periodical updating.

8.2.2 Contents

Project handbooks should contain only essential information, i.e. those considered as milestones in the life of a project, and must not become a duplicate of the project file. In essence, they should contain the kind of information that an officer would need for a quick understanding of the stage that a project has attained, including the procedures completed and those required to bring the project to completion, and relevant background information on major events and decisions. The following list will serve as a guide to the type of material that should be kept in a typical project handbook, but it should be noted that each handbook should be constructed to serve the needs of the particular project:

(a) Project Definition Statement,
(b) Technical Feasibility Statement,
(c) copies of all PWSC submissions,
(d) documents related to policy rulings,

(e) essential information related to land matters,

(f) statutory and technical submissions, e.g. EIA reports required under the EIA Ordinance, GEO Checking Certificate for Slopes and Retaining Walls in accordance with ETWB TCW No. 20/2004, tunnel works design under ETWB TCW No. 15/2005 or TIA reports etc.,

(g) basis of cost estimates used in PWSC submissions including record of checking of cost estimates,

(h) latest programme for the project,

(i) essential drawings,

(j) review of financial implications for CWRF RAS exercise,

(k) agreement on the division of maintenance responsibility,

(l) forecast of recurrent consequences,

(m) Status of Excavation Permit (XP) and Simplified Temporary Allocation (STLA) applications

(n) list of files, and

(o) list of contact.

8.2.3 Updating and Checking

A Project handbook should be created when a Project Definition Statement for a project is prepared and should be kept until the project is completed and deleted from the PWP.

Project handbooks are normally kept by the project engineer. They should be updated by the project engineer as the need arises, but not less than once every quarter. A project handbook must always be updated whenever the project is transferred from one project engineer to another, or when responsibility for the project is transferred from one office/division to another.

Project handbooks shall be checked quarterly by the relevant chief engineer/senior engineer to ensure that they are properly updated.
8.3 QUARTERLY REPORTS

8.3.1 Quarterly Report on the PWP

Quarterly Report on selected Category A projects of the PWP has been produced using data recorded within the PWPIS. In addition, there is another quarterly report on PWP Projects namely ‘Quarterly Report on High Impact Category B PWP Projects’. These reports are presented to works directors, policy secretaries and SFST. The former report will also be routinely distributed to the Financial Secretary and members of LegCo.

An example of Quarterly Report on selected Category A projects of the PWP is shown at Appendix 1.2.
9. REFERENCES

Accommodation Regulations Appendix 1.1

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HyDTC Mo. 7/2006  
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SA No. 1/2006  
Guidelines on Sustainability Assessment, which can be found on http://sdu.host.ccgo.hksarg/  
Para. 1.4.5

Websites
EPD’s website http://www.info.gov.hk/epd
MEMO

From CE/Sewerage Projects, DSD To Property Vetting Committee (c/o: Arch S D HQ)

Ref ___ in ________________

Tel. No. ________________ Your Ref ___ in ________________

Date ________________ Date ________________

ND 4(6) Tsing Yi Sewage Disposal Plant. Stage I

Item ND 4(6) is currently in Cat. B / Cat. C(*) and comprises the construction of a sewage treatment works and a twin submarine sewage pipeline. The plant is designed to provide primary sedimentation treatment to sewage from the Tsing Yi Development.

2. In accordance with Accommodation Regulations, I attach a paper and a Schedule of Accommodation concerning the provision of buildings for your consideration and onward transmission to the Property Vetting Committee for approval. A List of Proposed Staff for the plant is also attached for your reference. CE/ST, DSD, who will eventually take over the plant for operation, has been consulted. The duly-completed proforma of site development potential as required in your memo ref. (34) in ASD TA/MEE/4 V dated 21 July 1992 is also enclosed.

( )

for Chief Engineer/Sewerage Projects
Drainage Services Department

c.c. CE/ST, DSD

* delete where inappropriate
ITEM ND 4(6) TSING YI SEWAGE TREATMENT DISPOSAL PLANT, STAGE I

1. Item ND 4(6) is currently in Cat. C and comprises the construction of a sewage treatment works and a twin submarine sewage outfall.

2. The Tsing Yi Sewage Disposal Plant is designed to provide primary treatment to both domestic and industrial sewage from the Tsing Yi development. Stage I of the works will provide treatment for half of the planned ultimate capacity. However, from economic and practical considerations, all required buildings are being designed and constructed under Stage I to cater for ultimate needs.

