This Manual addresses the specific requirements for the engagement and use of consultants (especially those prequalified under Main Roads’ Prequalification System) on engineering projects. It replaces the Third Edition (August 2004).

The consultant prequalification/contract system has been developed in conjunction with the consulting engineering industry and Main Roads districts and procurement specialists. It embraces the Main Roads’ "Three Frames" philosophies of working in a relational way, building good communications and trust to enable sharing of risks and responsibility in an atmosphere of collaboration and teamwork. Through this process, the system places an emphasis on quality and value from engineering projects.

This manual incorporates the values, philosophies and requirements of the Queensland Government State Purchasing Policy. It seeks to ensure that Main Roads staff have regard to the important commercial issues, including cost and risk, for consultant contracts in conjunction with the need to deliver a "quality" product by providing for a consistent Main Roads’ approach when engaging and managing prequalified and other consultants on engineering projects.

Main Roads officers shall adhere to the procedures contained in this Manual, when contracting with and managing consultants on engineering projects.
# Manual - Consultants for Engineering Projects

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Chapter 1

Introduction
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1.1 Scope

This manual has been produced for the purpose of explaining the specific requirements for Main Roads system for the engagement and use of consultants for delivering:

• Road infrastructure planning and/or design projects.

• Work Packages:
  - Engineering Survey - electronic collection of data and information in a way that allows accurate electronic reproduction
  - Public Consultation and Engagement - consultation, reporting, including issues and recommendations
  - Environmental Investigation - investigations, studies and reporting, including issues and recommendations
  - Cultural Heritage - investigations, consultations and reporting, including issues and recommendations
  - Native Title - investigations, consultations and reporting, including issues and recommendations
  - Geotechnical Investigations - investigations, collecting samples, interpretations and reporting, including issues and recommendations
  - Hydraulic Studies - investigations, data collection, consultations, interpretations and reporting, including issues and recommendations
  - Traffic Studies - investigations, data collection, consultations, interpretations and reporting, including issues and recommendations
  - Pavement Designs - materials investigations, material sources, testing and reporting, including issues and recommendations
  - Road Traffic Noise - investigations, data collection, interpretations and reporting, including issues and recommendations
  - Etc.

• Work Packages (investigations, studies, consultations, engineering surveys, etc.) that supply data and information for use in and/or for consideration during the design development process;

For insurance purposes it is important to understand that the design development process is a continuum that starts with the preferred option and ends with the detailed design desirably without rework. At any point in the planning/design process work packages may be commissioned to supply design inputs in the form of data, information, considerations and requirements. It is important for consultants supplying work packages to recognise that design inputs may have a strong bearing on the quality of work performed by a planning/design consultant. The results of poor inputs may not be apparent for several years after the road infrastructure has been completed.

The system encompasses prequalification (while allowing for non prequalified consultants), pre contract award activities and management of consultant contracts.

The requirements of this system apply to the delivery of planning and design projects for Main Roads/Queensland Transport ("the department") road/transport infrastructure, including the supply of all associated work packages, comprising investigations, studies, consultation (e.g. geotechnical, environmental, native title, public consultation, engineering surveys, etc.). The system has not been designed for application to consultants carrying out engineering design with respect to small developer projects with low risk within the road reserve or the services of a consultant on a labour contract (e.g. contract employee). Consultants undertaking these services should be sourced and engaged in
accordance with the “Manual on the Engagement and Use of Consultants”.

The system applies to both prequalified consultants where prequalification categories apply and other than prequalified consultants where work categories do not meet the specific project requirement.

The processes comply with the requirements of the Queensland Government State Purchasing Policy.

This Manual has been developed by the Engineering Consultant System Steering Committee in conjunction with the consulting engineering industry, Public Works and Main Roads' districts under the auspices of Principal Manager (Logistics).

The Director-General in the Foreword has endorsed these requirements for consultants engaged on engineering projects.

1.2 System Applicability

This system applies to the engagement of consultants for engineering projects, including project sub-components (i.e. Work Packages) by Main Roads personnel, including RoadTek and RS&E.

The engagement of RoadTek and RS&E must use the same process as for external consultancies (except for the actual consultant selection process for engaging RoadTek and RS&E which is covered by other corporate rules for engagement), i.e. the invitation, offer and consultant management process together with the requirement for a documented brief are the exactly the same as for acquiring any consultant service irrespective of whether they are external or internal service providers.

All offers must be formally accepted before an agreement exists between the two parties concerned.

1.3 Management Culture

This manual has been developed within a culture of encouraging the engagement of engineering consultants based on price averaging. The department wishes to discourage any industry culture of low bid offers, where the intent is to increase fees throughout the engagement by maximizing variations.

The intent of the manual is to foster good working relationships between the department and consultants, resulting in fees relative to the quality of work and level of service provided, based on the complexity of the project.

Also, the hours component of a time rate fee is not to be considered as an open ended situation as a consultant is expected to deliver closely to the hours nominated in the price schedule.

1.4 User Compliance with System Requirements

Executive Director (Capability and Delivery Division) will from time to time order independent audits of the use of the system ‘Consultants for Engineering Projects’ for compliance with the specified requirements. Audit reports will made available with the system documentation on junction. Identified areas of non-compliance will be addressed directly with the district(s) concerned.

Consultants are required to comply with the requirements (including intent) and management practices specified in this manual.

1.5 Use of the System

1.5.1 System Documentation

All Standard System Documents/Forms can be found on Main Roads Junction, as follows:

- Manual*
- Companion Documents/Forms
- Contract System:
  - Contract System Documents*
  - Prequalified Consultants Documents*
- Prequalification:
  - Prequalification System Information Brochure*
  - Prequalification System Application Form*
• Lotus Notes based system - User Handbook

1.5.2 Prequalification Operational Issues

Users of prequalified consultants should use the on-line Lotus Notes (database) System as the operational tool for selection and reporting purposes. This system has been designed to meet the requirements of the policy expressed in this manual. This electronic system manages:

• Prequalification details;

• Rotational arrangements of consultants for invitation purposes; and

• Reporting requirements, including performance reporting.

Details of the prequalification system are included in Chapter 2.

The user handbook for operating the Lotus Notes System is available to internal users only on Main Roads Junction via the help button under "Using This Database".

A prequalification Information Brochure and a prequalification Application Form is provided on Main Roads Junction and on the Main Roads Internet Site, Doing Business with us, Trading with Main Roads, Consultants for Engineering Projects.

1.5.3 System - Standard Documents

The Standard System Documentation may be accessed from:

• Main Roads Internet Site (www.mainroads.qld.gov.au) (excluding internal use only documents) under - Doing Business with us, Trading with Main Roads, Consultants for Engineering Projects; and

• Main Roads Junction (all documents) under - Departmental Knowledge, Departmental Documents, Manuals, Engineering (or Logistics), Manual - Consultants for Engineering Projects.

1.5.4 System Database

The Consultant database is for internal use only. Main Roads and Queensland Transport can access it under - Local Server Name, TTD, Company.nsf, Engineering Prequalification.

The database stores prequalified consultant details, including performance information.

Where users choose to use the system database it will also manage the rotation process for invitation selection purposes.

The use of any other system to manage the rotation process will be subject to independent audit for rotation compliance purposes.

The Lotus Notes Based business operating system user notes can be accessed via the help button under - Standard System Documents.

1.6 System Review and Maintenance - Prequalification

Capability and Delivery Division will undertake annual reviews of the prequalification system. The basis for review should be the information contained in completed Performance Reports (Parts A and B) and any other relevant information/specific feedback, e.g. independent audit reports.

Special reviews may be directed as a result of subsequent construction problems, cost over-runs, etc.
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<td>Clause 2.6.3</td>
<td>This section has been updated to remove the RTA NSW accreditation requirement for slope risk assessments from Level One of Geotechnical Engineering (Clause 2.6.3).</td>
<td>M. Swainston</td>
<td>May 2011</td>
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<td>2</td>
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<td>Public Liability Insurance – unlimited aggregate requirement removed.</td>
<td>M Swainston</td>
<td>May 2012</td>
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<td>Removal of reference to Second Party Quality Assurance certification.</td>
<td>M Swainston</td>
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<td>New – commentary on how applicants may address Traffic Engineering criteria.</td>
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<td>G Hobbs</td>
<td>September 2013</td>
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<td>Clause 2.2</td>
<td>Definitions amended to remove “Head Office”.</td>
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<td>Amended to remove references to office locations, replacing with prequalification requirements of a consultant organisation.</td>
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Chapter 2
Consultant Prequalification System

2.1 Introduction
Consultants wishing to provide services to the Department of Transport and Main Roads (the department) for engineering projects must first prequalify. The aim of the prequalification system is to classify consultants commensurate with their technical skills, available resources, and managerial capability to undertake commissions for those projects.

The department requires the timely delivery of quality services from its prequalified consultants and in doing so is prepared to pay the appropriate commercial rates to achieve this requirement. Consultants not meeting time and quality performance requirements will have their prequalification status reviewed in accordance with Clause 4.7.

This information brochure should be read in conjunction with the Manual – Consultants for Engineering Projects.

2.1.1 Scope
The consultant prequalification system applies to organisations wishing to make competitive offers for engineering projects fitting the following categories of prequalification:

- Bridge Design
- Economic Studies
- Financial/Commercial
- Geotechnical Engineering
- Highway Engineering
- Hydraulic Design
- Traffic Engineering
- Transport Planning

These prequalification requirements also apply to consultants wishing to tender in response to public advertisement for the provision of services on engineering projects.

2.2 Definitions
‘Consultant’ shall mean a Consultancy prequalified for engineering projects. These consultancies will usually comprise an Engineer or Engineering Consultancy, Local Government Engineering Service Unit or Government department Engineering Service Unit, undertaking services on engineering projects.

2.3 Requirements for Prequalification
Consultants wishing to make application for prequalification shall first demonstrate that they can meet the mandatory requirements of prequalification.

2.3.1 Appropriately Completed Application Form
Consultants are required to complete all relevant parts of the application form and supply objective evidence supporting the applicant’s required prequalification requirements, as relevant.

2.3.2 Requirements for Prequalification of Consultant Organisation
Consultants shall be prequalified to the categories and levels commensurate with the experience of the staff within the Consultant organisation.

2.3.3 Quality System
Consultants prequalified in the categories of Bridge Design, Geotechnical Engineering, Highway Engineering, Hydraulic Design, Traffic Engineering and Transport Planning –

- shall hold current third party certification to the relevant Australian Standard from a JAS-ANZ accredited organisation. Self assessed systems are not acceptable. The capability statement on the quality accreditation certificate must include the categories of prequalification.
Consultants prequalified in the categories of Economic Studies and Financial/Commercial –

- shall preferably hold third party certification to the relevant Australian Standard from a JAS-ANZ accredited organisation.
- Where third party certification is not undertaken, the department will require comprehensive documentation of the Consultant's quality system through a Controlled Self Assessment undertaken in conjunction with the department.

If the Consultant is considering outsourcing any services in the future to a sub-consultant possibly required under a contract, the Consultant shall ensure control over the processes required in providing such outsourced services. Control of such outsourced services shall be identified within the Consultant's quality system.

### 2.3.4 Registered Professional Engineers

Under the provisions of the Professional Engineers Act 2002 in Queensland, it is a legal requirement for individual engineers to register with the Board of Professional Engineers before they can practise as a professional engineer in Queensland. That is, persons who in their employment or business provide an engineering service must be a Registered Professional Engineer of Queensland (RPEQ). The exception is for persons who provide an engineering service to be under the direct supervision of a RPEQ registered engineer in the same field of engineering. The requirement applies regardless of whether the professional engineer provides professional engineering services to his or her employer or to external clients.

A condition of prequalification with the department, is that engineering consultants comply with the statutory requirements of the Professional Engineers Act 2002 in Queensland, and ensure at all times that persons employed as professional engineers are registered (as RPEQ), or work under the direct supervision of a professional engineer registered in the same field (discipline) of engineering.

A further condition of prequalification is that a person’s RPEQ registration is in the relevant area (discipline) of engineering for the engineering service being provided.

While the overall responsibility for engineering project design and documentation services rest with the consultant organisation carrying out the work, the department requires that individual design responsibility for each area of engineering under the Professional Engineers Act 2002 is identified and recorded in accordance with the department’s “Drafting and Design Presentation Standards Manual” - Chapter 1.

Consultants are required to demonstrate in their application how the above RPEQ requirements will be addressed.

### 2.3.5 Australian Business Number, Australian Company Number and Australian Registered Business Number

Applicants must have a registered Australian Business Number (ABN) and/or an Australian Company Number (ACN) or an Australian Registered Business Number (ARBN).

### 2.3.6 Insurances

It is a condition of the department’s Consultant Prequalification System that consultants have suitable Professional Indemnity (for an amount not less than $1 million for any one claim, $2 million in the aggregate), Public Liability (for an amount not less than $10 million for each occurrence), and where applicable, Workers’ Compensation insurances. Additionally, all contracts for Consultant Services require the Consultant to have current Professional Indemnity (if Principal Arranged Insurance not applicable), Public Liability and Workers’ Compensation insurances.

The level of insurance cover required for individual projects will be specified in the Invitation for Offer (C7585).

Insurance policies come in different forms and have a multiplicity of possible detailed requirements and conditions. Accordingly, it is essential that the adequacy of a Consultant’s liability insurance be checked prior to:

- the granting of Prequalification Level(s)
- the award of a contract for consultant services

In all circumstances, the Consultant must provide evidence that its insurance policies for professional indemnity and public liability meet the department’s requirements.

A Certificate of Currency will be acceptable evidence of the adequacy of the offeror's Professional Indemnity, Public Liability and where applicable Workers’ Compensation.
insurance. The consultant’s insurance policies must meet the requirements in the General Conditions of Contract (C7545).

