

Basic Brief for Construction Works

Revision M- 25 February 2012

incorporating:

- the Basic Brief for Architectural and Landscape Projects,
- the Engineering Basic Brief.

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1. Introduction

1.1 General

1.1.1 Project Briefing

The Basic Brief is a set of standard requirements for Consultant's within the Territory. The Basic Brief sits among a suite of documents that come together to form the Contract Documents.

References to the specific requirements for a project are called up in the Project Brief, which may specify all the services, or only some of the services noted in the Basic Brief. In some cases, the Project Brief may request specialist services, not included in the Basic Brief, i.e. Post-Occupancy Evaluation, etc.

Suite of Contract Documents

The suite of documents that make up the Contract Documents may include:-

Letter of Acceptance
Consultant Standard Agreement
Project Brief
Basic Brief

Australian Standards & ACT Legislation

Departmental Standards (Specific References will be included in the Project Brief)

Education & Training – Mandatory Building Requirements
Urban Services – Design Standards for Urban Infrastructure
Urban Services – Development Control Plan for Best Practice Waste
Management in the ACT

Refer to the Project Brief for the exact documents that will constitute the Contract Documents on a specific project.

The listing is hierarchical. Where there is a conflict between the documents, the higher listed document shall take precedence.

The Territory's Project Officer is responsible for preparation of the Brief for the project. The Project Brief translates and expands on the requirements of the client's Functional Brief into a form suitable for issue to a Project Manager or Consultant.

The Project Brief can take two forms:

- A letter Brief may be used for projects less than \$100,000 (total cost including GST and fees).
- Full Brief utilising a project specific brief with this Basic Brief.

The Project Brief in its draft form is circulated to the client and other parties and client endorsed comments incorporated in the final version. The selected Consultant(s) is/are invited to submit a Lump Sum Fee proposal, along with sub-consultants. Upon assessment of the tenders and approval by the delegated officer, the Project Brief is issued to the preferred Consultant. The successful tenderer is required to accept the brief within one (1) week of receipt. The successful tenderer then provides comments on the Project Brief including the adequacy of the budget and the program.

Consultants may be engaged to provide forward design services, after which a Project Manager may be sought to finalise documentation, and commence construction.

This Basic Brief lists the parameters to be observed by consultants executing architectural, landscape, and engineering projects for The Territory.

Consultants are to consider the **Project Brief**, together with this **Basic Brief** to satisfactorily complete the response to The Territory.



1.1.2 Additional Information

Additional information on the latest Procurement Processes, Agent Circulars, and ACT Government Procurement Policy are available on the Shared Services Procurement Website:www.procurement.act.gov.au

Comments and feedback are most welcome.

Enquiries should be addressed to the:

Quality Manager Shared Services Procurement PO Box 818 DICKSON ACT 2602

Telephone 6207 5596 Facsimile 6207 5468



2. General Provisions

2.1.1 Consultant to Provide Comprehensive Professional Services

The Consultant is responsible to The Territory to give a comprehensive professional service in the design, documentation, and (where required) contract administration to ensure that time targets are met and costs contained within the project budget. The Territories role is to manage the project rather than to undertake any work within the scope of competence of its professional consultant. The Territory expects the consultant to utilise the current professional standards and practices in preparing design concepts and details for the project. The Consultant also takes responsibility to ensure that proposed works are in accordance with current ACT Government legislation, regulations, and Australian Standards.

2.1.2 Responsibilities of the Consultant & Project Officer

The Project Officer will be the liaison for The Territory and other Government Agencies. Discussions with all parties will be through the Project Officer.

The Consultant is required to liaise with the Project Officer during the contract, to regularly inform The Territory of progress and problems encountered. The nominated Project Officer will request the Consultant to attend meetings to present drawings and diagrams describing the design/construction process.

The Project Officer is responsible to ensure that the activities for the successful implementation of the project are undertaken in a timely manner, according to the approved procedures and delegations.

The Consultant will obtain details of the requirements of all relevant Authorities, where applicable, and ensure that these are addressed in the design and construction process.

2.1.3 Communications Protocol

All communications on behalf of the Territory shall be with the Project Officer. Similarly, all communications from the Territory shall be via the principal Consultant.

During construction, all communications shall be between the Project Officer and the Superintendent.

2.1.4 National Code of Practice

The Territory has adopted the National Code of Practice for the Construction Industry. All work by consultants and contractors is to conform to the code. All

consultants and contractors are required to sign a Certificate of Compliance with the Code.

2.1.5 Reporting

The Consultant is to report to the Project Officer at all documentation milestones leading up to Documentation Readiness. There may also be other occasions when a report may be required as agreed with the Project Officer, or detailed in the Project Brief.

The Consultant is to submit monthly reports during the construction phase (see 3.8.7 Monthly Report on Construction Progress).

The Consultant is required to review the performance of all parties and to submit a report in accordance with 3.9.4 Performance Review of this brief.

2.2 Consultant Engagement

2.2.1 Selection Process

Current guidelines and processes for Consultant Selection by the Territory can be found on the Shared Services Procurement Website, www.procurement.act.gov.au.

2.3 Sub-Consultants

The consultant is to engage sub-consultants as required and is responsible for the supervision and co-ordination of the services provided by them during the Contract.

The consultant shall submit a list of proposed sub-consultants and specialists for the project and detail how they intend to assure the quality of services provided as part of their submission to The Territory. The consultant shall include details of extent of work of each specialist to enable an accurate assessment of fees. The Territory approval must be sought prior to changing any nominated specialist consultant/contractor.

The following sub-consultants should be considered for inclusion on projects where appropriate:

- Site Investigations (Geo-technical Advice, Archaeological Survey, Historic Investigations, etc.);
- Architect:
- Landscape Architect;
- Quantity Surveyor;
- Structural Engineer;
- Civil Engineer;
- Electrical Engineer;
- Mechanical Engineer;
- Hydraulic Engineer;
- Artist;
- Specialist Sub-Consultants; and
- Testing & Modelling where appropriate.

The Territory relies on a Consultant's previous experience on similar projects to provide an appropriate and comprehensive team of consultants to undertake the project.

2.4 Consultant Engagement

Consultants are usually engaged on a lump sum fee basis as the result of a public tender process.

Payment for Construction Phase Services, i.e. technical supervision of the works, contract administration and on-site representation etc. shall be included in the Lump Sum Fee although this may in part be by a Provisional Sum or Provisional Quantity.

2.5 Surveillance Officers

Where a project requires a Surveillance Officer, the roles and responsibilities are included in the Austroads Guide to Field Surveillance of Quality Assurance Contracts.

Where a project construction cost exceeds \$3.0M, a full time on site Surveillance Officer shall be utilised. For projects under \$3.0M the Superintendent may undertake the surveillance activities.

Architectural Projects will be administered as required by the Project Brief.

2.6 Adjustment to the Total Lump Sum Fee

Adjustments to the Fee will only be varied as a result of a significant change to the Scope of Work or delivery timing as follows:

- The Territory requests changes to the scope of work or other briefed requirements that exceed 10% of the project budget; or
- The duration of the project is extended 15% through no fault of the Consultant and suitable evidence of the cost of additional or extended resources is provided to justify the claim.
- Divergence greater than 15% between the project budget cost and the first project estimate, normally the PSP estimate, where the budget divergence is not the responsibility of the Consultant.

The Consultant's proposal should be capable of absorbing minor over-runs. Fee variations will generally be the exception rather than the rule.

Written approval should be sought prior to proceeding with additional work or placing orders for items that the Consultant considers outside the scope of the original agreement.

Fees shall be paid pro-rata when an engagement is terminated, to the point where design development can be proven by documentation from the Consultant.

Additional fees will not be paid were additional work is required to bring the project back within the project budget, unless the Consultant is able to prove that the budget is inadequate, and this is accepted by the Territory.

2.7 Progress Payments for Consultancy Services

Progress payments will be made on a monthly basis.

The lump sum fee proposal should contain a proposed schedule of payments and extent of the professional services offered. This is referred to in the Consultant's Agreement appended at Appendix A to this brief.

Electrical or other specialisations are to be nominated, together with the extent of on-site attendance.

On-site supervision, including the Defects Liability Period, is to be included in all Lump Sum Fee proposals, however they may be excluded at The Territory's discretion from the final agreement.

If the scope of work or the cost plan is not defined or budget not established sufficient to ascertain a firm fee proposal and/or where it is unreasonable to assess sub-consultancy components, agreement should be sought from the Project Officer to propose provisional amounts with upper limits of cost. Provisional amounts should be confirmed by Preliminary Sketch Plan stage, when they should be identifiable.

When evaluating construction tenders the provisional amount will be converted to a fixed amount based on the proposal from the consultant. If no proposal is received prior to Possession of Site, the Provisional Sum will be converted to a fixed amount.

The consultant is to enclose sub-consultant's fee calculations with the lump sum fee proposals.

Sub-consultants' fees should include a schedule of payments that reflect completed work and the staging of the head Consultant's fee payments.

Progress payments for sub-consultants and printing will be made on an as-billed basis consistent with progress.

Progress payments for on-site representation will be to a pre-agreed progress payment schedule consistent with the Lump Sum agreement and time frame.

Progress payments for Consultancy services should be addressed to the Project Officer.

For **Engineering Projects,** the progress payments for the Basic Fee component should not exceed the following, from the Initial Briefing to:

PSP submission 25% of Basic Fee FSP submission 50% of Basic Fee DR submission 75% of Basic Fee Defects Liability Period 90% of Basic Fee Payment for Technical Supervision and Contract Administration shall be included in the fixed Lump Sum Fee. The Lump Sum Fee shall also initially include a Provisional Sum for the Superintendent's role in providing quality assurance services for the Works. The proposal is to recommend how the contractor's Project Quality System is to be monitored. This will be dependent upon the contractor's quality system and the contractor's ability to provide assurance by means of objective evidence that the specification requirements have been met.

The proposal shall nominate the consultant's representative and on-site representative, with details of experience of the proposed superintendent's representative, duties, discretions and authorities to be exercised by that person.

2.8 Quality Assurance Requirements

2.8.1 Quality Assurance Requirements for Suppliers

QA Certification is required for consultant engagements for projects with a project value over \$50,000 or studies over \$10,000.

2.8.2 Project Quality Plan

The Consultant shall be responsible for:

- providing The Territory with assurance that the quality of design will be in accordance with the requirements of this Basic Brief and the Project Brief; and
- achieving the specified requirements and demonstrating this achievement by documentary evidence.

The Consultant is to implement a quality system in accordance with the appropriate requirements of Quality System Standard ISO 9001:2000.

The Consultant shall implement a Project Quality Plan (PQP) to ensure that the quality assurance requirements of the brief are met.

The Consultant is to prepare and submit controlled copies of the Project Quality Plan to The Territory.

The Project Quality Plan shall identify:

- milestone dates:
- quality objectives to be attained;
- specific responsibilities and authority during the different phases of the project;
- specific procedures, methods and work instructions to be applied;
- proposed testing, inspection, examination and audit programs;

 other measures necessary to meet objectives including a method for dealing with changes and modifications as the project proceeds.

The Territory uses an incremental method of project development. This requires the gradual development of the project through a series of milestones/hold points, approvals, etc.

The details of these milestone/hold points identified in the Project Brief are required to be shown in a design plan and/or design verification plan which in turn is incorporated in the Consultant's Project Quality Plan. The Consultant shall also include items shown the Design Plan and/or design verification plan.

The Consultant shall keep The Territory informed of projected design verification review points and any other involvement of The Territory in the QA systems of Consultants, Sub-consultants, and/or Specialist Consultants.

The Consultant shall determine the appropriate Quality Standard to be applied to Sub-consultants or Specialist Consultants commissioned to provide design data to meet the requirements of the Project Brief.

The principal consultant is responsible for ensuring the adequacy of the Quality Assurance arrangements for all sub-consultants. Where sub-consultants do not have their own Quality Assurance system, they shall use and comply with the principal consultant's quality system.

Where computers are utilised to undertake design calculations, their design output shall be verified by alternative calculations or by the software being validated, verified and authorised prior to use. Methods shall be in place to detect any corruption of files.

The Territory shall be afforded the right to enter the Consultant's, Sub-consultant or Specialist Consultant's premises for the purposes of quality surveillance and/or audit in respect of the project.

The work of the consultant will be monitored by conducting quality surveillance and/or audits by The Territory on the consultant's quality system and where necessary, on the consultant's sub-consultants and specialists.

Where an engagement is for both design and superintendence, a Project Quality Plan shall be prepared based on the Contractor's Project Quality Plan and submitted for approval by the Territory. This requires a revision and resubmission of the Project Quality Plan after the Construction Contract is awarded.