3. The buildings required for this project are as follows:

   (a) Administration Building including offices, a workshop, a laboratory, stores, barrack, mess, kitchen and toilet facilities.
   (b) Screw Pump Motor and Control Room
   (c) Screening Press House
   (d) Compressor/Pump House
   (e) Sludge Pumping Station
   (f) Compressor/Heater House
   (g) Sludge Dewatering House
   (h) Transformer House

   The estimated construction cost of the above buildings is $5 400 000.00

4. The Administration Building will provide office accommodation for execution of routine office work in connection with the daily operation and management of the treatment plant. In this building, a laboratory will be provided for carrying out chemical analysis required for process control. Stores for safe-keeping of spares and supplies and a workshop for regular maintenance, emergency repairs and major overhauls of mechanical and electrical equipment will also be provided. Ablutions have to be provided for both the visiting and full time staff of the plant.

5. As the plant will operate 24 hours a day, staff will have to work on a shift system. Barrack accommodation will be required because staff may have to stay overnight during adverse weather conditions and to deal with emergencies resulting from accidental plant breakdowns.

6. The Screw Pump Motor and Control Room will house the driving motors for the screw pumps and the electrical control panels.

7. The Screening Press House will contain screening presses, conveyors, disposal skips and control panels.

8. The Compressor/Pump House will contain air compressors, grit pumps, grit classifiers, disposal skips and control panels.
9. The Sludge Pumping Station will house sludge pumps for delivering raw sludge to the digestion tanks and the control panels for the scrapers in the primary sedimentation tanks.

10. The Compressor/Heater House will contain methane compressors for circulating sludge gas and water heaters for heating up the sludge in the digestion tanks.

11. The Sludge Dewatering House will contain belt presses, sludge pumps, chemical pumps and control panels and also provide space for chemical storage.

12. The Transformer House will accommodate the power transformers and switch gear.

13. The “List of Proposed Staff” and the “Schedule of Accommodation” are detailed in the attached Annex I and II respectively.

14. Recommendation: Approve the provision of the following buildings ancillary to the civil engineering project.

<table>
<thead>
<tr>
<th>Name of Building</th>
<th>Approximate Usable Floor Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Administration Building</td>
<td>201 m²</td>
</tr>
<tr>
<td>(b) Screw Pump Motor and Control Room</td>
<td>150 m²</td>
</tr>
<tr>
<td>(c) Screening Press House</td>
<td>80 m²</td>
</tr>
<tr>
<td>(d) Compressor/Pump House</td>
<td>150 m²</td>
</tr>
<tr>
<td>(e) Sludge Pumping Station</td>
<td>80 m²</td>
</tr>
<tr>
<td>(f) Compressor/Heater House</td>
<td>730 m²</td>
</tr>
<tr>
<td>(g) Sludge Dewatering House</td>
<td>360 m²</td>
</tr>
<tr>
<td>(h) Transformer House</td>
<td>50 m²</td>
</tr>
</tbody>
</table>

Decision:
## APPENDIX 1.1 - ANNEX I

### TSING YI SEWAGE DISPOSAL PLANT

#### LIST OF PROPOSED STAFF

<table>
<thead>
<tr>
<th>GRADE</th>
<th>NO.</th>
<th>OUTLINE OF DUTIES</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chief Technical Officer</td>
<td>1</td>
<td>Overall control of plant operation</td>
<td>Part time in office, non-resident staff.</td>
</tr>
<tr>
<td>2. Assistant Inspector</td>
<td>1</td>
<td>Overall supervision of plant operation and maintenance.</td>
<td>Full time on duties, non-resident staff. Mess space allowed shown in Annex II.</td>
</tr>
<tr>
<td>3. Works Supervisor</td>
<td>2</td>
<td>Supervision of plant operation and maintenance.</td>
<td>Full time on duties, non-resident staff. Mess space allowed shown in Annex II.</td>
</tr>
<tr>
<td>4. Artisan</td>
<td>5</td>
<td>Shift work on plant operation and maintenance.</td>
<td>Full time on shift duties, mess space and barrack accommodation allowed shown in Annex II.</td>
</tr>
<tr>
<td>5. Workman</td>
<td>15</td>
<td>Shift work on plant operation and maintenance; attendance on Work Supervisors and Artisans.</td>
<td>Full time on shift duties, mess space and barrack accommodation allowed shown in Annex II.</td>
</tr>
<tr>
<td>6. Laboratory Assistant</td>
<td>1</td>
<td>Execution of routine laboratory work.</td>
<td>Full time in laboratory, non-resident staff. Mess space allowed shown in Annex II.</td>
</tr>
</tbody>
</table>
## APPENDIX 1.1 - ANNEX II