2.4 Prequalification

The consultant prequalification system is managed and maintained by the Prequalification Committee. The Committee comprises –
- Principal Manager – Chair
- Manager (Contracts) – Secretary
- Assistant Director (Contracts) - Member


Where engineering consultant engagement does not align with the above project categories and levels, other methods as detailed in the Manual – Consultants for Engineering Projects shall be used to engage consultants.

2.4.1 Prequalification Registers

The Consultants for Engineering Projects system permits two types of engineering consultant registration comprising:
- a state-wide register
- a regional register

2.4.1.1 State-wide Register

A state-wide register is the primary register of the department as it records all consultants who are prequalified to provide services on engineering projects for the department. The state-wide register will only be used where the regional register does not meet the work categories and levels requirement of a particular commission.

2.4.1.2 Regional Registers

Regional registers are compiled by individual regions from the state-wide register, to identify those consultancies which have been assessed as having the appropriate credentials to meet specific work requirements in that region.

These special regional requirements (local needs) will normally be for any of the following reasons:
- Local interfaces - knowledge and experience (for example, expansive black soils, wet tropics, etc), local delivery capability/availability of local personnel;
- face-to-face project reviews - communication capability

This does not necessarily mean regional registers will be restricted to locally based consultants.

2.4.1.3 Use of Prequalification Registers

The prequalification registers shall be used when seeking prequalified consultants for engineering projects. Only prequalified engineering consultants shall be engaged as the primary consultant on engineering projects.

Sub-consultants providing services covered under the categories of this prequalification system must also be prequalified.

Regions will use a consultant’s local resources wherever possible. Accordingly, the state-wide register is used where the regional register does not adequately cover a specific project need.

2.4.2 Application for Prequalification

Consultants and other organisations (for example, Local Government and Government Department Engineering Design Units wishing to make competitive offers for engineering projects) which meet the mandatory requirements are eligible to apply for prequalification. See - Application for Prequalification of Consultants on Engineering Projects (C7512).

2.4.2.1 Initial Application

New applications for prequalification may be made at any time. New applications must be made using the Application Form (C7512). The applicable attachments to the form are to be completed to demonstrate suitable experience in the assessment criteria.

2.4.2.2 Renewal of Prequalification Status

Prequalified consultants are required to apply for renewal of their prequalification levels approximately every three years. All existing prequalified consultants will be advised in writing when they are required to renew their prequalification.

Renewal applications will need to be a full and complete application.

2.4.2.3 Upgrading of Prequalification Categories and Levels

Prequalified Consultant may at any time apply for upgrading of their prequalification level.

Applications for upgrading of prequalification levels must contain the same information as required for new applications. Applications for
upgrading will be assessed in the same way as new applications.

In particular, applicants seeking an upgrade in their prequalification should acquaint themselves with the characteristics of projects at the higher level being applied for (refer to Section 6) and be able to demonstrate that on previous projects they have aggregated the requisite experience to meet the assessment criteria corresponding to the level sought.

Applicants should note that it may not be sufficient to simply recruit more experienced key personnel in order to obtain an upgrade. The overall organisation also needs to be able to demonstrate the required experience. Where an organisation recruits additional key personnel with experience at a higher level than the organisation's current prequalification level, the Prequalification Committee may (at its discretion) consider an upgrade and may grant conditional prequalification at a higher level, subject to all other requirements for the higher level being satisfied. The conditional prequalification would likely be subject to review following the completion of the first contract at the conditional level completed by the organisation following the upgrade.

2.4.2.4 Changes to Consultant’s Organisation

A prequalified consultant is required to immediately advise the department of any change in its management capability, technical skills or available resources, which is likely to affect eligibility for continued registration in any category or level of prequalification.

Prequalified consultants must also provide written advice of any change in their address or contact details.

Any changes to insurance or quality assurance details must be advised.

Failure to advise of changes may result in a review of an organisation’s prequalification status.
Factors which are considered in an assessment are:

- Past performance: on completion of a contract, a confidential report on the consultant’s performance is prepared and submitted. These reports may be used by category assessors and the Prequalification Committee when assessing applications and for maintenance of the prequalification system.
- Availability of relevant software by the applicant.
- Technical and management skills and resources: key individual’s skills matched to the prequalification levels, that is, category of work descriptions.

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**2.4.3 Assessment of Applications**

Applicants must meet the mandatory requirements before an assessment is made (refer Section 2.3). The overall assessment process is shown in Figure 4.3.

The Prequalification Committee is responsible for the processing of applications and will:

- a) arrange with the relevant head of discipline or delegate for assessment of the relevant categories and levels applied for
- b) arrange for the updating of the prequalification register
- c) notify the applicant of the assessment results and provide relevant feedback as necessary

---

**Start Procurement Process**

Decision to seek Offers for Engineering Consultant Services

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**Invitation(s) to make an Offer to Consultants chosen from Prequalification Register using Processes in Chapter 4 of Manual Consultants for Engineering Projects**

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**Precise Functional Requirements**

Clarification Meeting

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**Evaluate Offers using Criteria and Processes in Chapter 7 of Manual Consultants for Engineering Projects**

---

**Part A – After completion of Consultant Service.**

Performance assessed against selection criteria plus an assessment as to suitability for future work.

---

**Part B – After Construction.**

Performance assessed against quality of Contract Documentation and Implementation ease.

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**Start Prequalification Process**

Consultant’s Application

- On the 3 yearly anniversary
- Upgrade at any time
- At any time for new applicants
- At any time for poor performance review

---

**Assess Application including feedback from Past Performance Reports & previous assessments**

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**Prequalification Databases**

State-wide Register of Prequalified Consultants using requirements and processes in Clause 2.3 and 2.4 of Manual Consultants for Engineering Projects.

Regional Registers of Prequalified Consultants selected from the State-wide Register by regions

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**Consultant’s feedback and review process (Update database to reflect the result of review)**

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Is Consultant recommended to perform future work of similar size and complexity?

---

**Do scores compare satisfactorily with past performance?**

---

**Conduct Audit of Consultant’s Quality System and other prequalification requirements, e.g. available skills**

---

**Audit Report**

---

Figure 4.3 Overall Process for Prequalification Assessment and Maintenance
2.4.4 Notification of Assessment Results

Applicants will be notified by letter of their approved prequalification level which will nominally remain current for three years. During this period, a consultant may have its prequalification rescinded or level changed if circumstances warrant. The department usually requires at least six weeks to consider an application.

2.4.5 Request for Review of Assessment

Applicants may request a review of an assessment within 30 days of written notification of the outcome of an application. Requests should be addressed to the Secretary of the Prequalification Committee.

2.4.5.1 Appeals against Outcome of Assessment Review

If an applicant is not satisfied with the outcome of an assessment review, an appeal may be made to the Executive Director (State Program Office) within 30 days of the department’s written notification of the outcome of that review.

An appeal should be addressed to:
Executive Director
State Program Office
Department of Transport & Main Roads
GPO Box 1549
Brisbane Q 4001

The decision of the Executive Director (State Program Office) shall be final and binding on the parties.

2.4.6 Performance Reporting

2.4.6.1 Performance

Prequalification with the department is not a one-off assessment but rather an ongoing process of reviewing a consultant’s capabilities. The completion of performance reports is essential to the effective administration of prequalification registers and subsequent feedback to future assessment panels, which need to take into account a consultant’s performance history.

It is in the interests of the consultant to actively ensure that performance reports are duly completed.

Performance reporting is to be conducted during two phases – Pre-construction (Part A) and Post-construction (Part B).

Pre-construction (Part A) reporting consists of three reports:
- Initiation of Contract (C7561.1)
- Milestone Performance Evaluation (C7561.2)
- Finalisation (C7561.3)

Post-construction (Part B) reporting is to be undertaken at the completion of the construction works.

2.4.6.2 Performance Report – After Completion of Consultant Service (Part A)

All Part A Performance Reports are to be completed during the pre-construction phase/consultant contract of the project. It is essential that all performance reports are completed in due course during and post each reporting timeframe.

All reports must be discussed with the consultant and all conflicts resolved, where possible. Reasons for conflicts and any non-agreed resolution shall be documented in the relevant sections of the forms. The consultant must be afforded the opportunity to respond to any comments adverse or otherwise in the relevant sections of the forms. The response shall form part of the report.

The reports take the form of:
- Initiation of Contract(C7561.1)
- Milestone Project Evaluation(C7561.2)
- Finalisation. (C7561.3)

2.4.6.3 Performance Report – Post Construction (Part B)

The Post-construction (C7563) report shall be completed within four (4) weeks of completion of construction of any resulting transport infrastructure. All reports must be discussed with the consultant and all conflicts resolved, where possible. The reasons for the non-resolution of conflict should be given in the relevant section of the form. The consultant must be afforded the opportunity to respond in writing to any comments, adverse or otherwise. The response should form part of the report.
The report shall include responses to:

- Resulting Design Output performance
  - Were construction contract documents free from major errors and/or omissions?
  - Did presentation of construction contract documents or design solutions cause construction difficulties?
  - Were on site design solutions adequate and effective?
- Was the standard of liaison and co-operation with the construction contract administrator during construction adequate?
- Was the response to the administrator's request for information timely?

All of the above issues are to be assessed at the end of the construction phase.

Note: The after construction performance report can be easily overlooked as there may be a significant time lapse between the time the services are delivered and the completion of construction.

It is in the interests of the consultant to actively ensure that performance reports are duly completed.

2.4.7 Reviewing, Rescinding or Downgrading Prequalification

The department reserves the right to review a consultant’s prequalification at any time. The department may, at its discretion, rescind the prequalification or reduce the level of prequalification based on:

- failure to behave in a relational way;
- not putting the success of the project as the first priority;
- unsatisfactory performance;
- failure to respond satisfactorily to a performance report within a reasonable time; and
- change in personnel nominated in a Consultant’s application without notification to the Principal.

Before such action is taken, the consultant will be given an opportunity to show cause why the prequalification registration should not be rescinded or reduced. The consultant will also be given details of the matters prompting the request to show cause.

2.4.8 Sub-consultants for Planning and Design Projects

A consultant may utilise the services of sub-consultants, provided that the sub-consultants are on the register and prequalified to the appropriate level. The offer must be submitted under the name of the invitee who will be held responsible for the performance of the contract, and be the sole departmental contact for the duration of the contract. In this respect, only engineering consultancies may be primary consultants on engineering projects.

2.4.9 Consultant Prequalification Information - Availability of Information

The department will maintain, on its website, a list of the names, addresses and other non-confidential details including prequalification categories and levels, of currently prequalified consultants. No responsibility is accepted by the department for any consequences arising from the use of any such information.

2.5 Confidentiality

Confidential information provided with applications will not be disclosed to any other party except where necessary for the assessment of the application.

2.6 Prequalification Categories

The prequalification categories and levels are described in this Section. Each level of category includes the lower level within that category as relevant. Consultants are required to nominate the level for assessment when applying for prequalification.

To attain prequalification, a consultant must have professional staff with demonstrated competencies in the categories and levels applied for.

2.6.1 Bridge Design (BD)

This consultant prequalification applies only to road and rail bridges that are delivered by the department.

Temporary structures, formwork, falsework, jacking, driven/mined tunnels, jack box designs
Consultants for Engineering Projects

for tunnels and bridge structural assessments are NOT part of this prequalification document.

Company eligibility for level BD1 and BD2 is based on road bridge experience held by current RPEQ engineers in the company within the past 3 years for any of the following:

- Department of Transport and Main Roads, including demonstrated experience in the use of the department’s “Design Criteria for Bridges and Other Structures”;
- other state road authorities demonstrating expertise with the relevant Australian Standards,
- Australian Local Authority to an Australian Standard where it can be demonstrated the standard is equivalent to the department and/or,
- a client where the code specified was not the Australian Standard but the standard and technical standards are of similar complexity.

Eligibility for level BD3 is dependent on successful demonstration of this expertise on the department’s bridge design projects for the lower levels.

To obtain prequalification in all levels, the consultant would require sufficient staff to permit all bridges and other structures to be:

- Designed by an engineer who is an RPEQ or an engineer supervised by a suitably experienced RPEQ.
- All designs to be design checked by an engineer who is an RPEQ or supervised by a suitably experienced RPEQ.

The engineers and RPEQ supervisors who undertake the check shall be different to the engineers and RPEQ supervisors who undertake the design. BD3 design check would require the work to be completed in a separate office to that of the designer.

The prequalification levels are described below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD1</td>
<td>Simple bridges where geometry is substantially predetermined.</td>
</tr>
<tr>
<td></td>
<td>Noise barriers, light poles, minor sign supports that do not span over the carriageway, i.e. “off carriageway”.</td>
</tr>
<tr>
<td></td>
<td>Variable message (VMS) and other sign gantries that do not span over the carriageway, i.e. “off carriageway”, sign structures.</td>
</tr>
<tr>
<td></td>
<td>Advertising sign structures that do not span over the carriageway, i.e. “off carriageway”.</td>
</tr>
<tr>
<td></td>
<td>Retaining walls and scour protection.</td>
</tr>
<tr>
<td></td>
<td>Drainage structures.</td>
</tr>
<tr>
<td>BD2</td>
<td>As for BD1 plus:</td>
</tr>
<tr>
<td></td>
<td>Significant urban bridges (excluding complex bridges), major rural bridges, rail overpasses where geometric, geotechnical, or hydraulic complications may occur.</td>
</tr>
<tr>
<td></td>
<td>Gantry structures that span over carriageways.</td>
</tr>
<tr>
<td></td>
<td>Advertising sign structures that span over the carriageway, i.e. “on carriageway”.</td>
</tr>
<tr>
<td>BD3</td>
<td>As for BD2 plus:</td>
</tr>
<tr>
<td></td>
<td>Complex road and rail bridges and major urban bridges using non-standard structural members.</td>
</tr>
<tr>
<td></td>
<td>Major projects that have a lot of road and/or rail bridges.</td>
</tr>
<tr>
<td></td>
<td>Additional qualification procedures may be used for particular structures.</td>
</tr>
<tr>
<td></td>
<td>Cut and cover tunnels, major civil structures, retaining wall structures.</td>
</tr>
</tbody>
</table>

Refer to Section 2.8 for commentary on how applicants may address BD criteria.