2.8.3 Document Control

The Consultant will be responsible for the identification of the **issue status** of design drawings and documentation as follows:

 during the preliminary design stage to Document Readiness (DR), drawings/documents shall be identified by Revision A, B ,C etc. Other drawing/document controls to be in accordance with the document control procedures.

- at Document Readiness (DR), drawings/documents shall either be stamped "FOR TENDER" or a similar notation in the amendment record box.
- when drawings/documents are issued for construction, their revision shall be identified 0, 1, 2, 3 etc. Revision 0 shall be stamped "ISSUED FOR CONSTRUCTION" or similar notation in the drawing/document amendment record box.
- changes to the drawing/document numbering system during a project shall not be made without the agreement of The Territory.

2.8.4 Distribution Control and Retention Period

The Consultant shall be responsible for the controlled distribution and retention of Tender Documents (DR) and Tender Addenda as follows:

Minimum Distribution: Project Officer

Consultant Tenderers

Minimum Retention Period To Completed

for Consultant's copies Works

The Consultant shall also be responsible for the retention of controlled copies of Key Project Documents issued by The Territory. These may include:

- Consultant Engagement Documents eg. Consultant Brief and Agreement
- Approved Design Option Reports and other reports that are a part of the Project Delivery Service
- Preliminary Sketch Plans
- Final Sketch Plans
- draft final design and tender documents (DR)
- Contract Documents
- Design Change Documents (ie. documents defining a design change for which approval is granted)
- Corrigenda to the above Key Project Documents

Copies of documents issued by The Territory to consultants shall be controlled to ensure that where their use affects quality that current documents are used.

2.9. Testing & Modelling

The consultant is required to ensure that sufficient tests of design configuration, structure and materials are carried out during design, documentation and

construction of the project. The arrangements for tests should be referred to the Project Officer for approval.

The proposed fees for tests may be negotiated with the Territory for reimbursement, including additional site supervision costs. Approval should be sought prior to placing the orders.

2.10 Reference Documents

Reference Documents will be listed in the Project Brief.

2.11 Cost Management

The Consultant is to ensure that costs are controlled.

Estimates are required at the following stages for all projects:

- with the design options study;
- with the conceptual design (preliminary sketch plans);
- with draft design (final sketch plans);
- before submitting Tender documents, based on substantially complete contract documentation;
- after the contract is let, based on the contractor's priced bill of quantities;
- as part of each monthly report; and
- at final settlement of the contract.

It is the Consultant's responsibility to design and document the project complying with the briefed requirements within the constraints of the budget.

The Consultant may be required to re-document to bring the cost back to the Budget figure where cost plans or tenders are in excess of the available budget. The consultant has a primary responsibility to achieve a result within the budget, and where re-work is required, this shall be done within the agreed fee, unless agreed otherwise.

Should the Consultant wish to increase the cost by exceeding the requirements of any part of the brief, compensating savings must be made elsewhere in the design without affecting compliance to the brief.

Where changes in the brief result in cost variations to the Consultant's fees, the Consultant should advise The Territory immediately.

Variations during contract administration that result in an increase in costs will generally require compensating savings to offset the cost of the variation.

Where fresh documentation is required due to factors outside the Consultant's control the fee will be adjusted in accordance with the Consultant's agreement.

2.12 Site Inspections

A site inspection involving the Consultant, the Project Officer and a representative of the client (if sought by the Project Officer) may be arranged by the Project Officer prior to design commencement.

This meeting should be used to formulate the design philosophy and clarify matters affecting the feasibility of proposals to be considered.

Following the initial inspection the Consultant shall arrange site inspections with the Project Officer as required and at least once prior to finalisation of the design.

2.13 Survey Information

Where detailed survey information is made available for the project, the Consultant should, as soon as possible, assess the available survey data to ensure it is adequate for design and construction purposes within the scope of the brief.

The Consultant should submit details of the requirements of any additional survey information to the Project Officer without delay. These should include plans indicating the location of survey work and a survey Brief detailing the extent and description of the work required. Four copies of the plan and specification are required.

The design drawings are to show the source of the survey information used in the design including the date the survey was carried out.

2.14 Sub-Surface Investigations

The Consultant is to carry out site investigations and assessments of sub-surface conditions at an early stage to provide an informed base to develop the design. Consideration should be given to the need for additional geo-technical information for tendering and construction.

Information on the geology of the Canberra region is available through the Australian Geological Survey Organisation (AGSO).

Geo-technical reports done by a specialist Consultant are to differentiate between factual information to be used by a contractor and the Specialist Consultant's opinions of information to be used for design. Separate reports are required for each aspect, and the Project Officer provided with three copies of each report.

The factual report is to be made available to tenderers for information only by the Consultant as part of the tender documents.

The opinions relating to the factual report may be made available to tenderers subject to the written approval from The Territory.

The report interpreting the geo-technical data is to identify any adverse soil conditions, fill on blocks, disturbed ground, surface and sub-surface water, erosion

susceptibility, slope stability, bearing capacity, factors likely to affect pavement design and construction, and all other information necessary to provide a base for design, tender document preparation and superintendence.

2.15 Conservation and Environmental Impacts

Conservation and environmental impacts are concerned with both living and nonliving elements. The Consultant is required to identify any areas associated with or adjacent to the project development areas which:

- have nature conservation status;
- are designated sites of significance. The Heritage Unit, Environment ACT maintains descriptions and maps of all identified sites of significance, both natural and cultural in the ACT. The Consultant must ascertain the location of all such sites in the area affected by the work proposed and mark these on the design drawings. Protective devices, such as fences, guards, etc. that are required for construction or long term must be indicated on the design drawings and included in the contract documentation. The Heritage Unit should be consulted at an early stage to ascertain whether the proposed works will impact on a known heritage site. Heritage Unit will provide advice on landscaping in heritage areas and must be contacted if archaeological deposits are found during the construction. The Consultant is to ensure that appropriate clauses are included in the contract documents;
- are gazetted under the Nature Conservation Act, Roads and Public Places Act or the Heritage Objects Act;
- are important ecological areas;
- are recorded by the Environment Protection Unit, Environment ACT as a known or potentially contaminated site. The information is recorded by Environment Protection Unit in the Contaminated Sites Management Database (CSMD), Contaminated Sites Geographic Information System (CSGIS) and contaminated sites Register under the Environment Protection Act 1997. Information recorded on the CSMD, CSGIS and Register are available through the Contaminated Land Search enquiry administered by the Environment Protection Unit, Environment ACT. The Unit can also provide advise on contaminated sites management in the ACT and should be contacted if contamination is detected during construction. The Unit should be consulted at an early stage. The consultant is to ensure that appropriate clauses are included in the contract documentation; and
- Where structures are to be removed a comprehensive Hazardous Material Survey shall be undertaken. A demolition plan should be submitted to the Environment Protection Authority.

The Consultant shall identify possible problems with erosion as detailed in 2.16 Pollution Control.

Any proposed alterations to existing fencing and estimate cost of reinstatement of such fencing is required in liaison with CUPP via the Project Officer.

The Consultant shall report to the Project Officer at the earliest possible stage of design, any significant environmental effects (both adverse and beneficial) likely to result from the proposal and alternatives considered. The most common environmental problems encountered relate to, but are not limited to: interference with existing trees and other vegetation, visual aspects, dust, noise from construction and proposed activities, water pollution, existing use of area etc.

Where significant adverse impacts are anticipated, measures should be identified for eliminating or reducing these impacts as far as practicable in design. The Consultant should consider whether any special specification clauses should be prepared and recommended to the Project Officer for inclusion in the tender documents. The approval should be sought during successive design submissions.

A submission shall be prepared as required to seek environmental clearance under the Commonwealth EPBC Act and/or ACT Environmental Legislation.

Where necessary, the Consultant shall prepare a schedule of environmental construction requirements to be observed during civil construction works to ensure that the integrity of the environment is maintained (e.g. removal of obstructing earthworks/debris from water courses).

2.16 Pollution Control

The Environmental Protection Authority, Environment ACT is responsible for enforcing the *Environment Protection Act 1997*, including the control of soil erosion for construction projects, as well as noise from related activities

Measures will be required to contain site run-off and prevent pollution of the waters of the Territory.

Such measures shall be determined in consultation with the relevant Authorities and may include, but not necessarily be restricted to, the following criteria:

- stabilisation of site entrances;
- construction of interceptor drains above the works to divert run off away from disturbed areas of the work;
- requirement to minimise the extent and duration of exposed areas;
- requirement to maintain road verges in a stable condition;
- construction of temporary silt traps in stormwater drains and at conduit entrances:
- provision of sediment retention ponds for the treatment of contaminated stormwater; and
- provision of stabilisation to drain inlets and outlets.

These measures will be required to be designed and clearly documented in the tender documentation and the cost of such work shall be allowed for within the estimates provided at all stages of the design and documentation. The Consultant shall liaise with the Environment Protection Authority to determine the appropriate design and documentation requirements for the project.

The documentation should be programmed to allow Pollution and Erosion Control Measures to be completed prior to any construction work proceeding on site. These measures should <u>not</u> be included in the tender documentation as a separable part of the works.

If the Consultant is required to prepare a draft Erosion and Sediment Control concept plan it should be agreed to by the Environment Protection Authority as submitted as part of the documentation readiness (DR) submission.

The successful tenderer should initiate liaison with the Environment Protection Authority within 10 days of being awarded the tender.

Final Erosion and Sediment Control Concept Plans must be submitted to the Environment Protection Authority prior to the commencement of work on site.

Following liaison between the contractor and the Environment Protection Authority, the Erosion and Sediment Control Plan (ESCP) shall be submitted by the contractor for approval by the Environment Protection Authority. An Environment Protection Agreement may be required to conduct the activity under the *Environment Protection Act 1997*. The plan is normally an A1 size drawing.

The following items must be clearly identified in the ESCP and two copies provided to the Environment Protection Authority:

- site location;
- site boundary;
- site area (square metres or hectares);
- extent of works on the site
- existing and proposed contours of the site;
- existing and final drainage;
- proposed construction;
- proposed erosion and sediment control measures (including dimensions/capacities);
- location of stormwater infrastructure
- proposed discharge location;
- surface stabilisation measures

- specific problem areas and features eg.,
 - existing watercourses,
 - proposed stockpile area, and
 - proposed batter slopes > than 1 in 5;
- north point;
- scale; and
- legend.

The Contractor shall incorporate such measures into the project quality system.

A noise management plan, prepared by an accredited acoustic specialist who is a member of the Australian Acoustical Society, acceptable to the Environment Protection Authority may be required for the following:

- . club
- drink establishment
- . hotel
- . industry except light industry
- . indoor entertainment facility
- . restaurant

The noise management plan should detail the design, siting and construction methods which will be used to minimise the impact of noise on neighbours.

Noise from construction activities must comply with the *Environment Protection Act* 1997. Service Supply Lines

2.17 Traffic Noise

The **Guidelines for Standard Residential Development**, either existing or proposed, adjacent to a road corridor state that the noise level is not to exceed 63 dB (A) measured as an L10 (18 hour) one metre in front of the facade (or if no building yet present, one metre in front of the building line) and at a height of 1.2 - 1.5 m above ground level. Field measurements undertaken where there is no building erected should be increased by 2.5 dB to account for future facade reflection.

Similar guidelines exist for **medium density and aged persons units** adjacent to road corridors. The details of these guidelines must be obtained from the Territory Planning Section of ACT Planning and Land Authority and if such developments exist or are proposed adjacent to road corridors covered by this Brief these

guidelines are to be applied in the design of the project, whether the project is a road or a building.

For road projects, Consultants are required to calculate and designate the future 63 dB (A) line on a map of the proposed road.

These noise predictions are to be undertaken:

- manually (as detailed in the UK Department of the Environment (1975) noise prediction model), or
- by using the Australian Road Research Board's computer package for the same model, or
- by any other method which has been approved by the Project Officer

Note: For further requirements on the use of computer software packages refer Section C1.1.

In order to achieve a uniform approach to noise prediction the following parameters will be specified by EPU:

- traffic flow
- percentage heavy vehicles
- traffic speed
- receiver height above ground

General details of calculations and related cross sections should be provided.

To minimise the land acquisition needed to satisfy noise level requirements, Consultants should consider the use of appropriate acoustic controls, such as mounds, acoustic fences etc. In such cases the Consultant must calculate and indicate the type, height and location of acoustic controls and the associated 63 dB (A) line resulting from the controls. A cost estimate for the controls should be provided.

The design of mounds must take into account intersection sight lines, service alignments and local drainage effects. A catch drain between a mound and adjacent development may be necessary. Overland flow paths must not be obstructed.