### TSING YI SEWAGE DISPOSAL PLANT

#### SCHEDULE OF ACCOMMODATION

<table>
<thead>
<tr>
<th>ACCOMMODATION</th>
<th>NO.</th>
<th>NET USABLE AREA OF EACH ROOM (m²)</th>
<th>NO. AND GRADE OF OFFICERS TO BE ACCOMMODATED</th>
<th>A/C REQUIRED</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Administration Bldg.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Office</td>
<td>1</td>
<td>10</td>
<td>1 Chief Technical Officer (part time)</td>
<td>Yes</td>
<td>To share one office. Space allowed for filing of document and operational data.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Assistant Inspector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Office</td>
<td>1</td>
<td>12</td>
<td>1 Mechanical Works Supervisor</td>
<td>Yes</td>
<td>To share one office. Space allowed for keeping drawings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Electrical Works Supervisor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Laboratory</td>
<td>1</td>
<td>34</td>
<td>1 Laboratory Assistant</td>
<td>Yes</td>
<td>For daily testing of sewage, effluent and sludge sample.</td>
</tr>
<tr>
<td>(d) Chemical Store Room</td>
<td>1</td>
<td>3</td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>(e) Electrical and Mechanical Workshop</td>
<td>1</td>
<td>53</td>
<td></td>
<td></td>
<td>For maintenance and repair of electrical and mechanical equipment.</td>
</tr>
<tr>
<td>(f) Equipment Store</td>
<td>1</td>
<td>12</td>
<td></td>
<td></td>
<td>For storage of supplies, spares, tools.</td>
</tr>
</tbody>
</table>
# TSING YI SEWAGE DISPOSAL PLANT
## SCHEDULE OF ACCOMMODATION (Cont'd)

<table>
<thead>
<tr>
<th>ACCOMMODATION</th>
<th>NO.</th>
<th>NET USABLE AREA OF EACH ROOM (m²)</th>
<th>NO. AND GRADE OF OFFICERS TO BE ACCOMMODATED</th>
<th>A/C REQUIRED</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(g) Mess</td>
<td>1</td>
<td>10</td>
<td>1 Assistant Inspector</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Works Supervisor</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 Artisans</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 Workmen</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Laboratory Assistant</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Staff may remain in the works area during meal breaks.</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Therefore, a mess and a kitchen is required.</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td>(h) Kitchen</td>
<td>1</td>
<td>8</td>
<td>As above</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td>(i) Barrack</td>
<td>1</td>
<td>39</td>
<td>5 Artisans</td>
<td></td>
<td>Staff may stay overnight during adverse weather and to deal with emergencies.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 Workmen</td>
<td></td>
<td>)</td>
</tr>
<tr>
<td>(j) Ablutions</td>
<td>1</td>
<td>6</td>
<td>1 Assistant Inspector</td>
<td></td>
<td>For Office Staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Works Supervisor</td>
<td>1 W.C.</td>
<td>1 Urinal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 Laboratory Assistant</td>
<td>1 Basin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>1 WC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Urinal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Basin</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>2 Shower</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>14</td>
<td>5 Artisan</td>
<td></td>
<td>For Operation Staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 Workmen</td>
<td></td>
<td>2 WC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Urinal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Basin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Shower</td>
</tr>
<tr>
<td>2. Screw Pump Motor and Control Room</td>
<td>1</td>
<td>150*</td>
<td></td>
<td></td>
<td>To house the driving motors for the screw pumps and the control panels.</td>
</tr>
</tbody>
</table>
## TSING YI SEWAGE DISPOSAL PLANT
### SCHEDULE OF ACCOMMODATION (Cont’d)

<table>
<thead>
<tr>
<th>ACCOMMODATION</th>
<th>NO.</th>
<th>NET USABLE AREA OF EACH ROOM (m²)</th>
<th>NO. AND GRADE OF OFFICERS TO BE ACCOMMODATED</th>
<th>A/C REQUIRED</th>
<th>REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Screening Press House</td>
<td>1</td>
<td>80*</td>
<td></td>
<td></td>
<td>To house screening presses, conveyors, disposal skips and control panels.</td>
</tr>
<tr>
<td>4. Compressor/ Pump House</td>
<td>1</td>
<td>150*</td>
<td></td>
<td></td>
<td>To house air compressors, grit pumps, classifiers, disposal skips and control panels.</td>
</tr>
<tr>
<td>5. Sludge Pumping Station</td>
<td>1</td>
<td>80*</td>
<td></td>
<td></td>
<td>To house sludge pumps and control panels for the scrapers of sedimentation tanks.</td>
</tr>
<tr>
<td>6. Compressor/ Heater House</td>
<td>1</td>
<td>730*</td>
<td></td>
<td></td>
<td>To house methane compressors and water heaters.</td>
</tr>
<tr>
<td>7. Sludge Dewatering House</td>
<td>1</td>
<td>360*</td>
<td></td>
<td></td>
<td>To house belt presses, sludge pumps, chemical pumps and control panels and also provide space for chemical storage.</td>
</tr>
<tr>
<td>8. Transformer House</td>
<td>1</td>
<td>50*</td>
<td></td>
<td></td>
<td>To house transformers and switch gear.</td>
</tr>
</tbody>
</table>