**2.6.2 Economic Studies (ES)**

Consultants must have at least one transport specialist / economist, who have a proven track record in economic evaluations of transport infrastructure.

Consultants with a specialisation in economic studies will have a strong track record of delivery in relevant subject areas. The following is a list of relevant subject areas in which the specialist would have expertise:

- Theoretical principles underpinning transport economic analyses and related sectoral work;
- Detailed understanding and application of available tools to undertake economic...
analysis for transport infrastructure projects, both at the project and program level;

- Ability to undertake cost-benefit analyses of transport infrastructure, in accordance with both Australian and Queensland Government reporting requirements;
- Understanding of techniques and principles underpinning state and regional economic modelling;
- Ability to undertake economic impact analysis methods, techniques and studies; and
- Ability to undertake economic and public policy analysis.

It is expected that consultants are familiar with a range of methods and guidelines to inform the analysis, whilst being able to draw on internal specialist expertise and be ready to engage relevant analytical methods and advise accordingly.

To meet Australian and Queensland Government reporting requirements and prioritise investments, economic studies and assessments will require involvement from Project Evaluation of Portfolio Planning and Investment Branch.

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ES1</td>
<td>Applied project evaluation methods, using cost benefit analysis (including standard project evaluation methodology and techniques), local industry economic studies and local investment impact analysis. Economic assessments under this category may include road and bridge infrastructure projects in regional and rural areas. Specific projects might include, but not limited to, a project cost-benefit analysis of a bypass, overtaking lanes and/or highway widening.</td>
</tr>
<tr>
<td>ES2</td>
<td>As for ES1 plus: Applied economic assessments may include a program-level evaluation, sub-regional industry study, sub-regional investment impact analysis and/or sub-regional investment strategy analysis. Economic assessments under this category may include, but not limited to, road and bridge infrastructure assets in urban, regional and rural areas. Specific projects might include a costs-benefit analysis of upgrades to national highways, major bypasses, major intersections and interchanges, flooding and/or capacity upgrade projects. Economic assessments at a project level may also need to consider public transport projects with related issues resource correction and various regional planning issues.</td>
</tr>
<tr>
<td>ES3</td>
<td>As for ES2 plus: Applied analysis involving regional and state-wide economic impact analyses to inform project proposals and development of state-wide road investment strategies. Emphasis is placed on proven economic modelling techniques and understanding of linkages between investment in transport infrastructure and impacts on the broader economy. Analysis at the project or program level will be of state-wide and national significance, relating to contribution to economic output and/or improvements to productivity. Major infrastructure projects that encompass large scale infrastructure and considers impacts on wider economy and land-use developments.</td>
</tr>
</tbody>
</table>

Refer to Section 2.8 for commentary on how applicants may address ES criteria.

### 2.6.3 Financial/Commercial (FC)

Consultancy firms must have at least one financial and/or commercial specialist, who has a proven track record in undertaking financial analysis of transport infrastructure.
The following is a list of relevant subject areas in which a financial and/or commercial specialist would have recent knowledge and experience:

- Theoretical principles underpinning financial analyses and market conditions;
- Awareness of available tools to undertake an analysis of capital, operations and maintenance costs associated with transport infrastructure;
- Ability to develop and assess a range of funding and staging scenarios;
- Awareness of commercial aspects of a range of infrastructure assets, including but not limited to the following:
  - road and bridge projects;
  - public transport projects, including bus, heavy rail, light rail, etc;
  - multi-modal projects;
  - transit oriented developments;
  - mixed commercial/residential property developments; and
  - marine/boat harbour development assessments.
- Awareness of project risk analysis, both qualitative and quantitative assessments;
- Ability to undertake value for money and affordability assessments involving variants of private sector involvement models and public sector comparator assessments; and
- Awareness of a range of assessment guidelines, such as the Queensland Government Project Assurance and Value for Money frameworks, and Infrastructure Australia and National Public Private Partnership (PPP) guidelines.

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FC1</td>
<td>Applied financial analysis methods, including discounted cash flow techniques, with an emphasis on whole-of-life costs assessments. Evaluations are to be conducted in accordance with Australian and Queensland Government reporting requirements.</td>
</tr>
<tr>
<td>FC2</td>
<td>As for FC1 plus: Applied financial analysis for larger scale transport related infrastructure project assessments. Analysis is more complex, with broader emphasis on commercial aspects of the project. Analysis should consider market conditions, risk allocation and procurement related issues that may impact on the project (i.e., funding, delivery and timing). Projects in this category are often of sub-regional, regional and/or national significance in terms of impacts and scale of investment.</td>
</tr>
<tr>
<td>FC3</td>
<td>As for FC2 plus: Applied financial analysis on complex transport related infrastructure projects. The assessment is more comprehensive with an emphasis on commercial and risk aspects of mixed commercial/residential property developments, transit oriented developments and marine/boat harbour assessments, along with road and public transport projects, to inform government investment decision-makers.</td>
</tr>
</tbody>
</table>

Refer to Section 2.8 for commentary on how applicants may address FC criteria.

### 2.6.4 Geotechnical Engineering (GE)

The consultant must have a minimum of one registered professional engineer (RPEQ) on staff who can demonstrate expertise in the field of geotechnical engineering. This expertise in geotechnical engineering should have been associated with infrastructure development projects for road authorities. For prequalification for the GE2 and GE3 levels, the consultant must have a minimum of one geotechnical engineer/engineering geologist who has RTA NSW (Roads and Traffic Authority of New South Wales) accreditation for slope risk assessments.

It is expected that consultants are familiar with a range of methods and guidelines to inform the analysis, whilst being able to draw on internal specialist expertise and be ready to engage relevant analytical methods and advise accordingly.

Financial and Commercial assessments will require involvement from Project Evaluation of Portfolio Planning and Investment Branch to ensure Australian and Queensland Government reporting requirements and priority investments are met.
Additionally, the consultant must have an experienced engineering geologist with demonstrable experience for the tasks listed under GE2 and GE3.

The prequalification levels are described below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE1</td>
<td>Simple foundation (footing and driven pile) analysis including bearing capacity calculation and settlement prediction.</td>
</tr>
<tr>
<td></td>
<td>Soil cut slope design and stability analysis (height ≤ 5m), with static and/or perched water table, using both circular and non-circular slip surfaces.</td>
</tr>
<tr>
<td></td>
<td>Embankment (unreinforced) (height ≤ 10m) design, stability and settlement analysis for embankments founded on cohesive (undrained strength &gt; 75 kPa), that is, stiff clays) and non-cohesive materials.</td>
</tr>
<tr>
<td></td>
<td>Retaining wall design up to 5m height</td>
</tr>
<tr>
<td></td>
<td>Instrumentation monitoring of ground water table.</td>
</tr>
<tr>
<td></td>
<td>Planning of geotechnical site investigation for minor infrastructure projects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE2</th>
<th>As for GE1 plus:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Geotechnical design of all foundation types, and rock sockets for less than 5MN axial load including uplift.</td>
</tr>
<tr>
<td></td>
<td>Soil cut slope design and stability analysis (height ≤ 10m)</td>
</tr>
<tr>
<td></td>
<td>Rock cut slope design and stability analysis (height ≤ 10m).</td>
</tr>
<tr>
<td></td>
<td>Reinforced slope design</td>
</tr>
<tr>
<td></td>
<td>Embankment design, stability and settlement analysis for all embankment heights on all soil types, including soft soils (&lt;10m thick) and design of ground improvements.</td>
</tr>
<tr>
<td></td>
<td>Design / Remediation of embankment / culvert on expansive clays</td>
</tr>
<tr>
<td></td>
<td>Retaining wall design up to 10m</td>
</tr>
<tr>
<td></td>
<td>Reinforced soil structure analysis and design up to 10m.</td>
</tr>
<tr>
<td></td>
<td>Planning, monitoring and interpretation of geotechnical instrumentation for embankments, cuts and structures.</td>
</tr>
<tr>
<td></td>
<td>Planning of geotechnical site investigation for major infrastructure projects.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE3</th>
<th>As for GE2 plus:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rock sockets for all loads</td>
</tr>
<tr>
<td></td>
<td>Deep excavation design and analysis in both soil and rock, including bored tunnels.</td>
</tr>
<tr>
<td></td>
<td>Design of ground improvements for embankment/structure on thick (&gt;10m) soft/loose layers.</td>
</tr>
<tr>
<td></td>
<td>Soil cut slope design and stability analysis</td>
</tr>
</tbody>
</table>

Refer to Section 2.8 for commentary on how applicants may address GE criteria.

### 2.6.5 Highway Engineering (HE). Section 2.8 commentary under development

Highway engineering is a skill required to perform planning and/or design activities in accordance with the department's planning and design manuals. Engineering consultants making application to perform work for the department should be aware that experience in subdivisional planning and design activities will not necessarily demonstrate an ability to effectively undertake the department’s planning and design activities for road infrastructure projects.

The consultant must have a minimum of one registered professional engineer (RPEQ) on staff who can demonstrate expertise in the field of highway engineering.

The prequalification levels are described below:

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE1</td>
<td>Please note - a prerequisite for HE1 is Hydraulic Design Level 1.</td>
</tr>
<tr>
<td></td>
<td>Highway engineering including the full consideration of environmental and cultural heritage issues, involving the design for upgrading of existing roads with pavement strengthening, resheeting or widening requiring type - sections and nominal details. (All with basic control line setting out, but no grading, for example, rural local roads</td>
</tr>
</tbody>
</table>
### Consultants for Engineering Projects

#### Level Class of Work Description

- and asphalt overlays of generally urban areas).
- **Highway engineering including the full consideration of environmental and cultural heritage issues, involving the widening and overlay of existing rural roads.**
- **Highway engineering including the full consideration of environmental and cultural heritage issues, involving the design of rural roads requiring earthworks balancing, flood-ways, cross sections, drainage, turnouts and minor intersections. (All with calculated control line setting out and grading).**

#### Level Class of Work Description

**2.6.6 Hydraulic Design (HD)**

The consultant must have a minimum of one registered professional engineer (RPEQ) on staff who can demonstrate expertise in the field of hydraulic design.

The prequalification levels are described below:

**NOTE:** Applications for HD2 and HD3 prequalifications must include sufficient description of experience and nomination of the software used, in support of these classifications.

#### Level Class of Work Description

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HE2</td>
<td>As for HE1 plus:</td>
</tr>
<tr>
<td></td>
<td>- Highway engineering including the full consideration of environmental and cultural heritage issues, involving the assessment of suitable road corridor / alignment options and preparation of detailed planning reports and layouts for a future road upgrading or a new road, including the coordination of alignments and terrain fitting as relevant.</td>
</tr>
<tr>
<td></td>
<td>- Highway engineering including the full consideration of environmental and cultural heritage issues, involving the design of rural roads with multiple complexities comprising earthworks balancing, benching for sight lines, flood-ways, cross sections, drainage, detailed intersections and/or grade separation together with associated roadway lighting and traffic signals.</td>
</tr>
<tr>
<td></td>
<td>- Highway engineering including the full consideration of environmental and cultural heritage issues, involving the widening and overlay of existing urban roads.</td>
</tr>
<tr>
<td></td>
<td>- Highway engineering including the full consideration of environmental and cultural heritage issues, involving the design of urban roads without complicated design considerations. (All with detailed control and grade line setting out, without major intersections but with associated roadway street lighting and traffic signals).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD1</td>
<td>- Rainfall runoff calculations (hydrology) for small catchments (area less than 200km²).</td>
</tr>
<tr>
<td></td>
<td>- Hydraulics for a single stream and overflows to assess culvert, bridge and floodway requirements and other drainage structures for roads.</td>
</tr>
<tr>
<td></td>
<td>- Bridge Afflux Calculations. Steady flow backwater modelling, for example, using HEC-RAS software.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HD2</td>
<td>As for HD1 plus:</td>
</tr>
<tr>
<td></td>
<td>- Hydrology for large catchments (area greater than 200km²).</td>
</tr>
<tr>
<td></td>
<td>- Mathematical modelling of unsteady flow in open channel systems including components such as natural streams, flood plains, roads and bridges, man made channels, reservoirs, dams, weirs and tidal flows.</td>
</tr>
<tr>
<td></td>
<td>- Road pavement runoff and aquaplaning.</td>
</tr>
<tr>
<td></td>
<td>- Scour calculations.</td>
</tr>
<tr>
<td></td>
<td>- Time of submergence calculations.</td>
</tr>
<tr>
<td></td>
<td>- Frequency analysis of flood data records.</td>
</tr>
</tbody>
</table>
### 2.6.7 Traffic Engineering (TE)

The consultant must have a minimum of one registered professional engineer (RPEQ) on staff who can demonstrate expertise in the field of traffic engineering. The following is a list of subjects in which an experienced traffic engineer would be knowledgeable:

- Traffic flow theory (road user and vehicle characteristics and roadway and intersection capacity)
- Intersection control (non-signalised and signalised)
- Road safety investigation and analysis
- Traffic impact analysis
- Isolated traffic signal analysis and operation
- Traffic signal network analysis and operation

In all categories, it is expected that the consultant is be able to analyse data and draw conclusions from that analysis.

### 2.6.8 Transport Planning (TP)

**Section 2.8 commentary under development**

In this category, the consultant is assessed on its ability to analyse data and draw conclusions from that analysis. The work required of the consultant may need them to arrange for the collection of data and the design of data collection programs. If someone else carries out the basic traffic data collection, their data collection capability is assessed under a different prequalification system.