Mounding shall be clear of service alignment, however in some situations existing or proposed services may need to share the same general location as an acoustic mound. In these instances it is necessary to obtain the agreement of the Service Authority prior to acceptance of the proposal by the Project Officer

2.18 Service Relocations

Existing services, the design of alterations necessary and the timing for the alterations is an essential early activity. In some cases it may be appropriate to

carry out the relocation of services under a separate contract prior to commencement of the rest of the work.

The Consultant is to liaise directly with ActewAGL, Telstra, Optus, Transact, and any other Service Authorities to ensure that existing services are identified.

Proposals to relocate services must meet the requirements of the Service Authority. Any proposed augmentation of relocated services must be discussed with the Project Officer.

The Consultant is to determine any encumbrances on the site and ensure that they are identified in the documents, particularly in regard to existing services.

Service relocation plans must show the location of existing trees. As a general rule, trenches located beneath the canopy of a tree will have an effect on the tree. Advice on the likelihood of problems in these situations should be provided to the Project Officer.

The location of all utility services, survey marks, trees, structures, etc. are to be shown on the design drawings.

Relocated and/or abandoned services should be indicated on the design drawings. It is also necessary to obtain a statement confirming that the changes proposed, construction method, conditions and costs are acceptable from the Authority.

The extent of work to be performed by others, including service Authorities, and the method of construction, is to be clearly set out in the tender documents and design drawings.

2.18.1 ActewAGL

2.18.1.1 Hydraulic Services

The Consultant is to follow the procedures and details in ActewAGL Water Supply and Sewerage Standards for the design, construction and handover of all water supply and sewerage assets to be maintained by ActewAGL.

2.18.1.2 Streetlighting/ Lighting of Public Places

Street lighting is an Urban Services' asset maintained by ActewAGL and may be designed and relocated by private sector agents. Design of street-lighting requires review and approval by ActewAGL on behalf of Urban Services. Commissioning of streetlights requires inspection and acceptance by ActewAGL.

2.18.1.3 Electrical Services

The Consultant is to identify the location of existing electrical services and determine if any ActewAGL electrical works are required (electricity supply and public area lighting) and the extent.

To enable planning and design of electrical works, the Consultant shall liaise with ActewAGL at an early stage and supply copies of sketch plans as required.

For final ActewAGL design, the following information will be required:

- 2 copies of design drawings;
- 1 copy of the specification;
- proposed scope of ActewAGL works;
- proposed date for calling tenders;
- date by which ActewAGL information is required to be provided with tender work; and
- programmed date for ActewAGL field work.

ActewAGL will provide all necessary information to the Consultant to prepare tender documentation. This will include:

- scope of ActewAGL works;
- any site preparation works required (ie. conduits);
- a firm lump sum price valid 120 days; and
- terms of payment and any other contract conditions between ActewAGL and tenderers.

The lump sum price will be handed to persons obtaining tender documents by the Consultant for inclusion in the tender price.

All tender enquiries are to be directed initially to the Consultant. ActewAGL will provide post tender advice to the Consultant relating to design queries from tenderers. Queries relating to commercial matters will be handled directly between the contractor and ActewAGL.

The Project Officer will advise ActewAGL of the successful contractor. The contractor is to confirm the programmed dates as to when ActewAGL services will be required.

All matters pertaining to installation, confirmation of dates, payment etc. will be handled directly between the contractor and ActewAGL.

2.18.2 Provision for Future Services

The Consultant shall liaise with all Authorities to identify what underground conduits are required to facilitate the provision for future services without the need to open up carriageways or other paved areas. The Consultant shall obtain the approval of the Project Officer prior to including underground conduits for future services within the works.

2.19 Landscape

Landscape input at an early design stage is essential to assist with the identification of site constraints and opportunities. Depending on the project, this

phase may involve vegetation surveys, visual impact assessment, site analysis and design options.

Landscape works include all soft landscaping, irrigation, street and park furniture, pedestrian paving, playground equipment, vehicle barriers, and fencing.

During the construction and consolidation phase, suitably qualified and experienced supervisory staff shall be engaged.

2.20 Public Consultation

All consultation shall be undertaken in accordance with the principles detailed in the Chief Ministers Department Community Liaison Group's Consultation Protocol.

Specific requirements are detailed in the project brief.

2.21 Work Health & Safety Requirements

2.21.1 Certified System

The Consultant is required to have a certified OH&S system. This process is assessed as part of the Consultant Pre-Qualification Process.

2.21.2 Work Health and Safety Design Obligations

2.21.2.1 Design Obligations

The consultant must comply with work health and safety laws. Complying with the obligations listed below does not relieve the Consultant of their obligations under these laws.

The Consultant must consult with the Territory about how to ensure that risks to health and safety arising from the design during the construction work are:

- (1) eliminated, so far as is reasonably practicable; or
- (2) if it is not reasonably practicable to eliminate the risks, minimised so far as is reasonably practicable.

2.21.2.2 Duty to ensure health and safety in the workplace

The Consultant must ensure, so far as is reasonably practicable, that any plant or structure forming part of the project to be designed by the Consultant is designed to be without risks to the health and safety of persons:

- (1) who use the plant or structure for a purpose for which it was designed;
- (2) who construct the plant or structure;
- (3) who store the plant at a workplace;
- (4) who carry out any reasonable foreseeable activity at a workplace in relation to:

- a. the manufacture, assembly or use of the plant for the purpose for which it was designed, or the proper storage, decommissioning, dismantling or disposal of the plant; or
- manufacture, assembly or use of the structure for a purpose for which it was designed or the proper demolition or disposal of the structure; or
- (5) who are exposed to the plant or structure or whose health and safety may be affected by a use or activity referred to in (1), (2), (3) or (4).

The Consultant must ensure that the design eliminates or where this is not reasonably practicable, minimises, the need for any hazardous manual task to be carried out in connection with the plant or structure.

2.21.2.3 **Duty to test**

The Consultant must carry out or arrange to be carried out, any calculations, analysis, testing or examinations that may be necessary for the performance of the duties referred to in clause 2.21.2.2.

2.21.2.4 Duty to provide information

The Consultant must give adequate information to each person who is provided with the design for the purpose of giving effect to it concerning:

- (1) each purpose for which the plant or structure was designed;
- (2) the results of any calculations, analysis, testing or examination referred to in clause 2.21.2.3;
- (3) any conditions necessary to ensure that the structure is without risks to health and safety when used for the purpose for which it was designed or when carrying out any activity referred to in clause 2.21.2.2 (1) to (5); and
- (4) information about the features of the structure that eliminate or minimise the need for any hazardous manual task to be carried out in connection with the plant or structure.

Upon request, the Consultant must, so far as is reasonably practicable, give current relevant information on the matters listed in clause 2.21.2.4 (1) to (4) to a person who carries out, or is to carry out the activities referred to in clause 2.21.2.2 (1) to (5).

Before construction commences, the Consultant must give the Territory a written report that states the hazards relating to the design that, so far as the Consultant is reasonably aware create a risk to the health or safety of persons who are to carry out any construction work in respect of the plant or structure.



3. Project Delivery Milestones

3.1. SUBMISSIONS

3.1.1 General Requirements

Plans are to conform to AS 1100 Technical Drawing.

The full name of The Territory Agency/Agencies involved with the Project as clients and logos are to be included on all drawings, specifications and reports throughout the project.

Wherever possible plans should be orientated with north towards the top of the drawing.

The Territory is conscious of the effect of clear and readily understandable drawings on contractor's staff and on tenders received. Drawings should suit the ultimate user on site and should avoid the need to refer to several references simultaneously on one particular issue.

3.1.2 Site Plans for Lease Withdrawal

Three copies of plans and a DXF file showing the precise location of new boundaries and/or the extent of site requirements including access provisions, construction compound, spoil dumps etc. are to be provided by the Consultant for the purpose of withdrawing land from lease. These documents are required by the Project Officer at an early stage to allow approximately 4 months notice to withdraw the land from lease.

Where Lease Withdrawal is required as part of a project brief, the lump sum fee shall include costs required for additional survey work.

3.1.3 Plan Sequence

The plans are to be placed between a front and back cover and are to be compiled in the following general sequence where appropriate:

- location plan;
- plan index and/or key plan;
- general arrangement plans, showing all work irrespective of type, (preferably on one sheet), illustrating in a simple and legible manner what the project involves (for drainage works, this must

include a contoured catchment plan with appropriate design information);

- concept plans (where applicable);
- traffic control device drawings (where applicable);
- erosion and sediment control concept plan;
- survey and setting out details;
- detailed design drawings;
- plans and profiles;
- elevations/super elevations;
- cross-sections:
- typical cross-sections and construction details;
- ancillary works including landscaping, wiring diagrams, fencing, signposting etc.;
- staging and temporary works proposals including temporary Traffic Management; and
- standard details.

3.1.4 Content of Submissions

The quantum and timing of submissions required is addressed in the Project Brief.

The design intent is to be clear to members of other disciplines, the Government, and the wider community that may be affected by the works. Submissions should contain sufficient explanatory material to meet this objective.

All submissions are to include an executive summary for the information of Government Committees, executives of The Territory and other agencies to gain a quick and precise understanding of the works.

3.1.5 Presentation Material

Drawings to presentation standard may be specified in the Project Brief. These may be required for presentation purposes and/or public display at shopping centres or ACT Government Shopfronts as part of the public information and consultation process.

The following guidelines apply to presentation material:-

- Plans to be of an appropriate scale, preferably with north to the top of the page;
- To show the full extent of works in particular plus a general arrangement drawing of the ultimate development where there are stages;

- A geographic location plan of an appropriate scale is to be provided. It should normally be incorporated within the general arrangement drawing but may be a separate plan if necessary
- A cross-section or perspective of the project is to be provided which illustrates the typical detail. If bridges are to be illustrated, a longitudinal section should be included
- photographs, preferably in colour, may be included
- The project title should not include the Consultant's name or any reference to The Territory
- A background outline, statement of objectives and general description of the works is to be included
- All text is to be provided to the Project Officer in draft for clearance with the Authorities prior to the production of the final

3.2 PRE-DESIGN SERVICES

3.2.1 Pre-Design Studies Policies

Planning for this project should be undertaken within the established policy framework.

3.2.2 Landscape Master Plan

If required in the Project Brief, a landscape master plan shall be prepared. It should make a strong visual impact suitable for display and presentation purposes. Information to appear on the landscape master plan includes:

- The overall design intentions for the site;
- The relationship of the site with adjoining land uses;
- Key activity nodes and pedestrian and vehicle connections within and outside the site;
- Planting themes; and
- Any other design information necessary to convey the design intent of the proposals.

3.2.3 Stormwater Master Plan

If required in the Project Brief, a stormwater master plan shall be prepared in accordance with the requirements of the ACT Urban Services Stormwater Manual.

The Consultant should liaise with Roads ACT during the development of the master plan and obtain their endorsement of the recommendation.

3.2.4 Sewerage Master Plan

If required in the Project Brief, a sewerage master plan shall be prepared in accordance with the requirements of the ActewAGL Water Supply and Sewerage Standards.

The Consultant should liaise with ActewAGL during the development of the master plan and obtain ActewAGL endorsement of the recommendation.

3.2.5 Water Supply Master Plan

If required in the Project Brief, a water supply master plan shall be prepared in accordance with the requirements of the ActewAGL Water Supply and Sewerage Standards.

The Consultant should liaise with ActewAGL during the development of the master plan and obtain ActewAGL endorsement of the recommendation.

3.3 Design Options Study

If required in the Project Brief, a Design Options Study (DS) is to be undertaken.

The DS should examine the feasibility of design alternatives and identify benefits, disadvantages, cost/benefit analysis and the total estimated cost of each listed alternative.

The study report should provide analysis of environmental and other impacts each option would have on the site, adjacent facilities, and possible methods of alleviating any adverse affects.

The Consultant should conclude the DS report by recommending a preferred option giving reasons for the recommendation.

The DS is reviewed by the Project Officer and circulated to relevant parties. Upon receipt of comments and following completion of necessary actions required by The Territory procedures, the Consultant will be advised in writing of approval and any resultant requirements.