* Note - Figures shown are provisional only. Exact values can be confirmed only on receipt of machinery manufacturer’s submission for the layout of the equipment and control panels.
# APPENDIX 1.2 QUARTERLY REPORT ON THE PUBLIC WORKS PROGRAMME

For July – September 2002

Projects under Secretary for Housing, Planning and Lands’ Control

<table>
<thead>
<tr>
<th>Project No.</th>
<th>Project Title</th>
<th>Project Estimate ($M)</th>
<th>Project Start Date</th>
<th>Project Completion Date</th>
<th>Notes on Progress of Project and variance in project estimate, start date and completion date</th>
</tr>
</thead>
<tbody>
<tr>
<td>7483 CL</td>
<td>Pak Shek Kok reclamation for dumping, stage II</td>
<td>Approved by F.C. Current forecast</td>
<td>246.800</td>
<td>01/98</td>
<td>05/01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>233.183</td>
<td>02/98</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The works were 85% completed. The project estimate was reduced due to low tender prices. The start and completion dates were deferred as the priority for the use of public filling material was given to the completion of the adjacent more urgent projects.</td>
</tr>
<tr>
<td>7112CL</td>
<td>Peng Chau development, package 3 - design and stage I engineering works</td>
<td>Approved by F.C. Current forecast</td>
<td>135.000</td>
<td>02/83</td>
<td>09/02</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>128.191</td>
<td>02/83</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Additional reclamation and site formation of land together with the associated roads and drainage works were required. An increase in APE to cover these additional works was approved by FC on 12 May 2000. These additional works are now under construction under Contract No. IS 11/2000 which commenced in September 2000.</td>
</tr>
<tr>
<td>7193CL</td>
<td>Peng Chau development, package 4 - engineering works</td>
<td>Approved by F.C. Current forecast</td>
<td>167.300</td>
<td>02/99</td>
<td>08/01</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>102.687</td>
<td>03/99</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The delay in completion was due to inclement weather and that more time had been taken in the construction of the revetment and utilities diversions. The problem has been resolved. The project estimate was reduced due to lower tender prices.</td>
</tr>
</tbody>
</table>
APPENDIX 1.3 GUIDELINES ON THE PRELIMINARY GEOTECHNICAL
APPRAISAL REQUIRED TO BE CARRIED OUT IN THE
PREPARATION OF TECHNICAL FEASIBILITY STATEMENTS
AND PREPARATION OF OPTIONS UNDER FEASIBILITY
STUDIES

1. This Appendix provides guidelines on the preparation of Preliminary Geotechnical
   Appraisal (PGA) required to be carried out in the preparation of Technical Feasibility
   Statements (TFS’s). It should be read in conjunction with Financial Circular No.

2. In Section 3 of TFS, in addition to the discussion on issues as listed in the Financial
   Circular, two sets of the latest topographical plans (one of 1:5000 and the other of 1:1000
   scale) should normally accompany the PGA. The Hong Kong Metric Grid references
   and the contours should be clearly shown on the plans. For proposed developments with
   a few relatively small sites, a set of 1:1000 scale plans showing the areas examined in
   carrying out the PGA may be sufficient. The boundaries and reference numbers of all
   existing man-made slope features (i.e. slopes and retaining walls registered in the Slope
   Catalogue) which could affect or be affected by the proposed project should be marked
   up on the plans. This will allow the readers to see the slopes/areas to be dealt with in
   relation to the developments/facilities proposed as part of the project. For proposed
   developments covering a large area, a key location plan say of 1:5000 scale, with the
   boundaries of the areas examined in carrying out the PGA and the boundaries of the
   developments/facilities proposed as part of the project superimposed, should be added.

3. If there is any natural hillside sloping at more than 15 degrees within 100m horizontally
   upslope of any development/facility proposed as part of the project, the Project
   Department should indicate the location of such a hillside on the plans. The department
   should seek GEO’s views as to whether a natural terrain landslide and boulder/rock fall
   hazard study is needed for the hillside under the project. If a study is considered
   necessary, the GEO will advise the department the area of the natural terrain catchment to
   be included in the study and to be marked up on the plans.