The prequalification levels are described below:
<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>single routes or simple networks, bikeway and pedestrian facilities planning and High Occupancy Vehicle facility planning.</td>
</tr>
<tr>
<td>TP3</td>
<td>As for TP2 plus: &lt;ul&gt;&lt;li&gt;Regional level multi-modal transport planning using complex transport planning models, sub-regional transport planning studies requiring multi-disciplinary approaches, impact assessment and evaluation of complex transport corridors, intermodal freight terminals and multi-modal transport planning.&lt;/li&gt;&lt;/ul&gt;</td>
</tr>
</tbody>
</table>

### 2.7 Projects with Multiple Disciplines

Where a project involves multiple disciplines, all relevant prequalification categories and levels will be specified. If a consultant is not prequalified at the nominated level for one of the components, advice of a suitably prequalified sub-consultant is required with the offer for consultant services.
### 2.8 Addressing Prequalification Criteria

#### 2.8.1 Bridge Design

Consultants shall provide documentation to demonstrate that they have systems in place to ensure that all structural designers within their organisation design to the same design criteria and technical guidelines. They shall demonstrate how this conformity to a consistent design methodology and design criteria is monitored, controlled and audited with their quality systems.

<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD1</td>
<td>Simple bridges where geometry is substantially predetermined.</td>
<td>• Demonstrated capability to use TMR “Design Criteria for Bridges and Other Structures”, AS5100 and TMR “Structures Drafting Manual”.&lt;br&gt;• Structural software to be used shall include grillage analysis package such as ACES and Spacegass, or equivalent.&lt;br&gt;• Demonstrated capability to use Geotechnical Reports and Bore Logs, and Hydraulics Reports in bridge design.&lt;br&gt;• TMR recommends attendance at TMR’s” Bridge Construction and Maintenance Course” by some of the Consultant’s design staff.</td>
</tr>
<tr>
<td></td>
<td>Noise barriers, light poles, minor sign supports that do not span over the carriageway, i.e. “off carriageway”.</td>
<td>• Demonstrated capability to design in accordance with the relevant TMR Standard Specifications and Technical Notes, AS5100 and Australian Standards.</td>
</tr>
<tr>
<td></td>
<td>Variable message (VMS) and other sign gantries that do not span over the carriageway, i.e. “off carriageway”, sign structures.</td>
<td>• Demonstrated capability to design to the section on gantries and sign structures in TMR’s “Design Criteria for Bridges and Other Structures”, AS5100 and Australian Standards including AASHTO structural fatigue design and WHS requirements.</td>
</tr>
<tr>
<td></td>
<td>Advertising sign structures that do not span over the carriageway i.e. “off carriageway”.</td>
<td>• Demonstrated capability to design in accordance with the section on gantries and sign structures in TMR’s “Design Criteria for Bridges and Other Structures”,&lt;br&gt;• AS5100 and Australian Standards including AASHTO structural fatigue design and WHS requirements.</td>
</tr>
<tr>
<td></td>
<td>Retaining walls and scour protection</td>
<td>• Capability to use TMR’s design guidelines for retaining structures in TMR’s “Design Criteria for Bridges and Other Structures”, AS5100 and Australian Standards. Understanding TMR’s guidelines and Standard Drawings for scour protection of bridges.&lt;br&gt;• Proven capability to utilise Hydraulics and Geotechnical Reports to estimate scour depths and to structurally design the bridge structure for scour effects and scour protection, including protection of bridge approaches.</td>
</tr>
<tr>
<td></td>
<td>Drainage structures</td>
<td>• Proven capability for structural analysis and design of culverts for multiple load cases in accordance with TMR’s Culvert Design guidelines and AS5100.</td>
</tr>
<tr>
<td>Level</td>
<td>Class of Work Description</td>
<td>Commentary</td>
</tr>
<tr>
<td>-------</td>
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<td>------------</td>
</tr>
<tr>
<td>BD2</td>
<td>As for BD1 plus:</td>
<td></td>
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<tr>
<td></td>
<td>- Significant urban bridges (excluding complex bridges), major rural bridges, Rail overpasses where geometric, geotechnical, or hydraulic complications may occur.</td>
<td>- Demonstrated application of TMR’s “Design Criteria for Bridges and Other Structures”, AS5100 and TMR “Structures Drafting Manual” to the design of significant urban bridges, major rural bridges, rail bridges, on previous TMR projects where geometric, geotechnical or hydraulic complications may occur.</td>
</tr>
<tr>
<td></td>
<td>- Gantry and sign structures that span over the carriageway.</td>
<td>- Demonstrated application of the section on gantries and sign structures in TMR’s “Design Criteria for Bridges and Other Structures”.</td>
</tr>
<tr>
<td></td>
<td>- Advertising sign structures that span over the carriageway, i.e. “on carriageway”.</td>
<td>- AS5100 and Australian Standards including AASHTO structural fatigue design and WHS requirements on previous TMR projects.</td>
</tr>
<tr>
<td>BD3</td>
<td>As for BD2 plus:</td>
<td></td>
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<tr>
<td></td>
<td>- Complex road and rail bridges and major urban bridges using non-standard structural members</td>
<td>- Demonstrated capability to design and draft complex bridges such as box girders and cable stayed bridges.</td>
</tr>
<tr>
<td></td>
<td>- Major projects that have a lot of road and/or rail bridges.</td>
<td>- Demonstrated capability to undertake in-house technical investigation to provide solutions to unusual design situations, unique to the project in hand on previous TMR projects.</td>
</tr>
<tr>
<td></td>
<td>- Additional qualification procedures may be used for particular structures.</td>
<td>- Demonstrated application and capability on previous TMR projects to design and draft every bridge in the project to TMR “Design Criteria for Bridges and Other Structures”, AS5100 and TMR “Structures Drafting Manual”.</td>
</tr>
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<td></td>
<td></td>
<td>- The design and details shall all be consistent and uniform across the project. Demonstrated capability to deliver the design documentation on time on previous TMR projects.</td>
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<td></td>
<td>- In-house engineers who have a proven track record in “hands on” technical investigation to solve complex structural design and analysis problems.</td>
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<td>- Demonstrated capability to achieve innovative and durable</td>
</tr>
</tbody>
</table>
Consultants must have at least one transport specialist / economist, who has a proven track record in economic evaluations of transport infrastructure.

Consultants with a specialisation in economic studies will have a strong track record of delivery in relevant subject areas. The following is a list of relevant subject areas in which the specialist would have expertise:

- Theoretical principles underpinning transport economic analyses and related sectoral work;
- Detailed understanding and application of available tools to undertake economic analysis for transport infrastructure projects, both at the project and program level;
- Ability to undertake cost-benefit analyses of transport infrastructure, in accordance with both Australian and Queensland Government reporting requirements;
- Understanding of techniques and principles underpinning state and regional economic modelling;
- Ability to undertake economic impact analysis methods, techniques and studies; and
- Ability to undertake economic and public policy analysis.

It will be expected that consultants will be familiar with a range of methods and guidelines to inform the analysis, whilst being able to draw on internal specialist expertise and be ready to engage relevant analytical methods and advise accordingly.

To meet Australian and Queensland Government reporting requirements and prioritise investments, economic studies and assessments will require involvement from Project Evaluation of Portfolio Planning and Investment Branch.

Key point of contact for Economic Studies within TMR is the Director (Project Evaluation) within the Portfolio Investment and Programming Branch.

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<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
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<tbody>
<tr>
<td>ES1</td>
<td>Applied project evaluation methods, using cost benefit analysis (including standard project evaluation methodology and techniques), local industry economic studies and local investment impact analysis. Economic assessments under this category may include road and bridge infrastructure projects in regional and rural areas.</td>
<td><strong>At least 1</strong> transport specialist / economist with a proven track record in cost benefit analysis / economic evaluation. Consultants should be able to produce evidence of <strong>applied</strong> analysis and/or research in relevant subject areas. Consultants should have solid evidence of having practiced cost benefit analysis, investment impact analysis of transport infrastructure.</td>
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<tr>
<td>Level</td>
<td>Class of Work Description</td>
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</table>
|       | Specific projects might include, but not limited to, a project cost-benefit analysis of a bypass, overtaking lanes and/or highway widening. | Consultants would be expected to develop economic analysis methodology, listing the below aspects:  
- economic modelling assumptions;  
- appropriate discount rates;  
- discounted cash flow analysis of road agency costs (i.e., capital and whole of life cost);  
- road user costs savings (e.g., travel time cost savings, vehicle operating costs savings, accident costs savings, externalities, etc);  
- a range of economic indicators (e.g., present value costs, present value benefits, net present value, internal rate of return and benefit-cost ratio),  
- any scenarios or sensitivity tests to be conducted (e.g., impacts to costs or benefit factors); and  
- Compile technical reports.  
All analysis and reports are to be undertaken with involvement from Project Evaluation of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements. |
| ES2   | As for ES1 plus:          | At least 2 transport specialists / economists with a proven track record in cost-benefit analysis and broader economic evaluation methods and techniques.  
Applied economic assessments may include a program-level evaluation, sub-regional industry study, sub-regional investment impact analysis and/or sub-regional investment strategy analysis.  
Economic assessments under this category may include, but not limited to, road and bridge infrastructure assets in urban, regional and rural areas.  
Specific projects might include a costs-benefit analysis of upgrades to national highways, major bypasses, major intersections and interchanges, flooding and/or capacity upgrade projects.  
Economic assessments at a project level may also need to consider public transport projects with related issues resource correction and various regional planning issues.  
Consultants should have solid evidence of having practiced cost-benefit analysis with particular reference to project and program level evaluations and regional investment impact analyses.  
In addition to ES1, consultants would be expected to demonstrate recent experience in undertaking detailed economic assessments of a range of transport infrastructure projects to inform investment prioritisation at the state and/or national level.  
All analysis and reports are to be undertaken with involvement from Project Evaluation of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements. |
| ES3   | As for ES2 plus:          | At least 3 transport specialists / economists with a proven track record in cost benefit analysis / economic evaluation.  
Applied analysis involving regional |
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<tr>
<td></td>
<td>and state-wide economic impact analyses to inform project proposals and development of state-wide road investment strategies. Emphasis is placed on proven economic modelling techniques and understanding of linkages between investment in transport infrastructure and impacts on the broader economy. Analysis at the project or program level will be of state-wide and national significance, relating to contribution to economic output and/or improvements to productivity. Major infrastructure projects that encompass large scale infrastructure and considers impacts on wider economy and land-use developments.</td>
<td>Consultants should have solid evidence of peer reviewed work that has contributed to development of policy or investment submissions to either: national investment bodies, transport forums; federal commissions of inquiry; infrastructure/tax/pricing/regulatory reviews (for example, ACCC/ Productivity Commission inquiries) in relevant subject areas. In addition to ES2, consultants should be able to demonstrate recent experience in undertaking detailed economic analysis in the context of national policy, reform or industry studies to inform a range of transport infrastructure outcomes, with a particular emphasis on sectoral analysis. All analysis and reports are to be undertaken with involvement from Project Evaluation of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements.</td>
</tr>
</tbody>
</table>

### 2.8.3 Financial/Commercial

Consultants must have at least one financial and/or commercial specialist, who has a proven track record in undertaking financial analysis of transport infrastructure.

The following is a list of relevant subject areas in which a financial and/or commercial specialist would have recent knowledge and experience:

- Theoretical principles underpinning financial analyses and market conditions;
- Awareness of available tools to undertake an analysis of capital, operations and maintenance costs associated with transport infrastructure;
- Ability to develop and assess a range of funding and staging scenarios;
- Awareness of commercial aspects of a range of infrastructure assets, including but not limited to the following:
  - road and bridge projects;
  - public transport projects, including bus, heavy rail, light rail, etc;
  - multi-modal projects;
  - transit oriented developments;
  - mixed commercial/residential property developments; and
  - marine/boat harbour development assessments.
- Awareness of project risk analysis, both qualitative and quantitative assessments;
- Ability to undertake value for money and affordability assessments involving variants of private sector involvement models and public sector comparator assessments; and
- Awareness of a range of assessment guidelines, such as the Queensland Government Project Assurance and Value for Money frameworks, and Infrastructure Australia and National Public Private Partnership (PPP) guidelines.
It will be expected that consultants will be familiar with a range of methods and guidelines to inform the analysis, whilst being able to draw on internal specialist expertise and be ready to engage relevant analytical methods and advise accordingly.

To meet Australian and Queensland Government reporting requirements and prioritise investments, Financial and Commercial assessments will require involvement from Project Evaluation of Portfolio Investment and Programming Branch.

Key point of contact for Financial/Commercial assessments within TMR is the Director (Project Evaluation) within the Portfolio Investment and Programming Branch.