A DS Submission should include copies of the following (one copy of each drawing is to be coloured):

- Location plan showing the relationship of the site to adjacent building and landscape features within a 500m radius (Scale 1:1000 or 1:2500);
- Site analysis drawings showing constraints and opportunities such as microclimate, access points and existing buildings and vegetation, and including site sections;
- Diagrams showing the Consultant's analysis of the project both with regard to the site and building types;
- Alternative development strategies, setting out significantly different strategies and evaluating them against the project requirements and conclusions drawn from the site analysis and architectural analysis;

- Studies of schemes considered and rejected, including indicative cost estimates, reasons for rejection, and the logical process leading to the preferred design;
- Sketch drawings of the preferred design showing existing and altered landforms, paved areas and planting, and the location of main services (1:200), including indicative elevations and sections of the overall scheme at an appropriate scale;
- Sketch drawings which indicate floor plans, basic form and elevation treatment of the proposed building types;
- Each drawing is to be clearly titled: "....(name of project)...Design Studies"; and
- A preliminary estimate of cost of each or any options, as required.
- Evidence of consultation with ACT Planning and Land Authority and their specific lodgement requirements for the project.

While a design option study may not be formally sought in the Brief, Consultants should consider the advantages in submitting a study for all projects with the intention of clearly establishing the basis for design at the inception of the project.

The Consultant should not single out and develop preferred solutions before the alternative strategies have been completed and agreed with The Territory during this stage of the project.

3.4 Preliminary Sketch Plans (PSP)—Conceptual Design

3.4.1 General Requirements

The conceptual design stage (preliminary sketch plan or PSP) is used to develop the preferred option agreed with The Territory in design studies or specified in the Brief.

In simple projects where no pre-design studies are required, the conceptual design (PSP) establishes the basic design concepts and address fundamental issues at an early stage to ensure the design is proceeding in accordance with requirements and expectations.

The PSP submission will generally include:

- An executive summary;
- A statement that the proposals are in accordance with the Project Brief, and the departures from the brief and reasons listed;
- Report on any unresolved issues;
- An estimate of costs related to the Project Budget;
- Identification of matters critical to the safe and effective functioning of the design; and

 Confirmation of ACT Planning and Land Authority submission requirements for the project.

The Project Officer circulates the PSP submission to the Client and all relevant parties. The number of copies to be sent to the client and other bodies is specified in the Project Brief.

The Project Officer will provide the Consultant with an approval and any resultant requirements in writing.

As part of the PSP development process, the Consultant is required to liaise with ACT Planning and Land Authority to establish any requirements for an Implementation Plan and/or a Preliminary Assessment if required.

3.4.2 Architectural Projects

In addition to the general requirements, PSP's for Architectural Projects shall include:

- The Consultant's understanding of the project, the design philosophy and approach, site analysis and investigations, a brief description of materials and construction, and a schedule of proposed areas of all spaces, and Sub Consultant's reports. The report is to include reductions of all drawings to A3 or A4 size;
- Location plan showing the relationship of the project site to existing buildings and landscape features;
- Site plan of the Consultant's preferred design showing all existing and altered landforms, paved areas and landscape, the location of main services and vehicle access. Setbacks and plot ratio are to be clearly identified to facilitate The Territory approval;
- Plans, elevations and sections of the preferred design sufficient to explain the scheme and to an appropriate scale, preferably 1:100 or 1:50. A roof plan is to be included;
- Drawings showing the proposed structural, major mechanical, hydraulic, and electrical systems and landscape;
- A copy of the preliminary report of the ACT Fire Brigade giving approval to the design;
- Where appropriate, a copy of the preliminary report from the ACT Waste unit within the Department of Urban Services giving approval to the design;
- Each drawing and the front page of the report is to be clearly titled:
 "....(name of project)...Preliminary Sketch Plans"; and
- Simple study model/s, and/or axonometric or perspective drawings if requested.

3.4.3 Landscape Architecture projects

Preliminary sketch plans (PSP) establish the basic design parameters and address fundamental issues in the design to ensure the design is proceeding in accordance with the Project Brief.

PSP precedes the detailed design and runs in parallel with the collection of detailed information necessary for detailed design.

The PSP submission for landscape projects will normally include:

- Alternative design concepts, benefits, costs, etc. (This is to be provided when design option study has not been sought as part of the brief requirement);
- Plans showing the scope of work. These should be simple drawings that outline the extent of the works proposed, their boundaries, and how these proposals relate to adjacent facilities;
- Outlines for major structures, drainage and pedestrian facilities including aesthetic and technical reports;
- Geo-technical report;
- Preliminary gradings and typical cross sections;
- All sites of significance and gazetted areas;
- Environmental consideration in accordance with this Basic Brief;
- Impact on existing services, road reservation and lease, access to existing and planned facilities, pedestrian desire lines etc;
- Proposals for materials and finishes. This requires a sample board in the case of buildings;
- Report on any unresolved design issues;
- Project timetable for submitting the balance of the design;
- Planting concepts including species; and

3.4.4 Engineering Projects

In addition to the general requirements, **Engineering** PSP submissions will normally include:

- Alternative design concepts, advantages/disadvantages, costs etc. (This is to be provided when a design options study has not been sought as part of the Project Brief requirement);
- Plans showing the scope of work. These should be simple drawings which outline the extent of the works proposed, their boundaries, and how these proposals relate to adjacent facilities;
- A drainage master plan showing contours, catchment boundaries and areas, estimated flows and flow paths;
- Outlines for major structures, drainage and pedestrian facilities including aesthetic and technical reports;
- Geo-technical report;
- For pavement designs a pavement options study and whole of life costing analysis on a variety of pavements;
- Preliminary grading and typical cross sections;
- The predicted 63 dB(A) line for major roads;
- All sites of significance (Section C9) and gazetted areas;
- The landscape design which should be undertaken in accordance with 2.19 <u>Landscape</u> section of this basic brief (the extent to which the design is determined by the Project Officer in consultation with the representative from The Territory (Landscape);
- Environmental considerations in accordance with 2.15 <u>Conservation and Environmental Impacts of this Basic Brief;</u>
- Impact on existing and future services 2.17 <u>Services</u>, road reservations and leases, access to existing and planned facilities, pedestrian desire lines etc.:
- An outline of issues regarding traffic management during construction, and preliminary concept drawings depicting the issues of staging (including any alternatives);
- Proposals for materials, colours and finishes;
- Estimate of cost, with allowances for unresolved issues;
- Report on any unresolved issues;

- A proposal for providing conduits, pre-blasting etc. to allow for the future installation of services such as traffic lights, water mains etc.;
- Updated Project timetable;
- Planting concepts including species;

In some instances, due to program requirements or simple projects, an FSP submission may not be required. In this case, the provision of the following is also required at PSP:

a draft Traffic Control Devices plan.

3.5 FINALSKETCH PLANS

3.5.1 General Requirements

The Final Sketch plans (FSP) submission represents the completion of the draft or preliminary design stage of the work. The FSP submission is to include full details of the proposed development. All previous comments by The Territory are to be resolved and the proposal should meet all agreed requirements of the agencies.

The FSP Report and drawings will normally contain the following:

- An executive summary;
- Formal advice that the requirements of the Project Brief have been satisfied, and if not the departures and associated reasons listed;
- A detailed estimate of costs:
- Identification of matters critical to the safe and effective functioning of the design;
- The quality requirements to be applied to the Contract, comprising:
 - quality assurance requirements as determined in accordance with Document No. USDS619 "Guide for the Specifying of Quality Assurance for Contractors";
 - Forms USF944 to USF957 inclusive, completed as applicable;
- Details of work resulting from sub-surface investigations;
- All the drawings, reduced to A4 or A3 size;

FSPs shall be accompanied by a written report that includes a written statement highlighting areas where the design departs from the requirements of Standard Specification for Urban Infrastructure Works.

Where existing works and services are to be retained or where adjacent property and assets are likely to be affected by the works, the Consultant shall assess the need for a pre-construction condition survey of existing works and services and submit appropriate recommendations as part of the design submission process.

The Project Officer reviews FSPs and the Consultant will be advised in writing of approval and any resultant requirements.

3.5.2 Architectural projects

In addition to the general requirements, architectural projects will normally include:

- The Consultant's approach to the design solution, addressing the criteria stated in the project brief;
- The results of site investigations, testing, energy studies, health amenity and safety issues;
- The evaluation carried out by the Consultant to establish whether or not the existing electricity supply, gas, water sewerage and drainage systems are satisfactory for the new requirements;
- A schedule of the briefed and designed areas;
- A schedule of materials with a key to their locations;
- Approvals from the ACT Fire Brigade and, where appropriate, from the ACT Waste and City Operations units within Department of Urban Services;
- Location plan showing the relationship of the project site to existing buildings and landscape features. FSPs are to be suitable for submission to ACT Planning and Land Authority for Development Approval or the National Capital Authority for Works Approval and must meet their requirements;
- Site plan of the Consultant's preferred design showing all existing and altered landforms, paved areas and planting, and the location of main services (1:200) with floor plans. (Note: Finished and existing contours must be shown). Setbacks and plot ratio are to be clearly identified;
- Roof plan to 1:100 scale showing slopes, materials and major penetrations;
- Elevations of all aspects to 1:100 scale, showing roof forms and all projections above the roof;
- Elevations of the overall scheme or part of the scheme to a scale of 1:100;
- Sections through the overall scheme or part of it to a scale of 1:100 or 1:50;
- A lighting layout of the scheme at 1:200. This drawing is also to show the location of ActewAGL substations, if required;
- Site servicing drawings showing all hydraulic services, ground levels, floor levels, location of sumps and overland water flow, etc;

- Landscape plans and supporting drawings showing in detail the plant species, the area and type of fencing, the paving areas and materials to be used, external lighting and associated water services;
- Stormwater control plan;
- Drawings showing the structural system;
- Plans, elevations and sections of the proposed buildings (1:50), clearly showing ceiling and roof heights, construction methods and typical details.
 Indicative furniture layouts and room dimensions are to be shown;
- All floor areas calculated to outside walls (Net Area);
- One coloured, laminated perspective (or orthographic projection), computer rendered printout, computer animation CD or model for presentation purposes only if required by the project brief or agreed with the Project Officer;
- A sample board showing materials and colours to be used for external and internal finishes. The board is to show clearly the locations in which materials and colours are to be used and is to state brand names, types and colour codes:
- Each drawing and the front page of the report is to be clearly titled:
 "....(name of project)...Final Sketch Plans"; and
- Where projects require preparation of computation sheets for new or modified lease title blocks and gazetted roads, Consultants are to provide dimensional layout proposals at 1:200 immediately after approval at FSPs. Plans shall be forwarded to the Project Officer for action.
- Other drawings or documents required to lodge a Development Application with ACT Planning and Land Authority, i.e. Design Response Report, Site Analysis, Design Concept Drawings, FSP Drawings etc.

3.5.3 Landscape Architecture & Engineering Projects

In addition to the general requirements, FSP submissions for Landscape and Engineering projects normally include:

- Detailed design drawings showing the set out of the proposals by line and level, the location of gazetted boundaries, lease boundaries, block and section numbers, areas of cut and fill, contours, spot levels, cross sections, and proposed location of site sheds and construction compound;
- Details of work as a result of sub surface investigations;
- Details of alteration to existing services and the appropriate timing for these alterations to allow the project to proceed on schedule. This is to include advice from service authorities on the costs associated with relocations:

- Erosion and sediment control proposals;
- Traffic control devices including proposals for traffic management during construction;
- Proposed Ancillary works such as temporary traffic control devices, tree removals;
- An outline of particular or unique contract and construction requirements for inclusion in the tender documentation;
- Landscape proposals including treatment of mounds, verges, medians and batters, and a schedule of plant species;
- Recommended construction period and whether or not certain work can be considered as a separable part of the contract;
- Report on other factors affecting the project eg. adjoining contracts, client requirements, seasonal factors, the supply of special materials, special maintenance or management requirements, etc;

In addition to the general requirements, and those above, **Engineering** projects may also include:

- Lease withdrawal requirements;
- Details of alteration to existing services and the appropriate timing for alterations to allow the project to proceed on schedule. This is to include advice from Service Authorities on relocation costs:
- A drainage master plan showing contours, catchment boundaries and areas, estimated flows and flow paths;
- Drainage proposals;
- Erosion and sediment controls;
- Traffic control devices including traffic management during construction;
- Proposed Ancillary Works such as temporary traffic control devices, tree removals:
- Design information report including 63 dB(A) noise contour location, guard railing, signposting and colour schemes;
- An outline of particular or unique contractual and construction requirements for tender documentation;
- Landscape proposals including treatment of mounds, verges, medians and batters, and a schedule of plant species;
- Recommended construction period for the project and whether or not certain work can be considered as a separable part of the contract;

- Report on other factors affecting the project eg. adjoining contracts, client requirements, seasonal factors, the supply of special materials, special maintenance or management requirements etc.;
- For projects incorporating underpasses, bridges, retaining walls or other major structures, draft structural design report together with:
 - General arrangement information eg. form and dimensions of all major structural elements but not necessarily detailed setting out or reinforcement;
 - General arrangement of services in the structure;
 - General information regarding bridge furniture, eg. guardrail, bearing and expansion joint types;
 - Surface finishes and sample board;
 - Method of construction;
 - Means of access to voids and bearings for inspection and maintenance; and
 - Draft maintenance and inspection manual.