4. As a conclusion of the PGA, a statement should be included that all existing man-made
   slope features and natural terrain catchments shown on the plans submitted under Section
   3 of the TFS will be studied and necessary slope works and hazard mitigation measures
   would be carried out as part of the project. A statement should also be given that a
   geotechnical assessment (GA) will be carried out for the preferred development option at
   the Study/Investigation/Preliminary Design Stage to define the scope and programme of
   necessary slope works and hazard mitigation measures to be carried out under the project.
   The study area for the GA should be indicated on a set of plans submitted under Section 3
   of the TFS.

5. In Section 5 of the TFS, adequate allowance should be made in the Project Programme
   for the GA and any ground investigation and topographical survey works required for
   slope stability assessment and design of slope works and hazard mitigation measures.

6. In Section 6 of the TFS, adequate funding provision should be allowed for in the Capital
   Cost Estimates for the GA and any necessary ground investigation and topographical
   survey works required, as well as for the geotechnical works.
7. In preparing the PGA for projects involving tunnel works and in undertaking any supporting engineering feasibility studies (EFS), the project office or its consultants shall consult the Hong Kong Geological Survey through CGE/Planning of the GEO to obtain general geological advice, especially on identification of geological features. The EFS and the PGA of the project should cover geotechnical considerations such as identification of problematic ground, formulation of preliminary ground models including the hydrogeological models, and preliminary assessment of geotechnical risks (both during construction and in the long-term when the facility is operating). The project office shall conduct a risk assessment to determine whether the proposed tunnel works under the project would pose a significant risk to public life and property and include in the EFS and PGA the possible scope and extent of site investigations and geotechnical studies required to reduce uncertainties and risks. (Requests for geotechnical advice/assistance, including that on the engineering feasibility study, if required, should be directed to CGE/Geotechnical Projects of the GEO). The project office shall consult the GEO, take into account GEO’s response in finalising these documents and submit a copy of the final versions to the GEO. (See ETWB TCW No. 15/2005)

8. Rock excavation by blasting can adversely affect the stability of nearby geotechnical features (such as slopes, retaining walls, boulders, tunnels, caverns, etc) and the integrity of nearby buildings, structures, railways and utility services in the vicinity through ground vibrations and other effects such as fly rock and air-overpressure. The transport, storage and use of explosives for blasting also pose a safety hazard to the public. The project office shall ensure that adequate and necessary protective and precautionary measures will be provided to prevent the works from causing injury to workers and the public, significant disruption to traffic, undue vibration and movement to existing structures and services, or any other nuisance to the public.

The PGA should, therefore, assess whether blasting for rock excavation will be required, and if so, identify the key potential hazards and sensitive receivers, and the major constraints relevant to the transport, storage and use of explosives for the proposed blasting works. It should also include the possible scope and extent of investigations and geotechnical studies required to reduce uncertainties and risks, and to demonstrate the practicability of satisfying any constraints identified. The project office should consult the GEO and incorporate their comments in finalising the PGA and the TFS.
APPENDIX 1.4
INTRODUCTION TO VALUE MANAGEMENT AND GUIDELINES ON IMPLEMENTATION ISSUES (Ref.: ETWB TCW No. 35/2002) (Amendment No. 3/2009)

Purpose

1. This set of guidelines provides guidance to departments in the implementation of value management.

Value management

2. VM is an organized methodology applied to the analysis of functions, components, goods and services, from the point of view of the system as a whole, to satisfy the required functions of the project at the lowest total cost without compromising quality and standard of performance.

3. The most fundamental ingredients to the VM study is the examination of 'function' on a system basis. This characterizes VM and differentiates it from other project management tools.

4. Typically, the VM process involves the holding of VM workshops. A VM workshop is a tool which can be used to improve the definition of capital works projects, such as for the derivation of a Project Definition Statement or the preparation of a feasibility study report. Alternatively it can also be employed in a specific manner, like comparing design options, evaluating construction methods, choosing sites, deciding on access points etc. Contrary to common belief, a VM workshop can often be most useful when it appears that the problem encountered seems insurmountable or when the difference in opinion sounds irreconcilable.

Value management workshop

5. Some of the most well known definitions of VM are:

"Structured and analytical process which seeks to achieve value for money by providing all the necessary functions at the lowest total cost consistent with required levels of quality and performance."
– Australian/New Zealand Standard for Value Management, AS/NZS 4183:1994

"A structured process of dialogue and debate among a team of designers and decision makers during an intense short-term conference"; and

"The primary objective of value management is to develop a common understanding of the design problem, identify explicitly the design objectives and synthesize a group of consensus about the comparative methods of alternative course of action."
– Dr. S.D.Green
6. Based on the above, the key elements of a VM workshop are:
   • well structured with set goals and objectives;
   • multi-disciplinary, professional and specialist input;
   • professionally facilitated;
   • shared understanding;
   • group decision and evaluation to create innovative solutions; and
   • ownership and commitment.