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<tr>
<td>FC1</td>
<td>Applied financial analysis methods, including discounted cash flow techniques, with an emphasis on whole-of-life costs assessments. Evaluations are to be conducted in accordance with Australian and Queensland Government reporting requirements.</td>
<td>At least 1 financial modelling specialist / analyst with recent experience in discounted cash flow analysis and project evaluation methodologies. Consultants should be able to produce evidence of applied analysis in relevant subject areas. Consultants should have solid evidence of having applied financial analysis skills and experience that supports investment decision-making. Consultants should be able to develop a financial analysis methodology, listing the below aspects:  - financial modelling assumptions;  - appropriate discount rates;  - discounted cash flow analysis of capital and whole of life costs;  - a range of financial indicators (e.g., Net Present Costs, Net Present Value, Internal Rate of Return),  - any scenarios or sensitivity tests to be conducted (e.g., early works packaging, staging analysis, varying escalation or contingency factors); and  - compile technical reports. All analysis and reports are to be undertaken with involvement from Project Evaluation of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements.</td>
</tr>
<tr>
<td>FC2</td>
<td>As for FC1 plus: Applied financial analysis for larger scale transport related infrastructure project assessments. Analysis is more complex, with broader emphasis on commercial aspects of the project. Analysis should consider market conditions, risk allocation and procurement related issues that may impact</td>
<td>At least 2 financial modelling specialists / analysts with a proven track record in discounted cash flow analysis and project evaluation methodologies. At least 1 risk and/or commercial specialist/analyst with proven track record in this field. Consultants should be able to produce evidence of peer reviewed work in relevant subject areas. Consultants should have solid evidence of having applied financial and commercial analysis skills and experience that supports investment decision-making. In addition to FC1, consultants should also be able to demonstrate recent experience in undertaking detailed risk and commercial assessments for a range of transport infrastructure projects, to inform Value for Money and Affordability assessments. As part of these assessments, consultants should have recent experience in undertaking detailed risk and commercial assessments for a range of transport infrastructure projects, to inform Value for Money and Affordability assessments.</td>
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### Consultants for Engineering Projects

#### Level Class of Work Description

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<th>Class of Work Description</th>
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<td></td>
<td>on the project (i.e., funding, delivery and timing). Projects in this category are often of sub-regional, regional and/or national significance in terms of impacts and scale of investment.</td>
<td>experience in advising on market conditions (e.g., cost of debt/equity, competition, cost of materials, inflationary effects, risk allocation and pricing, etc) and procurement and delivery strategies that may impact on the project timing, cash-flows and financing mechanisms. Advisors may also be sought on procurement and delivery strategies involving partnership arrangements with the private sector, including methods to explore value uplift and innovation opportunities, appropriate risk transfer strategies, and their impact on project timing, cash flows, financing and innovation. All analysis and reports are to be undertaken with involvement from Project Evaluation of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements.</td>
</tr>
<tr>
<td>FC3</td>
<td>As for FC2 plus: Applied financial analysis on complex transport related infrastructure projects. The assessment is more comprehensive with an emphasis on commercial and risk aspects of mixed commercial/residential property developments, transit oriented developments and marine/boat harbour assessments, along with road and public transport projects, to inform government investment decision-makers.</td>
<td>At least 2 financial modelling specialists / analysts with a proven track record in discounted cash flow analysis and project evaluation methodologies within the relevant subject area. At least 1 risk and/or commercial specialist/analyst with proven track record in the fields of transport, property and marine related infrastructure assessments for both private and publicly funded projects. Consultants should be able to produce evidence of peer reviewed work in relevant subject areas. Consultants should have solid evidence of having applied financial and commercial analysis skills and experience that supports investment decision-making. In addition to FC2, consultants should be able to demonstrate recent experience in undertaking detailed risk and commercial assessments for a range of transport infrastructure projects, with a particular emphasis on value capture issues for residential and commercial land-uses and/or marine/boat harbour assessments, in addition to road and public transport projects assessments. All analysis and reports are to be undertaken with involvement from Project Evaluation and Strategic Property Management areas of Portfolio Planning and Investment Branch, to ensure adherence to relevant Australian and Queensland reporting requirements.</td>
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#### 2.8.4 Geotechnical Engineering

TMR expects that the consultant should have demonstrated experience in the following.

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<tr>
<th>Level</th>
<th>Class of Work Description</th>
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<tbody>
<tr>
<td>GE1</td>
<td>• Simple foundation (footing and driven pile) analysis including bearing capacity calculation and settlement prediction. • Soil cut slope design and stability</td>
<td>• Designing simple foundation for small bridge, culvert, noise barrier wall, sign post etc by simple hand calculations. • Analysing cut slope using limit equilibrium slope.</td>
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<tr>
<td>Level</td>
<td>Class of Work Description</td>
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<td>analysis (height ≤ 5m), with static and/or perched water table, using both circular and non-circular slip surfaces.</td>
<td>stability software such as SLOPE/W.</td>
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<tr>
<td>• Embankment (unreinforced) (height ≤ 10m) design, stability and settlement analysis for embankments founded on cohesive (undrained strength &gt;75kPa, that is, stiff clays) and non-cohesive materials.</td>
<td>Stability and settlement analysis of embankment by simple hand calculations and/or using charts.</td>
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<tr>
<td>• Retaining wall design up to 5m height</td>
<td>Designing gravity and cantilever types retaining walls.</td>
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<tr>
<td>• Instrumentation monitoring of ground water table.</td>
<td>Ability to monitor and interpret ground water records from different types of piezometers.</td>
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<tr>
<td>• Planning of geotechnical site investigation for minor infrastructure projects.</td>
<td>Planning and managing different types of geotechnical investigation such as Borehole, Test pit and Penetrometer tests for minor infrastructure projects.</td>
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<td></td>
<td>Ability to assign appropriate laboratory tests from the field investigation.</td>
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<tr>
<td>GE2</td>
<td>As for GE1 plus:</td>
<td>Demonstrated experience in the following:</td>
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<td></td>
<td>• Geotechnical design of all foundation types, and rock sockets for less than 5MN axial load including uplift.</td>
<td>• Designing shallow footing and different types of deep foundations (such as driven, bored, tube and rock socket) for major infrastructure projects.</td>
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<td></td>
<td>• Soil cut slope design and stability analysis (height ≤ 10m)</td>
<td>• Analysing cut slope using limit equilibrium slope stability software such as SLOPE/W for complex geology.</td>
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<tr>
<td></td>
<td>• Rock cut slope design and stability analysis (height ≤ 10m).</td>
<td>• Analysing static and kinematic slope stability for complex geology.</td>
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<td></td>
<td>• Reinforced slope design.</td>
<td>• Designing insitu slope stabilisation (eg. soil nails or rock dowels) and reinforced embankment as per design standard such as BS8006.</td>
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<tr>
<td></td>
<td>• Embankment design, stability and settlement analysis for all embankment heights on all soil types, including soft soils (&lt;10m thick) and design of ground improvements.</td>
<td>• Stability analysis based on limit equilibrium methods.</td>
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<td></td>
<td>• Settlement analysis based on Terzaghi one-dimensional consolidation theory.</td>
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<td></td>
<td>• Estimating secondary consolidation (creep) settlement.</td>
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<td>• Designing varies type of ground improvement techniques.</td>
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<td></td>
<td>• Designing sidelong embankments.</td>
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<tr>
<td>Level</td>
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<td><strong>• Design / Remediation of embankment / culvert on expansive clays.</strong></td>
<td><strong>• Designing of embankment, pavement and culvert on expansive clays.</strong>&lt;br&gt;<strong>• Designing of remedial treatment for distress structures such as embankment, pavement and culvert on expansive clays.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>• Retaining wall design up to 10m</strong></td>
<td><strong>• Designing different types of retaining walls such as Gabion, Boulder, RC and Soil nail walls.</strong></td>
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<tr>
<td></td>
<td><strong>• Reinforced soil structure analysis and design up to 10m.</strong></td>
<td><strong>• Internal and external design of RSS wall.</strong></td>
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<tr>
<td></td>
<td><strong>• Planning, monitoring and interpretation of geotechnical instrumentation for embankments, cuts and structures.</strong></td>
<td><strong>• Planning, monitoring and interpretation of geotechnical instrumentation such as settlement marker, settlement plate, inclinometer, extensometer and different types of piezometers.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>• Planning of geotechnical site investigation for major infrastructure projects.</strong></td>
<td><strong>• Planning and managing different types of geotechnical investigation such as Borehole, Test pit and Penetrometer tests for major infrastructure projects including investigation for major bridge foundations, retaining walls, culverts, cuts and embankments.</strong>&lt;br&gt;<strong>• Investigating in soft clay, reactive clay, different types of soils and rocks.</strong>&lt;br&gt;<strong>• Ability to assign appropriate laboratory testing from the field investigation.</strong></td>
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<tr>
<td><strong>GE3</strong></td>
<td><strong>As for GE2 plus:</strong></td>
<td><strong>Demonstrated extensive experience in the following:</strong></td>
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<tr>
<td></td>
<td><strong>• Rock sockets for all loads</strong></td>
<td><strong>• Designing rock sockets, preferably the design method due to Pells (1999): &quot;State of practice for the design of socketed piles in rock&quot;.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>• Deep excavation design and analysis in both soil and rock, including bored tunnels.</strong></td>
<td><strong>• Designing cut and cover tunnels and bored tunnels in both soil and rock including soft clay.</strong></td>
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<td></td>
<td><strong>• Design of ground improvements for embankment/structure on thick (&gt;10m) soft/loose layers.</strong></td>
<td><strong>• Designing different types of ground improvement techniques such as stage construction, counter berms, surcharge, wick drain, dynamic compaction and pile raft for thick soft or loose layers.</strong></td>
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<td></td>
<td><strong>• Soil cut slope design and stability analysis (any height).</strong></td>
<td><strong>• Analysing cut slope using limit equilibrium slope stability software such as SLOPE/W for cut height greater than 10m.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>• Rock cut slope design and stability analysis (any height).</strong></td>
<td><strong>• Analysing static and kinematic slope stability for cut height greater than 10m.</strong></td>
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<td><strong>• Design of remedial works for soil and rock natural slope failures</strong></td>
<td><strong>• Designing different types of remedial works such as re-profiling (with earthfill/rockfill), and</strong></td>
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<td>Level</td>
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<tr>
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<td>(landslides).</td>
<td>retaining wall systems.</td>
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<tr>
<td></td>
<td>• Design of remedial works on failed cut slopes and embankments.</td>
<td>• Designing different types of remedial works such as re-shaping, re-profiling (with earthfill/rockfill), netting and/or retaining wall systems.</td>
</tr>
<tr>
<td></td>
<td>• Geotechnical design of remedial works on movements of structures (including embankments).</td>
<td>• Designing of remedial treatment for distress structures such as embankment, pavement, bridge and culvert on problematic soil/rock or unforeseen ground conditions.</td>
</tr>
<tr>
<td></td>
<td>• Retaining wall and reinforced soil structures (any height).</td>
<td>• Designing different types of retaining walls such as Gabion, RC, RSS and Soil nail walls.</td>
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<td></td>
<td>• Embedded retaining wall design.</td>
<td>• Designing embedded retaining walls preferably as per BS8002.</td>
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In addition to the proficiencies to be demonstrated as listed above, expertise in at least one of the following is required:

- Mine subsidence analysis and design;
- Pipe jacking analysis and design.

Applications should also include project examples for each class of works with company and personnel contributions. Details to be included, but not limited to, project name, location, cost, duration, description of structure, geotechnical conditions (soil type, thickness etc), other engineering issues, design details, construction issues and mitigation measures implemented.

### 2.8.5 Hydraulic Design

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<th>Level</th>
<th>Class of Work Description</th>
<th>Commentary</th>
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<tr>
<td>HD1</td>
<td>• Rainfall runoff calculations (hydrology) for small catchments (area less than 200km²).</td>
<td>• Understanding of the application of appropriate procedures in the TMR Road Drainage Manual and Australian Rainfall and Runoff.</td>
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<td></td>
<td>• Hydraulics for a single stream and overflows to assess culvert, bridge and floodway requirements and other drainage structures for roads.</td>
<td>• Understand the principles of calculating design floods for small catchments throughout Queensland and how to apply this to calculating flows through bridges, culverts and other road drainage infrastructure.</td>
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<tr>
<td></td>
<td>• Bridge Afflux Calculations. Steady flow backwater modelling, for example, using HEC-RAS software.</td>
<td>• Demonstrated capability to apply appropriate hydraulic design software, including rainfall – runoff models, regional flood frequency and HEC-RAS.</td>
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As for HD1 plus:

- Hydrology for large catchments (area greater than 200km²).
- Demonstrated capability to analyse larger catchments than apply for HD1.
- Demonstrated skills in application of unsteady hydraulic analysis to...
**Consultants for Engineering Projects**

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<tr>
<td>HD2</td>
<td>Mathematical modelling of unsteady flow in open channel systems including components such as natural streams, flood plains, roads and bridges, man made channels, reservoirs, dams, weirs and tidal flows. Road pavement runoff and aquaplaning. Scour calculations. Time of submergence calculations. Frequency analysis of flood data records.</td>
<td>tidal flows and applications involving floodplain storage. Demonstrated skills in the application of flood frequency analysis for both at-site and regional procedures. Understand the application of the scour routines in HEC-RAS and the TMR Bridge Scour Manual. Ability to prepare hydraulic designs for floodways and design scour protection measures for floodway design. Understand and apply hydrologic analysis to joint probability assessments for tidal boundaries and tributary flows. Ability to apply time of submergence calculations for road design projects. Ability to assess road surfaces for aquaplaning issues.</td>
</tr>
<tr>
<td>HD3</td>
<td>Special investigations, for example, physical hydraulic modelling, fully two dimensional modelling.</td>
<td>Demonstrated capability in the application of advanced 2D hydraulic modelling to road and bridge projects. Demonstrated experience in the analysis of road embankments across floodplains and in areas of complex flow distribution. Understand the principles of physical hydraulic modelling. Ability to analyse hydraulic issues for road links as well as individual crossings. Demonstrated skills in assisting in consultation with stakeholders and the community in matters related to flood and drainage issues. Demonstrated ability to prepare review reports and act as an expert witness in complex matters involving hydraulic issues for road infrastructure projects.</td>
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</table>

Consultants need to demonstrate relevant corporate skills and experience as well as show the CVs for staff with relevant skills and experience. The experience must be appropriate to drainage for road infrastructure, rather than general skills in drainage design, though these more general skills will be useful as secondary skills. The consultant needs to demonstrate that they have licences for software suitable for hydraulic design of road infrastructure.