3.6 Document Readiness (DR) Final Design & Documentation

3.6.1 General Requirements

Document readiness (DR) is the completion of the documentation prior to calling of tenders.

The Consultant shall incorporate any written requirements from the FSP submission and prepare documentation suitable for the calling of tenders.

Tender documents should be submitted in draft form with the Annexure to the General Conditions of Contract completed to indicate the Consultant's recommendations for contract periods, time for Practical Completion, liquidated damages, defects liability period etc.

The submission of documentation shall include an estimate of the Project cost.

All documents should be coordinated with that of the sub-consultants and viceversa. Head Consultants are to confirm that all drawings and specifications have been coordinated.

3.6.2 Form of Contract

Australian Standard AS 2124 General Conditions of Contract will normally be used on all The Territory projects greater than \$100,000.

Australian Standard AS 2545 may be used for sub-contracts in accordance with the instructions in Specific Contract Clause 4.05 of the Guideline for the Production

of Tenders and Contracts for Construction Projects as developed by ACT Contracts.

Subject to approval by the Project Officer Short Forms of Tender may be used. There are 2 forms as follows:

- Short Form of Tender Above \$50,000; and
- Short Form of Tender Less than \$50,000.

Australian Standards may be obtained for the appropriate fee via the Australian Standards website www.standards.com.au.

3.6.3 Specification

The Consultant is to prepare the specification in accordance with the current editions of The Territory reference documents and in conformance with the requirements of all relevant Acts, Regulations, Standards and Codes.

When the estimated cost for the lump sum contract being specified greater than \$100,000 the Consultant shall include in the draft tender documents the Quality Assurance requirements appropriate to the scope of the project works in accordance with Urban Services Document No. **USDS619 "Guide for Specifying Quality Assurance for Contractors"**. The requirements shall be detailed in Forms **USF944**, **USF96O** and **USF957** (see Appendix 5) and Attachment 'A' of the specific Project Brief as applicable, and shall incorporate:

- any The Territory requirements as nominated in the Project Brief; and
- witness and/or hold requirements of any relevant Authorities for the construction and commissioning phases.

The specification should state that where Contractors have prepared their own forms containing the same information, these can be used instead of the above-mentioned forms except for the form **USF957** "Certificate of Compliance" which must be used.

The tender and contract documents shall clearly indicate that:

- the Contractor is responsible for providing The Territory with assurance that the constructed works will be in accordance with the contract requirements, and for demonstrating this achievement by provision of documentary evidence; and
- The Territory or its agent or their nominated representative(s) shall be afforded the right to enter the Contractor's and the Contractor's Subcontractor's premises for the purpose of quality surveillance and/or audit in respect to the project's activities.

Upon review of the draft tender documents, The Territory will nominate:

- The Territory required witness and/or hold points, in addition to those nominated by the Consultant, if required to perform in the capacity of the Superintendent; and
- any witnessing requirements of the User/Purchaser.

The specifications for the project are to fully describe materials and workmanship required under the contract and:

- avoid ambiguous statements;
- not have clauses which contradict, amend or alter meaning or provision in the General Conditions of Contract;
- follow the directions of The Territory Contract Circulars for Agents and any instruction by the Project Officer;
- not use brand names of products without the express written approval of The Territory; and
- have a minimum of preliminary clauses and not include repetitions or cross references to the General Condition of Contract:

3.6.4 Nominated Subcontracts

The Territory' policy is not to use nominated subcontracts. Where considered essential to include any nominated sub-contract in the contract document, the Consultant is to recommend these for approval prior to FSP or DR submission.

Nominated Subcontractor's specifications must:

- include a clause directing the Subcontractor's attention to the fact that The Territory' general conditions of contract apply to the main Contractor and that a copy may be inspected at the Consultant's office;
- the nominated Subcontractors enter into a contract with the main Contractor and not The Territory. (Tenders for subcontracts are to be submitted on The Territory' subcontract tender form).
- the nominated Subcontractor is responsible for providing the Contractor with assurance that the quality of the product and/or service provided will be in accordance with the nominated sub-contract specification, achieving the specified requirements, and the provision of documentary evidence; and
- The Territory or its agent or their nominated representative(s) shall be afforded the right to enter the nominated Subcontractor's premises for the purpose of quality surveillance and/or audit in respect to the project's activities.

3.6.5 Provisional Sums and Provisional Quantities

The Territory requires that Provisional Sums and Provisional Quantities be excluded from contract documents wherever possible.

3.6.6 Separable Portions of Contract

Where The Territory require some part of a project to be completed and in use before the contract completion date, the Consultant may be requested to issue a separate certificate of Practical Completion. In most contracts involving landscaping work, The Territory will require the Consultant to provide for this as a separable portion.

3.6.7 Documents to Authorities

When requested by the Project Officer the Consultant is to provide the selected extracts of tender documents required by Authorities.

Design approvals must be obtained for water supply and sewerage works according to ActewAGL Water Supply and Sewerage Standards (Section 3 Part 1) before calling tenders.

3.6.8 Documents for Control of Blasting

If construction involves blasting, the documentation shall be discussed with the Project Officer and the agreed requirements, which may include monitoring, and included in the specifications. Activities should include specific requirements for approvals from ACT Workcover.

3.6.9 Cash Flow Limitations

The Consultant shall advise the cash flow requirements with the Project Officer during the Project. If necessary to limit the rate of expenditure an appropriate progress payment limitation clause may be included in the tender/contract documents after discussion with the Project Officer.

3.6.10 Liquidated Damages

Liquidated Damages (LDs) are to be set in consultation with the Project Officer. LDs represent the real financial loss to the Territory of not having the facility available on time.

The level of LDs should be commensurate with the value of the contract, and if small contracts have large economic consequences if delayed, then careful appraisal of the Contractor's likely performance is preferred rather than reliance on substantial liquidated damages.

3.6.11 Project Identification Sign

Where required by the Project Brief the contract documentation shall include the following Contract Conditions of Particular Application Clause:

"PROJECT IDENTIFICATION SIGN: The contractor shall provide and fix a Project Identification Sign in accordance with the Principal's Drawing No. P-QD-01G and shall erect same on the site as directed by the Superintendent and shall maintain same in good condition throughout the currency of the contract. The Project Identification Sign will remain the property of the contractor who shall remove same from the site on the completion of the Works."

Copies of the latest version, Drawing No. P-QD-01G, are available from the Project Officer.

A special sign may be required where funded by a Federal Agency. Details will be available from the Project Officer.

Where the design calls for the retention of existing works and services within the site or where adjacent property and assets are likely to be affected by the works, the Consultant shall assess the need for a pre-construction condition survey of existing works and services and submit appropriate recommendations as part of the design submission process.

3.6.12 Plant Material List

The consultant is responsible for the specification of plant materials suitable for the climate and available for planting in accordance with the program.

The contractor is to be required to liaise directly with its preferred wholesale nursery on the supply of plant material including program dates and payment arrangements.

3.6.13 Earthworks

In the design drawings and/or documentation, the Consultant shall nominate areas where additional fill may be obtained or where excess material may be spoiled. Areas shall be nominated for disposal of unsuitable material, disused pavement, trees, stumps and stockpile areas. These areas are to be restored upon completion and stabilised with topsoil, grassing and planting. Indicative quantities of borrow and spoil and the haulage distances should be provided, and the possibilities of coordinating earthworks with other projects shall be investigated (in conjunction with the Project Officer) where there are major imbalances.

3.6.14 Documentation Readiness

The Documentation Readiness (DR) submission for all projects shall contain the relevant draft tender documentation including:

- Specific Contract Clauses
- Final Specifications
- Final Drawings
- Bill of Quantities (if appropriate)
- Separate costing of work to be done by service Authorities and others
- Confirmation of co-ordination of sub-consultants work and vice-versa.

3.6.15 Tender Documents

The tender documents are to be assembled in accordance with the Guideline for the Production of Tenders and Contracts for Construction Projects as developed by ACT Contracts. The Project Officer reviews the draft tender document and any comments are referred back to the Consultant.

3.6.16 Final Design (DR) Report

The DR submission for all types of projects contains all of the relevant draft tender documentation including:

- Specific Contract Clauses;
- Final Specifications;
- Final Drawings;
- A Priced Bill of Quantities (if appropriate);
- Separate costing of work to be done by Service Authorities and others.

The submission is to be accompanied by a report that addresses the following:

- Unique contractual and construction requirements included in the tender documentation;
- A statement that the documentation conforms to the approved final sketch plans and the requirements of the Client, Statutory Authorities, Acts, and Building Regulations;
- Identification of matters critical to safe and effective functioning of the design including formal, whole of life risk assessment; and
- The quality requirements to be applied to the contract, as determined in accordance with Document No. USDS619 "Guide for the Specifying of Quality Assurance for Contractors" including Forms USF944 , USF960 and USF957 inclusive, completed as applicable.

For projects incorporating **major structures** a structural design report covering the following is required:

- General design philosophy and assumed construction sequence;
- Loading and other design criteria eg. bearing capacities, assumed differential settlements etc.;
- Instances where code provisions have not been complied with and justification for departures;
- Design forces, moments, capacities and section properties for major members;
- Expected short term and long term deflections due to dead load or any other relevant action, and pre- camber specified to compensate for long term deflection:
- Bearing/expansion joint loads and movements;

- Bearing inspection and replacement criteria and procedures;
- Service conduits in relation to differential thermal movements and possible vertical dislocations at joints etc.;
- Steel reinforcement schedule; and
- Maintenance criteria and regime for the structure to be documented in a schedule to be forwarded to the Client/ Maintenance Authority at handover. This schedule is to be prepared during the design of the structure to ensure adequate consideration is given to all aspects of maintaining the structure. The contents are to be discussed and agreed with the Client/Maintenance Authority and Project Officer.

3.6.17 DR Review

The DR submission is reviewed by the Project Officer to ensure its compliance with the Functional Brief, Project Brief and previous design approvals.

The review includes as and where applicable:

- Assessment against Functional Brief;
- Incorporation of the PSP/FSP/preliminary DR comments;
- A Schedule of Plant Material;
- Client and other parties endorsement;
- Public consultation;
- Lease withdrawal, site clearances and encumbrances;
- Approval under the Land Act to conduct a controlled activity;
- Design and siting approval;
- Works Approval from the National Capital Authority for works in designated areas;
- Fire Brigade clearance (tunnels and buildings);
- Roads ACT Design Acceptance Certificate for:
 - road works;
 - stormwater drainage;
 - traffic control devices;
- Approval of permanent traffic control devices by the Minister's delegate in accordance with the Motor Traffic Act;

- Manager Asset Use concurrence to any temporary traffic provisions in the tender documents and drawings;
- Quotation for traffic control devices;
- Approval of draft "Erosion and Sediment Control Plan" by the Environmental Protection Unit:
- Water supply design clearance;
- Sewer design clearance;
- Electrical power design clearance;
- Quotation for power to traffic controller;
- Quotation for power to irrigation controller;
- Design of street lighting;
- Telecommunications design clearances;
- Telecommunications relocations quotations;
- Other Service Authorities' quotations;
- Natural Gas Company quotation;
- ActewAGL approval; and
- Evidence that the drawings have been co-ordinated with subconsultants and vice-versa.

The Territory' approval is obtained through a written submission prepared by the Project Officer. The Consultant is advised in writing of approval and any issues that require attention prior to calling tenders.

The Consultant shall prepare the number of sets of documents specified in the Project Brief including bound sets reduced to A3 size for calling tenders.

If tenderers require full size drawings, the Consultant may negotiate a charge with the tenderer.

3.6.18 Tender Documents

The tender documents are to be assembled in accordance with the following listing and include:

- Title Page;
- Notice to Tenderers;
- Formal Instrument of Agreement;

- Conditions of Tendering;
- Form of Tender:
- General Conditions of Contract;
- Specific Contract Clauses;
- Annexures;
- Specifications;
- Bill of Quantities and/or Schedule of Rates where required; and
- Drawings (see 2.9.3 <u>Plan Sequence</u>).

More detailed information regarding the arrangement of tender documents can be obtained by reference to the ACT Contracts' document "Guide for Drafting Tender and Contract Documents".

ACT Contracts Section and the Project Officer review the draft tender document and the Project Officer refers comments back to the Consultant.

The Project Officer circulates the DR Submission to clients and other parties to obtain endorsement and comment. The number of copies of the DR submissions for circulation purposes is stated in the Project Brief.