7. At first sight, a VM workshop might appear to be costly and time consuming, costing some 20-50 professional-days on top of approximately $100,000 fees for the professional facilitator for a two-day workshop. However in the long run, these costs have proven to be well spent in terms of:
   • updating standards, criteria and objectives;
   • promoting innovation;
   • optimizing resources;
   • eliminating unnecessary items and costs;
   • finding solutions that best fit the project objectives;
   • breaking dead-lock situations;
   • saving time; and
   • ensuring ownership and commitment by all parties.

8. VM should however be understood as a tool and not a panacea. Therefore, it can co-exist with and supplement other management tools like cost planning, cost engineering, quality assurance, project auditing, process re-engineering, partitioning, risk management etc. It should best be seen as a useful tool in our overall assets management functions (in this case the delivery of PWP items).

Key Success Factors

9. One of the critical factors for a successful VM study is the commitment of those involved. A VM team should comprise a disparate group of representatives from the client (policy bureaux and/or client departments), works agents (works departments and/or consultants), enabling agencies (e.g. PlanD, EPD and/or DLO), specialist consultant and other stakeholders. A typical size of 15 to 20 people should be able to achieve the appropriate multi-stakeholder and multi-disciplinary representation on a major project. Two points need to be noted though. Firstly, it is essential to invite the correct level of representatives who can make both contributions with authority and recommendations with credibility. Secondly, representative of the right bureau/department must be secured. In particular, the participation of the representatives of policy bureaux could bring about a significant benefit in refining or redefining the project objectives. Also, enabling departments like PlanD, LandsD and EPD's representatives usually have an irreplaceable role to play in providing input in respect of their own individual areas.
10. Adequate support from top management must be obtained before commencing any VM study. Otherwise, should the findings and recommendations from a VM study is later to be vetoed by the top management of any individual party, the credibility of future VM workshops will be lost.

11. Thorough planning, good facilitation and also proper follow up actions are vital to the success of VM studies. These are further elaborated in paragraphs 12 to 27 below.

Criteria of conducting VM workshops

12. Costs and benefits are the prime considerations. With experience gained over the years in applying VM, the departments should by now have a better feel of the costs and benefits of VM workshops. Since the benefits are mostly project specific, the project department is best placed to evaluate whether there would be net benefits and to decide whether a VM workshop should be conducted.

13. In general VM studies shall be conducted whenever it is perceived that there are likely to be net benefits. In view of the commonly accepted fact that there should be net benefits for major projects and the relatively small cost of a VM workshop, departments should consider the suitability of conducting VM workshops for every major and complex project. It should be noted that net benefits (which may be in terms of time, cost or quality of solution) is the key consideration rather than the mere size of a project. For this purpose, a major project means one having an estimated project cost exceeding $200 million.

14. With departments' recognition of the benefits of VM studies and the comparatively small cost of a VM workshop, it is expected that there would be a marked increase in the number of VM studies to be carried out. Departments should plan ahead and draw up yearly plans on the application of VM.

The form and duration of VM workshops

15. The typical duration of a VM workshop from commencement, pre-workshop, workshop to conclusion is about 6 weeks to 4 months. The actual workshop itself varies according to its purpose and could range between one and five days. From the experience in its application to PWP projects, a VM workshop usually lasts between one and two days.

16. There is no single preferred form. Workshops of longer duration allow more time for in-depth studies of the issues. They may, however, tend to discourage senior personnel of the stakeholders from attending. Departments may consider a two-stage approach with officers having in-depth knowledge making recommendations in the first stage and senior officers attending the second stage to ratify the recommendations. The choice of the form of a VM workshop depends on the particular needs of a project. It is up to a project team to select one which best suits its needs.
17. Alternatively, departments may consider applying a shortened VM study to small scale projects. Similarly, a shortened VM study may be employed for the purpose of resolving specific problems or less complex issues.

Timing of conducting VM workshops

18. VM studies can be conducted at any stage during the life cycle of a project. Obviously, there can be more than one study for a project. However, the most benefits would be derived if they are conducted as early as possible in the process.