### 2.8.6 Traffic Engineering

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<tr>
<td>TE1</td>
<td>Analysis of traffic impacts of minor developments (for example, a single small establishment), covering trip generation calculations, manual distribution, assignment and mode split, design requirements for parking, transit, pedestrians and cycling. Intersection analysis using computer-based systems (SIDRA is TMR’s preferred application), deriving all but the most basic signal phasing, establishment of intersection.</td>
<td>TMR expects that Traffic Impact Assessments will be undertaken using the tools outlined here, and that the consultant will have experience with simple calculations for trip generation, manual distribution, assignment and mode split; simple crash investigation; size and design requirements for parking, transit, and active transport needs (pedestrians, cycling). TMR is looking for the appropriate use of intersection analysis tools, primarily SIDRA. While spreadsheet tools based on either Austroads’ Guide to Traffic Management (GTM) or TRB’s Highway Capacity Manual (HCM) are a feasible means with which to undertake the analysis, evidence of competency will</td>
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*September 2013*
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<th>Commentary</th>
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<td></td>
<td>and network design life and consideration of ‘back of queue’ impacts on design.</td>
<td>need to be supported with substantial worked examples.</td>
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</tbody>
</table>
|       | • Basic intersection design encompassing the location of stop lines, posts, and lanterns. | The intersection design elements that TMR is looking for encompasses locating stop lines and posts/lanterns, and basic signal phasing. The key reference here is the GTM along with TMR’s Road Planning and Design Manual (RPDM).
|       | • Report and make recommendations following comparison of options. | TMR points out that electrical cabling design and its associated documentation falls within a different area of engineering and should be undertaken by suitably qualified and experienced individuals. |
|       | • Design of Traffic control device (signs and line marking) layouts, for example Traffic Management Plans. | TMR is looking for consultants with sound knowledge of the application of traffic control devices, in accordance with GTM/RPDM, Austroads’ Guide to Road Design (GRD), and the Manual of Uniform Traffic Control Devices (MUTCD).
|       | • Road safety investigation and analysis. | TMR is looking for familiarity with, and application of, Austroads’ Guide to Road Safety, Part 8 (Treatment of Crash Locations). Such analysis may involve accessing data from TMR’s WebCrash application and developing/recommending treatments to improve safety. |
| TE2   | • As for TE1 plus: | As above in TE1, with an increased use of outputs from transport planning tool (e.g. EMME) to assess traffic impacts and design. |
|       | • Analysis of traffic impacts of major developments (for example, major shopping centres). | Note that, depending on its scope, an assessment may need to comply with TMR’s “Guidelines for Assessment of Road Impacts for Development”.
<p>|       | | TMR is looking for the ability to undertake an analysis of small networks where queues spillback from one intersection to another using SIDRA (manually adjusting for queue interaction) or TRANSYT-7F. |
|       | | TMR is looking for experience in assessing the interaction and implications of different types of traffic control; the impacts of lane balancing; and the integration with urban design, public transport stations/stops and active transport facilities along the length of the road (not just at intersections). |
|       | | TMR will accept broader application of traffic engineering principles as a demonstration of meeting this requirement. For example, knowledge and application of on-road cycling facilities and on-road public transport priority; evaluation of performance based on persons rather than vehicles and implementation of treatments reflecting the findings. |</p>
<table>
<thead>
<tr>
<th>Level</th>
<th>Class of Work Description</th>
<th>Commentary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Basic benefit cost analysis of small TE project.</td>
<td>Ability to estimate “conceptual design” project cost and derive the $ benefits of the project through traffic analysis tools.</td>
</tr>
</tbody>
</table>

**TE3**

<table>
<thead>
<tr>
<th></th>
<th>• As for TE2 plus:</th>
<th>Where this class of work includes the development of new STREAMS time of day plans, the consultant will need to demonstrate some familiarity with STREAMS. This would include getting flow and cycle time data from STREAMS and making sure the output is in the correct format to go back into STREAMS. TMR will look for evidence that its procedures and guidelines for this analysis have been followed.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Traffic signal network analysis and optimisation of traffic signal timings using TRANSYT or TRANSYT-7F (TRANSYT-7F is TMR’s preferred application).</td>
<td>TMR is looking for experience in the use and application of microscopic and mesoscopic simulation tools (such as SATURN), and the development/adjustment of O/D matrix data. AIMSUN is TMR’s preferred micro-simulation tool. Note that TMR is currently considering mandating AIMSUN for micro-simulation.</td>
</tr>
<tr>
<td></td>
<td>• Simulation of small to medium sized traffic networks using computer based systems (for example AIMSUN, Paramics, VISSIM)</td>
<td>An assessment at this TE level will need to comply with TMR’s “Guidelines for Assessment of Road Impacts for Development”.</td>
</tr>
<tr>
<td></td>
<td>• Impact analysis for developments having regional impact.</td>
<td>TMR is looking for the ability to consider multiple factors – over-saturated links, significant pedestrian activity, active transport, passenger transport, where merging and weaving behaviours become an important factor, and bottleneck analysis.</td>
</tr>
<tr>
<td></td>
<td>• Major traffic engineering projects.</td>
<td>TMR is looking for the ability to undertake weave and merge-diverge analysis as per Highway Capacity Manual (HCM 2010) or use of HCS.</td>
</tr>
<tr>
<td></td>
<td>• Complex traffic analysis.</td>
<td>Evidence provided to TMR can include ITS design and management.</td>
</tr>
<tr>
<td></td>
<td>• Major project evaluation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Complex system enhancements for traffic signal management.</td>
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Chapter 3

Preliminary Considerations
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<th>Authorised by</th>
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<td>1</td>
<td>Previous Issue</td>
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<td>D Wogan</td>
<td>February 2005</td>
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<tr>
<td>2</td>
<td>3.7.2.3</td>
<td>Allocation of Risk and Sole Invitee limit</td>
<td>R Guppy</td>
<td>Sept 2007</td>
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<tr>
<td>3</td>
<td>3.7.2.2</td>
<td>Public Liability Insurance – unlimited aggregate requirement removed.</td>
<td>M Swainston</td>
<td>May 2012</td>
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<td></td>
<td>Table 3.1, Clauses 3.3.1, 3.3.2, 3.3.3.</td>
<td>Increase to Sole Invitation threshold, from $200,000 to $250,000 for prequalified consultants.</td>
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<td>4</td>
<td>3.1.4</td>
<td>Updating of position title.</td>
<td>G Hobbs</td>
<td>September 2013</td>
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<tr>
<td></td>
<td>3.2.3.2</td>
<td>Updating of GST-free references in Financial Management Practice Manual.</td>
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<tr>
<td></td>
<td>3.7.1</td>
<td>Updating of quality system requirements for Economic Studies, Financial/Commercial categories.</td>
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Preliminary Considerations

3.1 General

3.1.1 Need for a Consultant

The need to engage a consultant on an engineering project must be demonstrated prior to commencing the process.

Consultants may be engaged where the consultant services are either to complete specific projects with definable deliverables in a relatively confined timeframe or to carry out selected parts of a project. These projects will normally be identified on the approved Queensland Transport and Roads Investment Program (QTRIP).

Consultants used in this process will generally be prequalified to the relevant project work categories and levels.

3.1.2 Tender and Contract Review

For the effective engagement of a consultant on an engineering project it is vital that the engagement process results in a clear and common understanding of requirements, including the commercial arrangements. The process requires the consultant to review the proposed engagement at both the tender and contract stages of the engagement to ensure the proposed terms and conditions are acceptable for the delivery of the specified requirements.

Reviews are conducted to ensure that:

- A clear understanding of Main Roads required outcomes from the project is gained;
- The requirements of the engagement are adequately defined and documented (in regard to both what is required and in what form and how it is to be delivered);
- The organisation making the offer or accepting the offer has the capability of performing to the contract; and
- Any differences in the contract from the tender are resolved.

Records of review are required to be filed on the project file.

A Tender and Contract Review Flowchart is shown in Figure 3.1.2 Tender and Contract Review.

3.1.3 Process Summary

Sufficient lead-time shall be allowed for a quality product to be delivered.

A suggested typical sequence for selection and use of consultants is as follows:

- Development of Brief or Functional Specification;
- Determine resourcing for the project; (demonstrate need for consultant);
- Set insurance requirements/parameters;
- Preparation of a Price Schedule based on Activity and/or by Discipline including Project Management Activities;
- Approval to invite Offers Hold Point;
- Inviting Offers (Using Rotational Method for Prequalified);
- Selection of Offer representing Best Value (quality/price/timeliness);
- At a preclose meeting ensure a clear understanding of expected outcomes with the invitees (this may require modification of the Brief/Functional Specification);
- Closing Date for Offers - commence assessment of Offers Hold Point;
- For Qualification Based selection (QBS), agree on price through negotiation with the preferred offeror (based on modified brief/functional specification, agreed Contract Amount [if relevant]) and ensure insurance policies are adequate.
Consultant's potential profitability vs commercial risk/cost of proposal acceptable?

Consultant allocated proposal budget and appoints Project Manager

Consultant establishes the Client requirements/outcomes

Consultant appoints projects proposal team to "win" the project and set up project

Are terms/conditions acceptable? (seek legal advice as necessary)

Is Brief adequate?

Resolve deficiencies with Main Roads Project Delegate

Consultant identifies internal and external organisation and technical interfaces and communication channels. Identifies quality requirements

Do we have capability and capacity?

Obtain commitment and accountability agreements with OTL. Consultant and ensure that they have effectively assessed:
- risk
- cost
- time
- quality
- procurement
- finance
- human resources
- communications

Prepare Offer

Submit Offer

Does client accept offer?

Consultant identifies and negotiates differences.

Consultant establishes the Client requirements/outcomes

Consultant appoints projects proposal team to "win" the project and set up project

Tender Review (Consultant's Action)

Can differences be negotiated?

Should a non-conforming proposal be made?

Negotiate Terms

Unsuccessful offer/tender feedback and review record (file in central register)

Consultants for Engineering Projects

Note: The Contract Review Procedure comprises this Flowchart and the associated Job Cards. The flowchart identifies the procedure process and the associated job cards identify the who and what aspects of the procedure.

Figure 3.1.2   Tender and Contract Review
- For Value Based selection (VBS), agree on scope of work through clarification of the recommended offer (based on modified brief/functional specification) and ensure insurance policies are adequate;
- Approval of Expenditure Hold Point;
- Purchase Approval;
- Finalise Contractual Arrangements (letter of acceptance); Hold Point;
- Perform/ manage the Contract.
- Initiate and continue Payment Process; and
- Complete Performance Reports (A & B).

NOTE: The "hold points", indicated above, show where each stage of the invitation process ends and departmental officers are to ensure that all procedures within a particular stage are complete before commencing the next stage.

The Process for Invitation and Assessment is summarised in Table 3.1.

For projects involving prequalified consultants, offer conditions are set out in the General Conditions of Offer - Consultants for Engineering Projects and Supplementary Conditions of Offer - Prequalified Consultants for Engineering Projects (refer also to Chapter 4).

Where the consultant services for engineering projects do not involve prequalified consultants the process for invitation and assessment follows the General Conditions of Offer - Consultants for Engineering Projects and project/region specific Supplementary Conditions of Offer (refer also to Chapter 5).

### 3.1.4 Documents Summary

The consultant system documents (see Chapter 10) reflect the invitation, offer and acceptance aspects of contract formation as well as the contractual procedures and forms.

Documents common to all consultants include the following:
- Invitation Form;
- General Conditions of Offer;
- Offer Form (Non-Price and Price);
- Consultant's Statutory Declaration Professional Indemnity Insurance Form;
- General Conditions of Contract;
- Documents specific to prequalified consultants (additional to the common documents) include the following:
  - Supplementary Conditions of Offer;
  - Supplementary Conditions of Contract;
  - Functional Specification (specific to the project - refer to Chapter 4, Clause 4.3.2);

Documents specific to contracts for other than prequalified consultants (additional to the common documents) must be prepared on a project-by-project basis. A Brief/Functional Specification dealing with the subject matter of the contract must be prepared.

Where Supplementary Conditions of Offer and/or Contract are required, these documents should generally follow those for prequalified consultants and should be developed in consultation with Manager (Contracts).

### 3.1.5 Public Consultation

The department is committed to effective consultation with employees, other levels of government and members of the public. Public and employee consultation is an essential part of departmental activities.

The Community Engagement Policy supported by standards and guidelines ("the Policy") have been developed jointly by Main Roads and Queensland Transport and promote an open and accountable process whereby individuals and groups can participate in decision-making processes and influence the outcomes of a policy or decision.

The Policy applies equally to construction and consultant work being carried out for the department.

Accordingly, any engineering project (using prequalified or other consultants) requiring public consultation needs this to be highlighted as a requirement in the invitation documents.

Consultants engaged to undertake public consultation should do so in line with the Policy.
### Table 3.1 Process Summary for Invitation and Assessment

<table>
<thead>
<tr>
<th>ESTIMATED FEE VALUE</th>
<th>PAYMENT &amp; PERFORMANCE REPORT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to $10,000 (when Engineering Prequalification Registers are used)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
<tr>
<td>From $10,000 to $25,000 (when using non-prequalified consultants)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
<tr>
<td>From $25,000 to $250,000 (when using non-prequalified consultants)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
<tr>
<td>Over $250,000 (When using non-prequalified consultants)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
<tr>
<td>Over $250,000 to $750,000 (When using prequalified consultants)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
<tr>
<td>Over $750,000 (When using prequalified consultants)</td>
<td>Letter of Acceptance from Consultant</td>
</tr>
</tbody>
</table>

### Obtain Approval to Proceed to Invite

- **Letter of Acceptance:**
  - Single officer may recommend up to $250,000
  - More than one officer is recommended over $250,000

### Process

- **Verification of Invitations and Offers:**
  - Written, excluding facsimile
  - E-mail offers cannot be accepted

- **Value Based Selection:**
  - Value Based Selection

### Selection

- **Single Officer:**
  - Single officer may recommend up to $250,000
  - More than one officer is recommended over $250,000

### Consultants for Engineering Projects

**LETTER OF ACCEPTANCE**

**SIGNING OFFICER**

Officer with relevant financial delegation to engage consultants (Principal Manager or Regional Director where Engineering Prequalification Registers are used).