The Project Officer is responsible for the circulation of the DR submission and for identifying any difficulties with the client.

Following agreement by Roads ACT to the final design for road works, stormwater drainage and traffic control devices, Roads ACT will issue a Certificate of Design Acceptance.

3.7 Tendering

3.7.1 Call Tenders

The Project Officer will advise the Consultant of the date of advertising for tenders.

Addenda (if required) to the tender documentation are to be issued during the tender period and sufficient time given to allow tenderers to prepare a price. Addenda are to be approved by The Territory prior to issue.

Tenders are to be lodged by Tenderers prior to the prescribed closing time (usually 2.00pm on Thursdays) in the tender box nominated in the Tender Documents.

3.7.2 Close and Accept Tenders

ACT Contracts Unit is responsible for the receipt, opening of tenders, and publication of tenderers. The Consultant is required to provide a written tender estimate before the closing time.

The Territory will prepare a Procurement Plan and a Tender Evaluation Plan (TEP) for the construction contract in accordance with ACT Government procurement legislation. The consultant may be nominated in the TEP as a member of the evaluation team. The evaluation team chairperson will be a Territory Officer.

The consultant must prepare a Tender Evaluation submission for input into the Tender Assessment.

Five (5) bound sets of contract documents are compiled by the Consultant for signatures. These shall be compiled after the date of Letter of Acceptance and submitted no later than seven (7) days after the award of the contract for signing and execution. One of the sets shall contain the originals of all tender documents, including Bill of Quantities where used, and correspondence.

All sets shall be forwarded, with a covering letter certifying that they are ready for signature, to ACT Contracts. One set will be returned to the Consultant when registered.

A bound set of contract documents should consist of the following items where relevant:

- Notice to Tenderers;
- The Formal Instrument of Agreement duly completed, but not dated and signed;
- Conditions of Tendering;
- Form of Tender preferably the original tender form should be incorporated in the original set of contract documents;
- Correspondence including the Letter of Acceptance, Letter of Offer if applicable, negotiated variations, addenda and any other correspondence that may affect the contract;
- The reference to AS 2124 with the completed annexure;
- Specific Contract Clauses including Rise and Fall provisions where applicable;
- The Specifications;
- The Priced Bill of Quantities, Schedule of Prices, Schedule of Rates;
- Schedule of Drawings; and
- Schedules as required.

The document should be bound to prevent the addition, deletion or replacement of pages.

The drawings form part of the contract documents but may be bound separately.

The documents are to be in the correct order and each annexure, eg. General Conditions, Specification etc. and have pages numbered consecutively. Specifications may need to be re-numbered for documentation purposes.

3.8 Construction

3.8.1 Contract Administration

The Territory may require the Consultant to administer the construction contract and perform the role of Superintendent. The duties are governed by the contractual requirements that must be fulfilled as part of the administration and superintending function.

This Basic Brief requires the use of a Territory approved construction contract.

The Consultant is to undertake activities in the construction as briefed and contracted under the Agreement. The activities after construction has commenced include but are not limited to:

- ensure construction program is submitted, reviewed and endorsed
 monitor progress against the construction program;
- administer the contract including;
- progress claims;
- extensions of time;
- variations;
- certificates;
- site visits;
- quality assurance;
- liquidated damages;
- handover;
- defects liability period;
- contractual disputes;
- ensuring delivery of WAE drawings, maintenance & operations manuals; and
- report to the Project Officer at least monthly or more frequently as appropriate.

3.8.2 Pre-Construction Condition Surveys

Where existing works and services are to be retained within the works or where the works may affect adjacent property and assets, the Consultant shall assess the need for a pre-construction condition survey and submit appropriate recommendations as part of the design submission process.

The Consultant is responsible for arranging any pre-construction condition surveys specified. The written endorsement of both the Contractor and the Project Officer to the survey results should be obtained.

3.8.3 Post-Tender Meeting

At the commencement of construction the Consultant shall convene a post-tender meeting with the intended Contractor's Representative, the proposed On-site Representative, and the Project Officer to:

- Ensure that the Consultant's supervision staff are conversant with the scope and general details of the project, including quality assurance requirements, ancillaries, and traffic management issues;
- Agree the lines of communication, emphasising the contractual rights and obligations of the parties and the Superintendent;
- Confirm the duties of the On-site Representative and commence relevant record-keeping activities; and
- Confirm that supervision includes the co-ordination of work included in the agreed fee

The post-tender meeting should be minuted by the Consultant and records distributed to participants.

The Consultant shall provide at least one copy of the Working Drawings and Specifications for the project at the site office.

A location for the project identification sign(s) is to be agreed with the Project Officer.

3.8.4 Possession of Site

At the direction of the Principal, the Superintendent is responsible to issue a letter giving possession of the site to the Contractor. Site possession will not be granted until evidence of all insurances has been submitted.

3.8.5 Quality Assurance – Contractor's Project Quality Plan

The successful Contractor shall be required to submit a Project Quality Plan to the Superintendent where quality assurance requirements apply. The Superintendent shall review and endorse the Project Quality Plan, forward a copy to the Project Officer and notify the Contractor in writing of its suitability of use. Submission of the Contractor's Plan shall trigger a review of the Consultant's Plan and resubmission of that part relating to Superintendence.

Where The Territory undertakes quality surveillance or an audit of the Contractor's Project Quality System, The Territory shall arrange for a copy of resulting reports to be forwarded to the Superintendent. All audits of the Contractor are to be formally reported and forwarded to the Project Officer.

3.8.6 Preservation of Survey Marks

All Authority requirements are to be followed and all necessary approvals must be obtained prior to the commencement of any earthworks or demolition.

3.8.7 Monthly Report on Construction Progress

A written monthly report should be submitted by the Superintendent with the monthly claim or at such date or interval as directed by the Project Officer.

The extent of reporting will be determined by the Project Officer but will generally be required to include the following:

Project Identification

 project number, date, sequential number of report, names of Client representative, Project Officer, Consultants and Contractor;

Project Status

- Current progress, including;
- Resources applied to the project during the month;
- Progress review identifying causes of current delays or possible future delays;
- Extensions of time which have been authorised or are foreshadowed;
- Liaison with clients and Authorities:
- Problem areas; and
- Next project milestone/hold point date.

Financial

- Current contract value:
- Variations which have been claimed, authorised; submitted for approval, or are foreshadowed;
- Provisional sums;
- Claims:
- Expenditure statement and cashflow by month actual and estimated; and
- Expenditure by the Consultant on On-site Representation where this is handled as a Provisional Quantity.

Quality Assurance

- Contractor PQP Status;
- Monitoring and surveillance of Inspection and test Plans;
- Identified deficiencies (Corrective Action Requests or CARS/Nonconformance Reports or NCRs); and
- Surveillance/audit reports.

Other Issues:

- occupational health and safety issues;
- industrial issues;

- environmental issues;
- outstanding issues; and
- other items as necessary and appropriate.

3.8.8 Specific Requirements For Projects Incorporating a Landscape Component to be Maintained by Canberra Urban Parks & Places (CUPP)

The Consultant shall ensure regular meetings occur with relevant representatives during landscape construction and consolidation. CUPP requires a minimum of 3 days notice.

Inspections attended by the Consultant, and CUPP are mandatory on the following occasions:

- open trench inspections of irrigation systems mid-way through installation, and on any other occasions as requested by CUPP; and
- a field inspection of the entire site at least two weeks before landscape construction work is completed.

The inspection at the commencement of consolidation does not imply that the work will automatically be handed over upon expiration of that period or that the works are fit for use.

The Contractor remains responsible for the maintenance and protection of the works until they are handed over to CUPP. Note that the CUPP handover is separate to the Contract Hand Over and Certificate of Practical Completion.

A complete set of guidelines should be obtained from CUPP via the Project Officer, prior to commencement of landscape construction projects on site.

3.8.9 Progress Payments - Construction

The Contractor submits to the Superintendent each month a detailed statement showing the work that has carried out under the contract.

The Superintendent checks the Contractor's measurement of work claimed to have been satisfactorily carried out and issues a Progress Certificate to The Territory. Progress claims should be issued monthly.

Prior to issue of the Progress Certificate the Superintendent is to obtain a Statutory Declaration from the head Contractor that all employees and Subcontractors have been paid from the previous claim. This Statutory Declaration should accompany the Progress Certificate. Progress certificates are to be accompanied by certification that all quality records are available for the works being certified for payment.

3.8.10 Extensions of Time

The Superintendent is to deal promptly with claims for extension of time and in accordance with Australian Standard AS 2124.

The Superintendent is to advise the Project Officer of extensions of time granted to the Contractor and the impact on the overall project program.

3.8.11 Variations.

It is the policy of The Territory that all variations to the contract are dealt with in accordance with Australian Standard AS 2124 as they occur.

Before issuing a "non-routine" variation to the contract, the Superintendent shall advise the Project Officer regarding the proposed variation.

"Non-routine" refers to a variation where the scope of works is changed and a significant impact on the cost of the project will result. A "routine" change is where the changes are minor and without significant impact on cost.

It is the Consultant's responsibility to ensure that all variation claims are submitted within 21 days from the variation arising.

Consultants are required to take all possible steps during design and documentation to prevent the need for variations.

It is appreciated that latent conditions and new developments may give rise to desirable variations, notwithstanding care taken initially. It is to be noted that Consultants have no authority to expend monies on The Territory's behalf.

The normal procedure for variations is for the Consultant to advise in writing:

- scope, details and justification for the proposed variation;
- details of the funding arrangements;
- whether compensating savings can be identified so as to maintain the project budget; and
- what effect the variation will have on the program.

If approved, The Territory will issue an official order for the variation.

If the Consultant must exercise professional judgement to avert prolongation costs, preserve the safety of the works, or safeguard life, the Consultant may order a variation without giving advice. They must immediately contact the Project Officer to advise of these actions and then submit a written report detailing the circumstances and justification for the decision. Such instances will be rare.

Progress claims cannot be made on unapproved variations.

3.8.12 Traffic Management

3.8.12.1 General Requirements

Where works impact upon existing roads or where new roads are to be provided, the consultant is to design and administer the traffic management. This will include:

- design of permanent traffic control devices;
- proposals for traffic management during construction;

- provision of traffic management concept drawings in the tender documents (if specified in the Project Brief);
- opening of new road works to traffic; and
- commissioning of new traffic signals.

3.8.12.2 Permanent Traffic Control Devices (inc. lines and signs)

Plans for the permanent Traffic Control Devices shall be submitted to the Manager Asset Use, Roads ACT. The Consultant is to liaise directly with the Manager Asset Use to have the plans approved.

3.8.12.3 Traffic Management Concept Drawings

The Consultant is to prepare and submit to the Project Officer temporary traffic management drawings with sufficient detail to demonstrate the feasibility of constructing the works given the specified requirements of the specification that may include constraints on the contractor's options for traffic control.

Consideration shall be given to staging of the works when preparing temporary traffic management concept drawings for incorporation in the specification as separable parts and/or order of works.

Temporary traffic management drawings are required to be submitted to the Project Officer for endorsement.

Concept drawings are normally included in the tender documents:

- where traffic management is complex and/or difficult;
- where it is not practicable to define in writing the traffic control requirements; and
- where time constraints dictate the inclusion of concept drawings in tender documents.

If the drawings form part of the contract documents, or if the specification contains written instructions to the contractor on temporary traffic management requirements, this must be submitted to the Manager Asset Use and approved prior to being included in the contract documents.

The Consultant is to liaise with the Project Officer to ensure community, monetary, programming and other constraints, limits or requirements are properly identified and taken into consideration. This information is to be incorporated in the specification portions relating to order of works, separable parts and traffic management (plans/staging/handover/ opening).

The Consultant is to provide management/staging plans and proposals to cater for cyclist and pedestrian movements affected by construction. Pathways are to be integrated with existing trunk and feeder routes. Planning of temporary arrangements will require site visits and observations by the Consultant to determine desire lines.

3.8.12.4 Proposals for Traffic Management During Construction

Roads are to be undisturbed as far as practicable during construction. Careful consideration is to be given to the effects of construction on pedestrian safety and adjacent leases, businesses etc.

Adequate traffic management is important during projects that impinge on public roads or car parks. Timing, staging and associated temporary traffic control devices should be identified by contract documents and be generally consistent with the requirements of the various parts of Australian Standard AS 1742.

3.9 Project Completion

3.9.1 General Requirements

Upon achieving Practical Completion and expiry of the Defects Liability Period, Contract Finalisation stages which incorporate:

- Issue of the Certificate of Practical Completion;
- Handover of the Project to The Territory' Client;
- Certificate of Occupancy for Architectural Projects;
- Performance review:
- Issue of maintenance manuals;
- Issue of works as executed records:
- Issue of relevant certificates and licences:
- Rectification of defects; and
- Financial completion.