19. For a complex project, a feasibility study is likely to be required before preparation of a Technical Feasibility Statement (TFS). The feasibility study stage is the time when issues are to be identified, ideas generated, options selected and priorities set. The most benefits of a VM study will therefore be derived if it is conducted at this stage. In those situations where a project steering group is to be set up for a proposal, it would be useful to turn the first "meeting" into a VM workshop, and logically to task the project steering group to follow up the recommendations and conclusions of the VM study.

20. For a less complex project which does not require a feasibility study before the preparation of a TFS, the four-month period and the no-consultancy support requirements for the TFS make it difficult for a VM study to be conducted within the same period. Since the project requirements for such projects are likely to be more straightforward, VM studies could be deferred to the earlier parts of the subsequent preliminary design stage. A VM study is still useful at this stage as it serves to refine or redefine requirements and to confirm the selected option.

Facilitation of a VM Workshop

21. The job plan for a VM workshop usually comprises five phases:
   - information phase;
   - analysis phase;
   - creativity phase;
   - judgement phase; and
   - development phase.

22. A good VM facilitator will ensure the steering of the workshop team effectively through these phases. The choice of the facilitator will therefore be of fundamental importance to a successful study. In terms of practical qualifications, the facilitator should have:
   - group management skills;
   - communication skills;
   - analytical skills;
   - interpretation skills;
   - questioning skills; and
   - lateral thinking skills.
23. Development Bureau maintains two Lists of VM facilitators based on the advice given by the Hong Kong Institute of Value Management. Departments are at their discretion to choose the most suitable facilitators from either Lists or other sources. The experience and qualification of the candidates should be taken into account in choosing facilitators, particularly those not included on the Lists.

24. In general, the employment of a facilitator not from the project department is preferred as a clear signal of independency. A drawback is that these external facilitators may not appreciate the implications of complex technical issues. This can be overcome by a pre-briefing by the project team. The employment of an internal co-facilitator can also help discussions under these circumstances and is encouraged for major projects and complex issues. Internal co-facilitation is also useful in providing experience and training to in-house officers toward the goal in becoming future VM manager or facilitators.

25. With more and more in-house officers trained to become facilitators, the employment of "external" facilitators from another department could be considered. Departments should avoid relying solely on internal facilitators for major projects and complex issues.

Follow-up actions after VM workshops

26. Follow-up actions mainly focus on how to ensure the implementation of an action plan which has been concluded in the last phase (i.e. development phase) of the VM workshop. The VM facilitator should prepare a report immediately after the workshop with the following items:
   - study background,
   - study findings,
   - refined or redefined project rationale and objectives,
   - summary outlines of key functions, with implications in terms of project scope, programme and cost,
   - descriptions of value improvement options with implications,
   - outline of action plan, and
   - other information as necessary in relation to the action plan.

27. Departments should set up their own procedures to monitor the progress of implementing the action plan. This is particularly relevant in order to ensure the realization of the perceived benefits. Departments have so far been unable to quantify the benefits derived from VM studies. It is recognized that some of the benefits are intangible and that it is not easy to put a percentage saving against them. In cases where it is possible to quantify the benefits, such as redefining project objectives through VM studies, it is useful to have a measure of the benefits in terms of percentage saving of the construction cost. In such cases, departments are advised to consider incorporating into the action plan some systems for measuring cost benefits.
Training of officers

28. In formulating their training plans, departments should be aware that there are two levels of training: to run workshops more effectively and also to be facilitators and co-facilitators. As mentioned in paragraph 24, co-facilitation by an in-house officer provides valuable experience and training opportunities. Departments should maintain a list of officers who are qualified to act as a facilitator or co-facilitator.

Report on the use of VM facilitators

29. To provide a reference for project teams in selecting facilitators, project teams shall compile a report for every VM study and departments shall maintain a referencing system. The reporting and referencing system shall work as follows:

(i) Each department appoints a coordinator who will handle all reporting matters within the department.

(ii) Each project team submits to the departmental coordinator a report on the use of VM facilitator in a standard format as in Annex A within 28 days after each VM workshop.

(iii) Each departmental coordinator prepares a rolling list of value management workshops conducted in the preceding 36 months in a standard format as in Annex B. The departmental coordinator circulates the rolling list, by the seventh working day of each month, to other coordinators with a copy to Development Bureau. (Amendment No. 2/2008)

(iv) When there is a need to obtain background information on a candidate, a project team can approach the coordinator of its own department to check whether the candidate has acted as a facilitator and, if necessary, ask the departmental coordinator concerned for a copy of the report.