**CONSULTANCY DOCUMENTATION**

- Approved requisition
- Summary of information supplied to consultant
- Purchase Order
- General Conditions of Supply
- Letter of Acceptance (Brief Invitation, Offer, General Conditions of Supply and Correspondence, Approved Requisition, Recommendation, Purchase Order, Letter of Acceptance where Engineering Prequalification Registers are utilised)

**MEET THE BIDDER**

- Value based selection
- Negotiated contract

**Prepare Brief and Estimate**
3.2 Fee Issues

3.2.1 General

When selecting the method of payment for consultant services, the following primary considerations will need to be taken into account by the relevant departmental officers:

- compliance with the intent of Government policy.
- general economic environment of the market place.
- degree of completeness of the brief / functional specification.
- ease of analysing offers and selecting a preferred/recommended offeror.
- availability of consultants with the necessary expertise.
- timeframe for completion of the work.
- nature of the work.

3.2.2 Fee Basis

The following fee bases can be utilised for payment of fees:

- Fixed Fee is the preferable basis for the payment of fees but needs a detailed functional specification / brief, which clearly defines the requirement and the work effort required.
- Time Rate should be used where the nature of the work cannot be precisely defined e.g. for aspects of preliminary design and for standing offer arrangements. The risk of time overruns must be managed.
- Percentage Fee is suitable for use where the planning / design processes are well understood or where there are unlikely to be wide variations in the solutions offered or where the consultants have proved to be reliable on similar projects.
- Cost + Fixed Fee is suitable for use where the outcome is not predictable, e.g. for research and development projects.

Officers considering the engagement of consultants on engineering projects should be aware of the department's and the consultant's requirements and obligations in respect of GST in contractual payments, details of which can be found in the department's Financial Management Practice Manual (FMPM) April 2012 Goods and Services Tax an as described generally in Clause 3.2.3 below.

Also, the hours component of a time rate fee is not to be considered as an open ended situation as a consultant is expected to deliver closely to the hours nominated in the Price schedule.

3.2.3 Goods and Services Tax

3.2.3.1 Policy

The department is subject to the collection and payment of the Goods and Services Tax (GST). Departmental Officers will accurately assess, in accordance with the legislation and departmental instructions, any liability the department may incur for GST.

GST is applicable on transactions of goods and services as defined which are received or supplied.

The department will aim to legitimately minimise its GST liability in accordance with the legislation.

GST must be allocated to the accounts so provided in the department's Chart of Accounts and in accordance with procedures.

3.2.3.2 Rationale

The department is required to abide by the legislation and remit to the Australian Taxation Office (ATO) the net amount of GST on goods and services supplied by the department, an
amount of 10% will be added to the sales order for the GST.

Likewise on goods and services received by the department, an amount of 10% will be added by the supplier to the invoice for the GST. This amount can generally be claimed from the ATO. Rather than make a payment and receive a payment from the ATO, the department can subtract the GST paid on an invoice received (input tax credit) from that on an invoice issued (taxable supply) and forward payment for the difference.

GST will apply to transactions with entities outside of the department (i.e. suppliers, local governments, other Queensland Government Departments). GST does not apply to transactions between internal areas of the department (i.e. items that are journaled between Divisions/Regions/Business Units or that pass through the department's Internal Trading accounts recorded through the Front End Entry Screen (FEES) system).

Some items obtained by the department may be of a type classified as GST free and other items will be classified as input taxed. Details of which goods and services are GST free and input taxed can be found in the department's Financial Management Practice Manual Policies 09.07A GST Free Items and 09.07B GST Input Taxed Items.

3.2.3.3 Applicability

Officers who are responsible for providing goods and services on behalf of the department are to ensure that the appropriate GST is applied and recorded in the Accounts.

All staff are to follow documented procedures in capturing and recording the department's GST liabilities and input tax credits.

3.2.3.4 References

Legislation


3.3 Invitation/Offer Issues (Prequalified Consultants)

3.3.1 Private Invitations

The use of prequalified consultants on engineering projects does not require public advertisement.

The selection of prequalified consultants to make an offer is to be made from either the regional prequalification register or the statewide prequalification register, as relevant. The number of available consultants to be selected to make an offer will generally be either one (sole invitee) or three (multiple invitees). Where RoadTek are to be included in the competitive process the number of invitees shall be increased to four.

Where multiple invitations are issued, a rotation system must be in place, see Clause 4.2.1.1 Work Categories and Levels.

The invitation and assessment processes should provide a fair opportunity to all consultants on the register to submit offers over time. This is not a strict mathematical process as there must be at least two proven performers invited. Also, the matching of consultants to specific job needs is essential.

Invitations should be made using standard documentation, Invitation for Offer (C7585) but may be made by facsimile for arrangements up to $250,000 (includes GST) for prequalified consultants.

3.3.2 Sole Invitations

For contracts where the estimated contract amount is not likely to exceed $250,000, one (1) consultant from the relevant category/level of the prequalification register shall be invited to submit an offer.

Where the vast majority of contracts are valued at less than $250,000, districts may use multiple invitations from time to time to test the market (say once per year).

Also, see Clause 4.2.1.6 Genuine Urgencies and Clause 4.2.1.7 Significant Project Information.
3.3.3 Multiple Invitations

For contracts where the estimated contract amount is likely to exceed $250,000, three (3) consultants from the relevant category and level of the prequalification register shall be invited to submit an offer.

Where a consultant has multiple offices, only one of those offices needs to be asked to indicate its availability for any specific project.

Consideration needs to be given to the value and complexity of each contract when selecting the consultants in the above steps.

Also, see Clause 4.1.2 Type of Offers for guidance to the selection of VBS or QBS method of invitation.

3.3.4 Multi-Stage Procurement

A multi-stage invitation process generally involves a Registration of Interest process followed by a Multiple Invitation process with a short list of applicants. Approval to proceed with a multi-stage invitation process is required from the relevant delegated officer. Each stage of a multi-stage invitation process is to be clearly indicated on the relevant documentation. Multistage procurement is appropriate for more complex/higher volume projects where it is determined that more than 3 consultants should be given an opportunity to make an offer.

Sample document for a Registration of Interest process is included in Main Roads Junction - see Chapter 1 (Clause 1.5.3).

3.3.5 Multi-Phase Project

A multi-phase project involves distinct phases of a long term or complex project. Consultant services may be required for the term of all phases of the project or, alternatively, consultant services may be required for each distinct phase, independent to any previous or following phases. Whichever process is determined, the initial approach for availability to deliver the project should fully outline the intentions on how consultants are to be engaged over the entire project. Information to be provided should include:

- The number of phases proposed for the entire project;
- The estimated timeframe for each phase;
- The objectives for each of the proposed phases.

If future phases are dependent on the outcomes of the initial or subsequent phase, this also should be disclosed.

For projects involving distinct phases, documents calling for Registration of Interest or invitations for offer should clearly state that it is a multi-phase project, and whether or not offers may be called for each successive phase. Where competitive offers may not be called for subsequent phases, consultants should be required to submit proposals for proceeding on options from one phase to the next.

3.4 Invitation/Offer Issues (other than Prequalified Consultants)

See Table 3.1 - Process Summary for Invitation and Assessment.

3.4.1 Open Invitations

For contracts where the estimated contract amount is greater than $250,000, open public invitations generally in a local newspaper must be made either directly or via a multi-stage (e.g. Registration of Interest or Multiple invitation process).

3.4.2 Private Invitations

For contracts where the estimated contract amount is more than $10,000 but less than $250,000 private invitations to three offerors shall be made.
3.4.3 Sole Invitations
Where the estimated contract amount is less than $10,000, only one consultant need be invited to make an offer.

3.5 Engagement of Government Agencies
Open competitive invitations, no matter what the value of the contract, are not required in circumstances where the consultant services are to be undertaken by a Commonwealth, State, Local Government or Joint Government Agency, provided the agency is not a Government Owned Business or a business unit in competition with private enterprise.

Where there is uncertainty in being able to determine whether an offeror is affected by this provision, purchase approval to engage a government agency direct shall be sought by an appropriately delegated officer prior to making any formal arrangement with the government agency in question.

An evaluation of the government agency in question must be undertaken to ensure competitive neutrality under the National Competition Policy.

Agreed rates should be determined prior to engaging a government agency, to ensure the department is gaining value for money.

3.6 Urgent Cases (for estimates which exceed $10,000)
Sometimes, urgency may preclude the development of a written brief or a comprehensive functional specification, the calling for invitations, and/or a detailed recommendation and assessment process to be undertaken. However, such urgent cases are to be avoided to the greatest possible extent.

In such urgent cases, the officer with the relevant delegated financial authority may authorise that the standard invitation procedures be set aside and determine the appropriate form and number of invitations required.

That officer shall ensure that the requisition is completed by including:

- Clearly stated reasons as to why the consultant has been engaged under urgent circumstances;
- Details of all verbal offers, and where available, copies of written confirmations.

The appropriate documentation must be forwarded to the relevant purchasing section.

The contract must be formalised by either a Letter of Acceptance or formal agreement and the relevant contract system documents are to be included.

3.7 Contractual Issues
3.7.1 Quality Assurance - Consultants on Engineering Projects
Prequalified consultants in the categories of Bridge Design, Geotechnical Engineering, Highway Engineering, Hydraulic Design, Traffic Engineering and Transport Planning shall have a fully certified quality system to the Australian Standard, as indicated in Clause 2.3.3.

For design consultants on engineering projects, a quality system certified to AS/NZS ISO 9001 2008 (Quality Management Systems Requirements) is a mandatory requirement.

Prequalified consultants in the categories of Economic Studies and Financial/Commercial shall have either a fully certified quality system to the Australian Standard (preferable) or documentary evidence of a quality system through Controlled Self Assessment undertaken in conjunction with the department.

The above are conditions of prequalification and hence are automatically addressed for the categories of work where the prequalification register is used.

Quality Assurance for Subconsultants on non-engineering aspects (e.g. Public Consultation,
Environmental Studies, Cultural Heritage Studies, etc.) who are not prequalified and are engaged to deliver non-engineering aspects of the project will need to demonstrate that they have an appropriate quality system commensurate with the requirements of the invitation documents.

The officer developing the brief/functional specification must include the appropriate quality assurance arrangements. Quality assurance specified will be based on a risk assessment, performed by the officer developing the brief/functional specification. The officer must determine whether the consultant services incur a (i) High, (ii) Moderate or (iii) Low risk to the department in relation to the expected project outcomes. To assist in the risk assessment process, guidelines can be found in Section 1.2.3 Risk Analysis in the Departmental Procurement Procedures. If there is any concern in determining the appropriate level of quality assurance, Manager (Contracts) can assist in this process.

### 3.7.2 Consultant Contract Insurance

By law, consultants (other than sole practitioners) are required to have workers' compensation insurance for their employees. The General Conditions of Contract require the consultant to effect and maintain insurance policies for public liability and professional indemnity. The consultant shall notify the department of any changes to any of these insurances immediately they occur.

Whether standard documentation is used for the invitation process, or insurance requirements are nominated in the offer documentation, the consultant must nominate on the Offer form the following details of insurance policies held:

- workers' compensation insurance policy number and expiry date;
- public liability insurance policy number, expiry date, minimum one claim amount, aggregate value of cover, value of excesses, rating, name of Insured and Insurer.
- professional indemnity insurance policy number, expiry date, single claim amount, aggregate value of cover, value of excesses, policy exclusions, jurisdictional and territorial limits.

#### 3.7.2.1 Workers’ compensation insurance

The consultant's worker's compensation insurance policy shall be valid for the duration of the consultant services.

#### 3.7.2.2 Public Liability insurance

**General public liability**

The consultant's public liability insurance policy shall be valid for the duration of the consultant services, including policy renewal as required to maintain the insurance cover for the duration specified in the contract. A consultant's public liability insurance policy is usually intended to cover accidents that occur on the premises occupied by the consultant - for example a person slipping on a wet floor in the consultant's office but may also apply to negligent actions by its employees on other premises. As the work of most consultants is confined solely to an office environment, there are little risk implications for the department. Most consultants will have insurance cover that reflects their risk e.g. size of office, number of visitors. The relevant minimum cover amount is $10 million for each occurrence, together with a maximum deductible of $10,000 (unless different amounts are nominated in the Invitation for Offer).

**Pre- and post-construction**

Because consultants may need to visit the proposed department project site prior to or post construction, liability for loss, damage or injury incurred by third parties on the site and caused by the consultant or its employees should be covered by the consultant's public liability insurance.

**During construction on site**

Once construction on a project has commenced, the principal contractor's project-specific "All Risks" works insurance will cover against third
party personal injury and property damage arising from construction activities except where caused by the principal or the consultant.

3.7.2.3 Professional indemnity insurance

The consultant's Professional Indemnity (PI) insurance is the protection it buys from an insurance underwriter to insure it against its legal liabilities for professional negligence. The extent of the consultant's liability to the department is not related to the limit or level of the consultant's insurance. It is necessary to make sure that the insurance requirements under any contract reflect the reality of what is available by way of insurance and the policy conditions on which the insurance is available.

Insurer should have:

- A sound financial standing
- A good record in regard to claims administration and settlement.
- Expertise in the field of civil construction insurance.

Further information can be accessed from the Risk Management Coordinator, Risk Management Unit (referred to as "RMC") or by accessing the Australian Standards and Poor's website (http://www2.standardandpoors.com) and then selecting the credit ratings list.