3.9.2 Practical Completion

The Consultant issues a Certificate of Practical Completion; particular reference should be made to the requirements of the General Conditions of Contract (AS2124-1992) Clause 2 "Practical Completion"

The Certificate of Practical Completion shall include a notice of incomplete and/or defective work, the Contractor responsible for rectification works and the programmed time for completion of each item.

For Architectural projects, a Certificate of Practical Completion shall not be issued until a Certificate of Occupancy has been received.

Maintenance/System Operations manuals are required within 6 weeks of Practical Completion, refer 2.24.5 System Maintenance Manual.

3.9.3 Handover

The Superintendent will arrange to hand over the Project to the Asset Manager as soon as practical after the issue of the Certificate of Practical Completion. Representatives of the Consultant, sub Consultants, Contractors and others associated with the design and construction of the Project may be required to attend the handover to explain and/or demonstrate specific features of the Project. It may also be necessary for the Consultant to provide specific training for users regarding the use and/or maintenance of systems eg security, air conditioning, communications etc.

3.9.4 Performance Review

The Territory is endeavouring to continually improve the quality of all projects. To assist this process, a record of performance is kept so that repetition of errors is avoided and methods revised to provide more efficient and durable building works. The Consultant is to provide a review which analyses the performance of all parties, including the Contractor's Review of Consultant Performance, involved in the project within six weeks of Practical Completion.

The performance review is to include an assessment of the Project, functionality of design, materials used in construction, construction methods, Contractor's, sub Consultants and on site representative's performance, cost analysis, performance of Authorities and of The Territory as follows:

3.9.4.1 **Project**

Outline of the project with particular reference to any site problems and difficult requirements of the Brief:

3.9.4.2 Design

Ideas that proved sound and ideas that should have been avoided; Criticism of final design on appearance, function and cost;

3.9.4.3 Materials

Reasons for selection, criticism on basis of function, appearance, cost, installation and maintenance;

3.9.4.4 Construction Methods

Phasing of construction, construction methods, local difficulties, suggestions or improvements

3.9.4.5 Contractor's Performance

- quality of tender;
- management contract administration, planning, time scheduling, site organisation, submission of progress payment claims, pricing of variations;
- quality of work;
- rate of progress;
- industrial relations;

- control of Subcontractors:
- liaison with Principal/Consultant's on-site representative;
- attitude to disputes;
- Co-ordination of service Authorities;
- response during Defects Liability Period;
- performance by Contractor's on-site representative;
- reliability, thoroughness and attention to detail;
- attitude and capability in meeting the Quality Assurance requirements of the specification as follows:
 - departures from the Contractor's Project Quality System
 - instances of non-conformance with the contract specification
 - disposition of non-conformances
 - corrective actions;
- listing of difficulties in achieving the specification and identification of improvements for future projects;

3.9.4.6 Sub-consultants performance

 quality of work including attitude and capability in meeting the Quality Assurance requirements of the specification;

3.9.4.7 On site Representative's performance

statement of performance;

3.9.4.8 Cost analysis

a record of project costs;

3.9.4.9 Performance by Authorities

- statement of performance by all Authorities concerned; and
- The Territory availability and response, ability to make decisions, management direction by the Project Officer.

3.9.5 System Maintenance Manual

At Practical Completion the Consultant is to supply the number of copies, as specified in the Project Brief, of the Maintenance Manual and/or System Operation Manual within six weeks of the date of Practical Completion.

The final design documentation is to include a separate report/drawings containing information on the operation and maintenance of the facility. This refers to:

- landscape and irrigation design design head, system output, watering schedule, precipitation rate, and other parameters covered in Standard Specification for Urban Infrastructure Works; thinning schedules etc.;
- intersection layouts existing and estimated traffic volumes, phasing schedules etc.;
- pavement design parameters, including standard axle loads;
- pumping stations normal operating schedules, emergency procedures, special maintenance requirements etc.;
- stormwater retarding basins operating characteristics, precautions for public safety etc.; and
- structures and pipe systems design load, maximum ultimate design moments and maximum ultimate shear forces for each span, maximum design deflection.

The System Operational Manual is to include a description of the purposes that all aspects of the project/building design and is to contain a description of the energy conserving features that have been built into the building, together with instructions how these should be used to achieve optimum benefit. The instructions will cover actions to be followed in the event of equipment or system failure.

The manual is to include maintenance instructions for the building finishes, services, and copies of manufacturers' manuals for operation and maintenance of all fittings, services and equipment in the project. The manual is to contain a comprehensive index of materials and equipment used in the building, giving the name of the product and name and address of the supplier and Service Consultant for each item.

3.9.6 Work as Executed Records

Work as Executed (WAE) records in accordance with the requirements of the Project Brief are to be provided to the Project Officer within four weeks of the date of Practical Completion.

The Records are to consist of the documentation drawings and workshop drawings incorporating all amendments made during construction. Some drawings required for construction may not be required and these deletions are to be agreed with the Project Officer.

The Territories "Works as Executed" drawing system uses microfilms or digital CADD CD's with native CAD and PDF files as records.

Each drawing is to contain a Bar Scale of a least 100mm in length with numerals not smaller than 3.5mm in height at the original 1:1 plotted/printed drawing scale.

Microfilming, where used, is to be in accordance with Australian Standard AS 1203 - Microfilming of Engineering Documents and the following information is to be shown on each aperture card:

- ACT Planning and Land Authority Plan Room microfilm numbers.
- Territory project number
- Project title
- Suburb name, block and section number
- Consultant's plan number
- Drawing title
- Consultants name

Where CD's are submitted as WAE information, they shall be submitted in rigid plastic jewel cases and contain the following information:

- On the Compact Disc/s:
 - ACT Planning and Land Authority microfilm/identification numbers
 - Territory project number
 - Project Title
 - Suburb name, block and section number
 - Consultants name
 - CAD format of the drawings.
- On the CD cover Jewel Case insert:
 - The above information, along with a detailed list of the Consultants plan numbers and drawing titles contained on the CD.

Digital information should be in both AutoCAD R12 compatible and Adobe Acrobat PDF format.

3.9.7 Defects Liability Period

Unless otherwise noted in the project brief, the Defects Liability Period is for 12 (twelve) months from the date of Practical Completion.

When work is completed and/or rectified within the Defects Liability Period, there shall be a separate Defects Liability Period for the rectified work for a duration equal to the original period stated in the Annexure to the General Conditions of Contract.

3.9.8 Financial Completion

The issue of the Final Certificate is to occur following completion of the Defects Liability Period and when all works under the contract have been completed.

Financial completion of the project consists of the resolution of all outstanding disputes and the final reconciliation of all project costs inclusive of Consultant fees and ancillaries.

It is to occur as soon as possible following completion of the Defects Liability Period and the issue of the Final Certificate.

On receipt of a Final Certificate, The Territory pays all monies outstanding on the contract including return of security deposit, bank undertaking, and any retention monies as per Clause 42.8 of Australian Standard AS 2124.



4. Supplementary Information

4.1 Acts, Regulations And Standards (see Appendix 3)

The design and construction shall be in conformance with the requirements of all relevant Acts, Regulations, Australian Standards and Codes, current at the time of submission.

All projects will generally require ACT Planning and Land Authority approval in the form of Preliminary Assessment, Development Application approval, and in some cases NCA Works Approval. These requirements need to be established in consultation with the ACT Planning and Land Authority, or the NCA as applicable.

An independent Building Certifier shall certify the works in accordance with the Building Code of Australia for all building works.

4.2 Guide Notes for Completion of Lump Sum Fee Proposal

The Consultant is requested to complete Appendix 1 to provide a fee breakdown for the assessment of the acceptability of the fee and service proposal. Subject to acceptance by The Territory, the Consultant will be engaged in accordance with Schedule A' of the Standard Agreement for Consultants for the agreed Total Lump Sum Fee. The following notes are prepared to assist in the completing Proposals:

Basic Service

1-5. The sums stated shall be a fixed Lump Sum.

Ancillary Services (Reimbursable)

- 6,7,8 & 9. The sums stated shall be an upper limit of cost. Actual costs for these items will be reimbursed upon invoice of amount up to the upper limit.
- 10. The Agreement provides for 6 copies of tender documents to be provided by the Consultant within the basic service. The sum stated shall be an upper limit of cost for printing in excess of those 6 copies. Actual cost for this item will be reimbursed upon invoice of amount up to the upper limit of cost.
- 11. The Consultant may propose further ancillary services implied by the Brief, if any, as a fixed fee or reimbursable, as appropriate, for The Territory's consideration

On-Site Representation

12. The Consultant shall propose a suitable level of on-site representation for the project, if any. This service is in addition to inspection and contract administration services provided for at item 4 above. The sum shall be a fixed lump sum. Attach the fee calculation based on salary rates for On-site Representatives.

SUB-CONSULTANT SERVICES

13-20. The sums stated may be either a fixed lump sum or a provisional sum for each sub-consultancy. Where a provisional sum is used, it shall be an upper limit of cost and converted to a fixed lump sum at the Preliminary Sketch Plan stage. Attach the fee calculation for each case, including a breakdown into project stages.

The Consultant may provide additional sub-consultant services as a fixed fee or as a reimbursable as appropriate and agreed.

The Head Consultant shall be responsible for ensuring that the works of subconsultants are coordinated with their works, and vice-versa.

22. The **TOTAL LUMP SUM FEE** resulting from the summation of the above shall represent a maximum fee where Provisional Sums remain unconverted.

4.3 DEFINITIONS

Words and expressions used in this Basic Brief have the following meanings:

4.3.1 Project Delivery Terms

Agent

A generic term used in the procedures manual to cover Consultants, project managers and construction managers engaged by The Territory

ActewAGL

ACT Electricity and Water Authority in partnership with AGL

Agreement

An agreement that is entered into by The Territory with the Consultant

Architectural Project

A project primarily comprising building works, but may contain landscape, car parking, engineering, and drainage

Authority

Any Commonwealth, State or Local Government department, body or instrumentality that has jurisdiction over the project or with whose systems the project will be connected.

Civil Engineering Project

A project primarily comprising road, bridge or drainage works, but may also contain landscape and minor buildings.

Building Code of Australia

The Building Code of Australia and ACT Appendix as amended from time to time, produced by the Australian Uniform Building Regulations Co-ordinating Council on behalf of the Commonwealth, State and Territory Governments.

Claim

Includes any claim, demand, action, proceeding or suit which the Consultant may bring against The Territory or any of its employees.

Client

An organisation that engages The Territory to undertake a project. This involves the client providing a Functional Brief to The Territory .

Construction Cost

A total of the costs incurred by the contractor for the performance of the construction work, including all authorised variations and the contractor's profit and preliminaries.

Construction Manager

A party engaged by The Territory for the management of construction activities, including the Superintendent's duties under the contract.

Consultant

An engineer, architect, landscape architect, quantity surveyor, project manager, construction manager or other qualified expert engaged by The Territory.

Contract

The entire, final and concluded agreement between The Territory and the agent or contractor for the execution of the work under the contract.

Date of Practical Completion

The date when the project/contract has achieved Practical Completion, ie. when the project/contract is complete except for minor omissions and defects.

Defects Liability Period

The period commencing on the date of Practical Completion during which any minor omissions and defects are rectified by the contractor.

Due Date for Practical Completion

The nominated date including approved Extensions of Time by which the project is contracted for completion.

Head Consultant

The principal Consultant engaged by the Territory under contract.

Maintenance Authority

Any Government Department, body or instrumentality that has jurisdiction and administers or carries out the maintenance of a public asset.

Project Officer

The person nominated by The Territory as the person responsible for the management of the delivery of the project.

Project Manager

An external party engaged by The Territory for the management service of all project delivery activities including co-ordination, administration and supervision of design, construction, program and cost. The engagement is entered into by a Project Management Agreement.

Superintendent

See Clause 45 of Section 2 of Australian Standard AS 2124.

Specialist Consultant

A consultant engaged by a consultant/construction manager for specialist advice/service.

Sub-consultant

A specialist consultant engaged by the Consultant.

The Territory

when used in geographical sense, the Australian Capital Territory, including Jarvis Bay and Googong Dam; and

when used in any other sense, the body politic established by section 7 of the *Australian Capital Territory (Self-Government) Act 1988* (Cwlth);.

To Completed Works

means until <u>all</u> procedures are completed including final certificate, WAE drawings, performance review report, resolution of any disputes, release of all claims, payment of final fees, and advice from The Territory that the project is finalised.