(v) If required, the project team may approach the relevant departmental coordinator or the contact persons for particular reports for further details about the VM workshops conducted and the facilitators employed.
### Annex A - Report on use of value management facilitator

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>(1)</td>
<td>Department:</td>
<td></td>
</tr>
<tr>
<td>(2)</td>
<td>PWP No. or any other relevant reference no. (e.g. Block vote no. or contract no.):</td>
<td></td>
</tr>
<tr>
<td>(3)</td>
<td>Project Title:</td>
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</tr>
<tr>
<td>(4)</td>
<td>Brief description and stage of project:</td>
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</tr>
<tr>
<td>(5)</td>
<td>Name of value management facilitator:</td>
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</tr>
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<td>(6)</td>
<td>Qualification and experience of facilitator:</td>
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</tr>
<tr>
<td>(7)</td>
<td>Name of co-facilitator (if any)</td>
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</tr>
<tr>
<td>(8)</td>
<td>Value management workshop held on:</td>
<td></td>
</tr>
<tr>
<td>(9)</td>
<td>Duration of workshop:</td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td>Cost of facilitator (including travel and other expenses, if applicable):</td>
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<tr>
<td>(11)</td>
<td>Cost of venue:</td>
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<tr>
<td>(12)</td>
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<td>Telephone No.:</td>
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</table>
Annex B - List of value management workshops
carried out in the past 36 months up to Month/Year

Department: ______________________

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>PWP No.</th>
<th>Project Title</th>
<th>Name of value management facilitator</th>
<th>Name of co-facilitator (if any)</th>
<th>Date of value management workshop</th>
</tr>
</thead>
<tbody>
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<td></td>
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APPENDIX 1.5  TIMEFRAME FOR RESOLUTION OF PUBLIC OBJECTIONS
(Amendment No. 9/2009)

Purpose

This note promulgates further guidelines in respect of the timeframe for resolution of public objections with a view to expediting project delivery. It should be read in conjunction with paragraphs 16 – 18 of ETWB TC(W) No. 4/2006.

Guidelines

2. Works Departments (WDs) are required to step up control and monitoring procedures for resolution of public objections. In this connection, the steering group (SG) to be set up, as required in paragraph 18 of the TC(W) No. 4/2006, should be chaired by an officer at D2 instead of D1 level.

3. If all the objections cannot be resolved and the ExCo paper cannot be submitted to the Clerk to ExCo within the first 4 months after expiry of the objection period, the SG may extend the objection resolution period to 7 months subject to the agreement of the Director.

4. Further extension of the objection resolution period from 7 months to the full period of 9 months is subject to the prior agreement of PS(W). It should only be considered under very special circumstances or in case of exceptional complicated objections. Under such situation, the Director should submit the case to PS(W) through DS(W)2 giving justifications for such an extension.

5. The original and revised timeframes for the objection resolution process are appended below for ease of reference.

<table>
<thead>
<tr>
<th>Objection Resolution Process</th>
<th>Existing Provisions in TC(W) No. 4/2006</th>
<th>Revised Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution of objections</td>
<td>Within first 4 months</td>
<td>Within first 4 months (no change)</td>
</tr>
<tr>
<td>Extended time for resolution of objections (i.e. 7 months in total)</td>
<td>3 months</td>
<td>3 months, subject to agreement of the Director</td>
</tr>
<tr>
<td>Further extension to the full period of 9 months</td>
<td>2 months, subject to agreement of the Director</td>
<td>2 months, only applicable under very special circumstances and with prior agreement of PS(W)</td>
</tr>
</tbody>
</table>

6. WDs should note that the above 4-month, 7-month and 9-month periods are counted from the expiry date of the objection period to the date of
submission of the ExCo paper to the ExCo Clerk. These time periods are inclusive of the time required by the respective enabling bureaux/department (i.e. ENB, THB and LandsD) to process the draft ExCo paper. The normal processing time is 40 working days for ENB, 8 weeks for both THB and LandsD (or 5 weeks for LandsD with their prior agreement in respect of exceptional cases).

7. A pragmatic approach with flexibility should be adopted in seeking agreement to extend the time for objection resolution. The SG may determine the most appropriate time to seek the Director's agreement for extending the objection resolution period to 7 months having regard to the progress of objection resolution and other relevant factors, subject to the requirement that such agreement be obtained within the first 4-month period. Upon receipt of the Director’s agreement to the time extension, the SG should forward a copy to DEVB(WB) for information.

8. If further extension of the full period of 9 months is necessary, the Director should obtain PS(W)'s prior agreement at around the end of the 5th month after the expiry date of the objection period taking into account the progress of objection resolution, the likelihood of timely submission of draft ExCo paper to enabling bureaux/department for processing and the processing time of the draft paper required by them.

DEVB (WB)
September 2009