Works Manager

A party engaged by The Territory under the Project Management Agreement to manage the design and construction of a portfolio of minor works.

4.4 Project Delivery Milestones (In Chronological Order)

The Consultant should be careful to differentiate between project delivery dates and submission dates. Consideration of submissions, minor corrections, circulation, consideration of comments, and approval take 4 to 6 weeks, and submission dates specified in the Project Brief need to be adhered to.

FB

Functional Brief refers to the formal statement of the Client's requirements for the project.

IB

Issue Brief refers to the date of the order authorising issue of the document that states the full requirements of the project. The document is the Project Brief and will cover particulars of the studies, design and documentation, superintendence or project management requirements.

PSP

Preliminary Sketch Plans (sometimes referred to as Conceptual Design) refers to the date at which drawings showing the scope, basic framework and parameters of the design in compliance with the Project Brief are accepted and the relevant The Territory Procedure completed.

FSP

Final Sketch Plans (sometimes referred to as Draft Design) refers to the date at which drawings showing all the design details and parameters in compliance with the Project Brief are accepted and the relevant The Territory Procedure completed.

DR

Documentation Readiness (sometimes referred to as Final Design) refers to the date at which full documentation suitable for the calling of tenders is complete and approved by The Territory, and the relevant The Territory Procedure completed.

CT

Call Tender date is the date at which tenders are formally invited, normally by advertisement in the Canberra Times or other Australian Newspapers and the Shared Services Procurement Website www.procurement.act.gov.au

CLT

Close Tender date is the date by which tenderers must submit their quotation for undertaking the work.

LOA

Letter of Acceptance date is the date of formal notice that the tender is accepted.

PC

Practical Completion refers to the contractual date, as revised from time to time, for completion. Where the project is divided into separate distinct elements for the purpose of achieving staged completion these Separable Parts require separate dates for Practical Completion.

HO

Handover refers to the date at which the works are handed over and the relevant The Territory Procedure completed.

DLP

Expiry of Defects Liability Period refers to the date of completion of the defects liability period, consolidation period (landscaping) or where forming part of the contract, the maintenance period.

FC

Financial Completion refers to the date at which all financial transactions required to complete the project have been finalised.

CW

Completed Works refers to the date when in accordance with The Territory Project Procedure all actions on the project are designated as completed.

4.5 Quality Assurance Terms

Construction

Building or engineering works of any description. Note: This may include design, manufacture, transportation, storage, erection, installation, fabrication and assembly of items including monitoring and commissioning and may involve civil, structural, building, mechanical, hydraulic, electrical and instrumentation work.

Contract

The final and concluded agreement between a purchaser and supplier concerning the supply of a product or service.

Note: It includes terms such as agreement, purchase order, works order etc., issued by purchasers.

Contractor

Any individual or organisation responsible for the performance of the work specified in the contract.

Note: It includes the terms vendor, seller, supplier, fabricator, manufacturer, consultant.

Corrective Action Request (CAR)

A formal notification detailing an observed deficiency in a quality system. CAR's are raised during internal quality system audits or are initiated through internal means to correct or prevent nonconformity or initiate an improvement to processes. (For external audit or surveillance by purchaser, see "Nonconformity Note")

Customer

The purchaser in any transaction eg. the Principal in a head contract. (*The term "Client" may be used for Customer. See also Purchaser*)

Hold Point

A point in a process beyond which the work may not proceed without authorisation from the purchaser or, as appropriate, the Regulatory Authority.

Inspection

Activities such as measuring, examining, testing or gauging one or more characteristics of a product or service and comparing these with specified requirements to determine conformity.

Inspection and Test Plan

A document that identifies the inspection, testing (verification) and acceptance requirements of each activity. This is normally done in the sequence of activities of a construction process.

Inspection and Test Point

A location or stage in the design/ manufacture/ construction process where inspection and testing are performed by personnel whose responsibility it is to determine the acceptability of products or services and to record inspection and test data.

Note: A customer or Regulatory Authority, where applicable, may require his representative to review or witness inspections and tests at various points in the manufacture/construction process. Those points beyond which the work may not proceed without these reviews or witnessing are classified as hold points.

Non-conformance

see Non-conformity

Non-conformity

The non-fulfilment of a specified requirement.

Note: The definition covers the departure or absence of one or more quality characteristics, including dependability characteristics, or quality system elements from specified requirements.

Procurement

An activity undertaken to obtain products or services in accordance with specified requirements.

Note: Procurement activities include all the actions necessary to ensure that the products or services meet specified requirements

Product

Material, part, item, component, assembly, sub-assembly, structure, plant, equipment or finished product identified or described in any standard (or specification) and manufactured or constructed or obtained as a result of some manufacturing or construction process.

Purchaser

A party which procures a product or service or both (a purchaser may be a head contractor or principal consultant).

Note: In the construction industry there is generally a contractual relationship between the purchaser and supplier prior to commencement of manufacture/construction. A typical project will contain a network of purchaser/supplier relationships in which a party can be both supplier to one

purchaser and purchaser to a number of suppliers (see Fig 2.1 of HB90.3-2000).

Quality

The totality of features and characteristics of a product or service that bear on its ability to satisfy specified requirements.

Quality Assurance (QA)

All those planned and systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality policy.

Quality Control (QC)

The operational techniques and activities that are used to fulfil requirements for quality.

Quality Plan

A document setting out the specific quality practices, resources and sequence of activities relevant to a particular product, service, contract or project.

Quality Policy

The overall quality intentions and direction of an organisation as regards quality, as formally expressed by top management.

Quality System

The organisational structure, responsibilities, procedures, processes and resources for implementing quality management.

Subcontractor

A party which provides a product or service or both to a supplier. (A subcontractor can be a supplier or a consultant)

Supplier

A party which provides a product or service or both to a purchaser.

Surveillance

The continuing evaluation of the status of procedures, methods, conditions, products, processes and services, and analysis of records to assure that quality requirements will be met.

Verification

Confirmation through the provision of objective evidence that specified requirements have been fulfilled.

Verification Point

See Inspection and Test Point

Witness Point

A point in a construction or verification process at which an activity is to be observed by the purchaser.

Appendices

Appendix 1 Lump Sum Fee Proposal Pro-forma

TOTAL LUMP SUM FEE (Inc GST)	\$
TOTAL SUBCONSULTANTS FEES (Inc GST)	
23.Acoustic Engineer 24.Other (please specify)	
22.Landscape Architect	
21.Architect	
20.Hydraulic Engineer	
19.Mechanical Engineer	
18.Electrical Engineer	
16.Structural Engineer 17.Civil Engineer	<u>.</u>
15.Geo-technical	
14.Survey	
13.Quantity Surveyor	
SUBCONSULTANT SERVICES	
12.On-Site Representation	
On-Site Representation	
10. Printing11. Any other ancillary services (please specify)	
9. Architectural Photography	
8. Specialist Artist Perspective	
7. Model	
6. All statutory fees eg Design and Siting, Works Approval etc	
Ancillary Services as required (Reimbursable)	
TOTAL BASIC SERVICE FEE (Inc GST)	
5. Work as Executed Records	
4. Superintendence and Contract Administration	
Contract Documentation	
(including any design studies) 2. Final Sketch Plans	
1. Preliminary Sketch Plans	
54510 OCI VIOC	
Basic Service	
CONSULTANT SERVICES	\$ Sum \$ Sum
The basis of the fee is	
Brief for the Lump Sum of \$	
hereby submit an offer to und	ertake the works indicated in the
NAME	
hereby submit an offer to und	ertake the works indicated in the

Appendix 2 Reference Documents

In undertaking an engagement the Consultant is obliged to follow the processes and responsibilities for the design development, the preparation of tender documents and where applicable the administration and superintendence of construction of projects incorporated in reference documents listed below, which are in addition to those indicated statutory documents in Appendix 3 of this Brief.

In general these reference documents are usually guidelines and should only be utilised following the application of mandatory direction documents including the brief, formal agreements, or tender/contract documents. These mandatory direction documents take precedence over the reference documents, but in the event of any perceived conflict, clarification should be obtained from the Project Officer.

The following list indicates some, but not all reference documents:

- ActewAGL Water Supply and Sewerage Standards;
- ACT Government Guidelines and Field Guide for Erosion and Sediment Control on Building Sites;
- The Territory (Landscape) Agents Circulars;
- Standard Specification for Urban Infrastructure Works;
- Notes for Guidance of Agents;
- Guidelines for the Production of Tenders and Contracts;
- AS4120 Code of Tendering;
- Design Standards for ACT Infrastructure; and
- ACT Waste Management Design Guide for site storage and handling of waste and recyclables in the ACT.

Basic Specification

The ACT Government's Standard Specification for Urban Infrastructure Works document has been produced to provide a uniform specification for use in the construction of landscape and civil engineering works within the ACT.

The Specification has been written for The Territory' contracts designed and superintended by experienced Consultants engaged under this Basic Brief and shall form part of the Contract documentation unless specified otherwise.

Circulars

The Consultant/Project Manager Circulars issued by The Territory incorporate particular requirements that shall be referred to as appropriate in design and construction. These circulars draw attention to some of the changes to regulations or codes continually imposed on the construction industry. A list of current circulars can be obtained from the Project Officer.

Appendix 3

Acts, Regulations and Standards

The design and construction shall be carried out in conformance with the requirements of all relevant Acts, Regulations, Australian Standards and Codes, current at the time of submission.

It is a responsibility of the Consultant to gather and utilise all relevant Acts, Ordinances, Regulations or Instructions applicable for the project.

The following list is indicative of the range of these documents although the Consultant shall be familiar with any other requirements relevant to the project:

ACT Legislation

- . Architects Act 1959
- . Building Act 1972
- . Utilities Act 2000
- Land (Planning and Environment) Act 1991
- Bushfire Act 1936
- . Commercial Arbitration Act 1986
- . Common Boundaries Act 1981
- Contractors' Debts Act 1897
- Cotter River Act 1914
- . Crown Lands Act 1884 (NSW) as applied in the Territory
- . Electricity Safety Act 1971
 - **Environment Protection Act 1997**
- Fire Brigade Act 1957
- . Heritage Objects Act 1991
- . Lakes Act 1976
- Land (Planning and Environment) Act 1991
- Long Service Leave (Building and Construction Industry) Act 1981
- . Machinery Act 1949
- . Road Transport (General) Act 1999
- . Road Transport (Dimensions and Mass) Act 1990
- . Nature Conservation Act 1980
- Plumbers, Drainers and Gasfitters Board Act 1982
- . Government Procurement Act 2001
- . Public Roads Act 1902
- . Rates and Land Tax Act 1926
- . Land Titles Act 1925
- . Land Titles (Unit Titles) Act 1970
- . Road and Public Places Act 1937
- . Scaffolding and Lifts Act 1912
- Surveyors Act 2001
- . Trade Measurement Act 1991
- . Unit Titles Act 2001
- . Workers' Compensation Act 1951
- . Workers' Compensation Supplementation Fund Act 1980

Commonwealth Legislation

- . Australian Capital Territory Electricity Supply Act 1962 No. 76
- . Australian Heritage Commission Act 1975 No. 57
- . Builders Labourers' Federation (Cancellation of Registration) Act 1968 No. 6
- . Builders Labourers' Federation (Cancellation of Registration
 - Consequential Provisions) Act 1986 No. 7
- . Builders Labourer's Federation Legislation Amendment Act 1990 No. 132
- . Building Industry Act 1985 No. 92

- . Canberra Water Supply (Googong Dam) Act 1974 No. 34
- . Construction Industry Reform and Development Act 1992 No. 33
- . Environment Protection (Impact of Proposals) Act 1974 No. 164
- . Income Tax Assessment Act 1936 Part VI Collection and Recovery of Tax Division 3A Collection of tax in respect of certain payments for work
- . Industrial Relations Act 1988 No. 86
- . Industrial Relations (Consequential Provisions) Act 1988 No. 87
- . Taxation Laws Amendment Act (No.3) 1985 No. 168 of 1985
- . Trade Practices Act 1974 No. 51
- . Training Guarantee (Administration) Regulations (Amendment)

Awards

- . Major ACT awards covering building and construction industry workers: -
- . Australian Workers Union on Site and Civil Engineering (ACT) Award 1981
- . Building and Construction Industry (ACT) Award 1991
- . Metal Trades (ACT) Award 1982
- . Plumbing Industry Award (ACT) 1982

Standards

Most of the Australian Standards used for The Territory projects are listed in the documents listed under Appendix 2.

Quality Standards

General Quality System Standards issued by the Standard Association of Australia applicable for The Territory (Landscape) projects are those based on the ISO 9000 series of international standards.