Road infrastructure projects may be delivered in steps (e.g. Options Analysis, Preliminary Design, Detailed Design) by different consultants. It is important to recognise that planning/design project delivery is a continuum where the work activities of the relevant steps flow contiguously from one step to the next. Unless specifically required by the brief reworking of previous steps is not to be undertaken (i.e. in the context we can do it better). However, it is critical that the consultant understands the inputs and reasons for the decisions made during previous steps.

When engaging engineering consultants for road infrastructure projects, professional indemnity insurance is required for:

- all planning/design of road infrastructure projects, and
- those projects that provide inputs to the planning/design of road infrastructure projects (e.g. engineering survey, hydraulic studies and report, geotechnical investigations and report).

It is important for consultants to understand that the inputs to planning/design projects may have a major impact on planning/design projects in terms of the performance of the constructed infrastructure. For engineering consultancies the professional indemnity insurance shall cover:

- Any professional act, error or omission;
- Other liabilities including:
  - Former Employees;
  - Joint Venture Liability;
  - Libel & Slander;
  - Dishonesty of Employees;
  - Trade Practices Act;
  - Intellectual Property;
  - Prior Corporate Entity;
  - Enquiry Costs (at Disciplinary Hearings Limit $100,000 aggregate);
  - Lost Documents (Sub Limit $100,000).

The circumstances of individual liabilities will increase/decrease the criticality of those liabilities.

NOTE: Intellectual Property is important for projects incorporating unique design or of a high value (e.g. > $30M).

Most types of professional indemnity insurance are "claims-based" policies that are intended to cover claims made during the current policy period, irrespective of the date of the event leading to the claim. For example, if the activity leading to the professional negligence occurred in 2002, but did not become apparent until 2004, then the policy in existence in 2004 (if one exists) will be the policy under which the claim is made.

Professional indemnity insurance policies generally cover costs that would be incurred in
the event of a failure of the work as a direct result of professional negligence. Professional indemnity insurance generally covers the following areas as a direct result of professional negligence:

- value of redesign;
- additional design;
- repair and/or reconstruction of the project and
- personal and property damage (see figure 3.7.2.3(a)).

Details of the offeror's insurance should be verified since some forms of cover will not contain provisions for the consequences of failure but will only cover the value of rework.

| Value of consultant | + | Additional design, repair or reconstruction | + | Property loss, death or injury |

**Figure 3.7.2.3 (a) General Make-up of PI insurance**

Where departmental officers have any concerns about the adequacy of an insurance policy, contact should first be made with the Risk Management Coordinator, Risk Management Unit (referred to as "RMC") who can assist in advice regarding the insurance documents and referral to the department's insurance broker where needed.

The consultant's professional indemnity insurance policy must be valid for the duration of the consultant services and, where appropriate, during implementation of the design and an acceptable time after implementation to assess any consequences to the consultant. Where it is required to have professional indemnity insurance for a period in excess of the duration of the consultant contract, that period shall be stated to include the total number of years or total extended cover/run-off cover in the contract documents.

Consultants will be required to provide an indemnity to Main Roads where the consultant's policy is inadequate.

Negotiations or insurance top-ups may be required with the successful consultant to ensure adequate insurance coverage is maintained. Satisfactory insurance arrangements must be agreed prior to accepting an offer.

**Value of professional indemnity insurance cover**

Engineering consultants generally maintain professional indemnity insurance as good business practice. It is important not to require an unnecessarily high value for professional indemnity insurance, as it will result in higher project costs. Additionally, professional indemnity insurance is becoming increasingly difficult to obtain, thereby preventing some engineering consultants from bidding on certain department projects. A realistic assessment of
exposure is essential, to ensure appropriate levels of insurance are included in the contract. Project size, complexity, risk and consequences of failure are considerations used to determine the level of professional indemnity insurance required.

The level of professional indemnity insurance required on department projects is based on exposure due a combination of risk and the consequence of failure. In the absence of other factors being identified, the consequence of failure may be conveniently tied to the project cost - refer to figure 3.7.2.3(b).

Low exposure

In determining the amount of insurance cover, an assessment of exposure should be undertaken. Additional professional indemnity insurance would not be specifically requested where the value of the project is low and the risk is low refer to figure 3.7.2.3(b). In these situations the consequence of failure would not usually be of significance. In the unlikely event of a claim, the standard professional indemnity insurance held by the consultant would be used. An example of low exposure would be engaging an engineering consultant to run a training workshop.

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<td></td>
<td>Use graph in Figure 3.7.2.3(c)</td>
<td>Use consultant's standard PI cover</td>
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Consequence of failure/Increasing $ value of project

*Figure 3.7.2.3 (b)  PI Insurance assessment table*
Medium Exposure

The majority of department projects fall into this category. In broad terms the levels of insurance required for medium risk Main Roads civil engineering projects will be as indicated in the figure 3.7.2.3(c).

The level of professional indemnity insurance cover shown in figure 3.7.2.3(c) represents the amount for any single claim. The amount in aggregate may be twice the single claim amount. For example, for projects up to $5M, the professional indemnity insurance policy should have a $1M single claim amount with an aggregate for the year of $2M.

High exposure

For very large projects it is highly unlikely for the complete project to fail. Failure is usually restricted to certain localised areas. On very large projects, the department can reduce the risk and consequences of a major design failure by undertaking certain strategies e.g. independent design checks, proof load-testing.

Professional indemnity insurance and the policy run-off duration would be higher for unusual and high-risk projects and where the consequences of failure are significant. In these cases a project specific determination is required based on the assessed exposure, e.g. a new gateway bridge or a tunnel.

Allocation of risk

Departmental officers are required to work with the consultant on the basis of informed client leadership. They should work in a relational way and be an integral part of the decision-making process. Whilst the type of solutions/options to be adopted will be shared, the associated computations, construction details and constructability issues will be the responsibility of the consultant.

In some circumstances the department will make a determination whether or not some planning/design investigation activities will be
undertaken. In such cases the department will accept the risk of unidentified problems resulting from these decisions not to undertake these activities. Examples could be special geotechnical investigations to verify stability of batters, test drilling to determine the presence of rock etc. Engineering consultants would not be expected to bear risks when specifically directed not to undertake certain activities that could impact on the integrity of their design.

On certain types of projects, the department is currently examining the consequences of an alternative to requiring the consultant to take unlimited liability. Normally, in providing professional services to Main Roads, a consulting engineering firm is expected to take full responsibility for the consequences of the professional engineering advice. In some projects, particularly in planning type consultancies, the department is intimately involved in the flow of decisions made during the consultancy; in others the potential risks are extremely low in relation to the cost of the insurance premiums to cover this risk. In these situations the department is prepared to consider some level of reduced liability of the consultant. The amount of reduction will be dependent on the particular project specific circumstances. However the general principal remains that a consulting engineering firm is responsible for consequences of the professional engineering advice it provide.

**Term of PI insurance cover**

For typical department projects, the professional indemnity insurance cover to the amount specified must be maintained for a minimum of two years after the date of practical completion. Where a consultant has undertaken a design and the project is delayed for a number of years, the department should advise the consultant of the delay to avoid unnecessary insurance premium costs. Such situations should be managed on an individual basis in consultation with the consultant.

However, a consultant's standard policy may be less than the value requested for a specific department project contract. Where this situation arises after the extended cover/run-off period, there would be a shortfall between the consultant's standard cover and the specified professional indemnity cover (see figure 3.7.2.3(d)). As at any point in the life of a project, any shortfall in the ability to claim would be a risk that the consultant and the department must manage.

The consultant provides an indemnity in the General Conditions of Contract so is responsible for any PI claims as shown in figure 3.7.2.3(d).
3.7.3 **Intellectual Property Rights**

The department's requirement in relation to the ownership of intellectual property rights is to be assessed and the requirement indicated in the relevant box set aside for this purpose in the Invitation for Offer for Consultant Service and subject to Clause 11.8 of the General Conditions of Contract. The general requirement in relation to intellectual property rights, should be as follows:

- **Research and Development** - Consultant to assign full ownership at creation to the department;
- **Planning/Design** - Consultant as owner to grant the department a royalty-free licence for the full period during which such rights subsist.
- Other forms of intellectual property - as decided by assessment of departmental needs.

There should not be a general assumption that the department must own the rights to all intellectual property, especially if the rights might in themselves constitute a marketing advantage for the offeror in their general business. A balance must be struck between the needs of the department and the rights of the offeror. The requirement for departmental ownership of intellectual property rights will usually incur an increased cost to the department.
Chapter 4

Invitation Process - Prequalified Consultants
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<td>M Swainston</td>
<td>May 2012</td>
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<td>4.1.2</td>
<td>Increase to Value Based Selection (VBS) threshold, from $66,000-$300,000 to $250,000-$750,000.</td>
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Chapter 4
Invitation Process Prequalified Consultants

4.1 General
Invitations to prequalified consultants are legitimate (i.e. comply with the requirements of the Queensland Procurement Policy) only when consultants are selected from the prequalification database using a rotation approach.

4.1.1 Sole Invitee or Multiple Invitees
(a) Sole invitee
Invitations should be on the basis of sole invitee where:

- The estimated contract amount is less than $250,000;
- There is a genuine urgency (refer Clause 4.2.1.6); and
- A particular consultant has previously performed significant parts of the project, e.g. possesses substantial data, knowledge, and understanding of the project requirements (Refer Clause 4.2.1.7).

Invitations, after verbal confirmation of availability, must be in writing using contract system documents. All offers must be in writing. Facsimile offers may be accepted. Projects must not be split in order to keep the estimated amount of individual project parts under $250,000.

(b) Multiple invitees
Where sole invitee is not applicable invitations must be made on a multiple invitation basis. However, in areas outside of the Main Roads South East Region there will be occasions where only one or two local consultants may meet the specified prequalification levels in which case a reduced number of invitations is acceptable provided competitiveness in the process can be demonstrated. This can be achieved by utilising a predetermined schedule of work activities with relevant fees as a basis for determining the appropriateness of an offer. The requirement for consultant rotation in this situation is automatically satisfied as all suitable consultants have been utilised. All invitations must be in writing using contract system documents. All resulting offers must also be in writing. No facsimile offers are to be accepted. All offers shall be opened privately.

4.1.2 Type of Offers
When compiling documentation for invitation purposes it is necessary to establish the type of offer to be sought.

Where the estimated fees are greater than $250,000 the QBS method should be adopted as standard practice for planning/design consultant services only. This approach allows a negotiation process that should ensure a common understanding of requirements and a matching agreed fee.

Operationally this should remove the need for variations from the consultant and allow better relationships to be established and maintained. The use of the QBS method does require the industry to respond in a reasonable manner in terms of offered price.

The VBS approach should be used where the requirement is tightly specified and the estimated fees are greater than $250,000 but less than $750,000. VBS is not the preferred approach and its use is strongly discouraged. If VBS is used avoid invitations to consultancies that have significantly different overheads, e.g. a small local consultancy (small overheads) and a large consulting organization (big overheads).
Approval to proceed with the nominated method of invitation should, where practicable, be sought prior to seeking offers.

To enable the invitation process to commence, the relevant purchasing section will require a suitably approved request by requisition/memorandum together with a prototype of the invitation documents including a functional specification.

Any resulting contract will be in accordance with the department's contract system documents described in Chapter 10.

4.2 Selecting Consultant(s) to Make an Offer

4.2.1 Specifying Project Prequalification Requirements

To start the invitation process, the relevant departmental officer must determine the primary prequalification requirements of the project. These search areas are:

- Work Categories and Levels;
- Estimated Contract Amount;
- Software requirements.

The consultant database system automatically identifies whether sole invitee or multiple invitees are appropriate. Any mandated software requirements for the project must be included as part of the project requirements and included in the search process.

Only those consultants that meet all of the prerequisites are listed at the end of the search for invitation purposes.

4.2.1.1 Work Categories and Levels

Departmental officers must be mindful not to over specify the requirements in terms of work category and level. Over specifying these requirements will un-necessarily restrict the number of consultants capable of doing the work.

In terms of the type of consultant to be selected to perform the consultant services, consideration could be given to selecting a primary prequalified consultant with major specialist aspects of the work being sublet to a prequalified subconsultants, e.g. if the project is primarily a road design with a bridge(s) but requiring major hydraulic modelling (e.g. flood studies) then the prequalification requirements should be for highway engineering and bridge design prequalification at the required category and level with the flood study being done by a prequalified hydraulic design subconsultant.

This approach does not preclude specialist organisations prequalified in only one category of work (e.g. hydraulics only organisations) from being engaged to perform the work, as would be the case if all the categories and levels for the work concerned were combined as a single requirement.

Another example could be for highway engineering, bridge design and hydraulic design requirements to be specified with the traffic engineering / transport planning being performed by a prequalified specialist subconsultant as this would give wider exposure in this area of expertise.

Delegated departmental officers should determine the approach to be adopted based on a risk assessment.

Using a rotational system based on prior opportunities to offer for consultant services, the list is reordered to ensure the widest possible opportunities are given to all prequalified consultants.

The rotation rules require all prequalified consultants to receive a reasonable opportunity to make an offer over time. Regions at their discretion may include one or two proven performers at any time to ensure an suitable mix of consultants for each project.

4.2.1.2 Selection and Weighting of Evaluation Criteria

Prior to inviting offers, the evaluating officer or panel is to determine the evaluation criteria that are to be applied during the evaluation and selection process. Standard criteria together
Consultants for Engineering Projects

with their weightings are shown in Clause 7 Assessment of Offers. These are to be adopted for all projects unless there are project specific requirements that dictate a variation.

At the time of invitation, evaluation criteria must be disclosed and where appropriate, weightings may be disclosed if a better outcome is likely to be achieved by doing so. In any event, the weightings must be developed and finalised before the offers are opened.

4.2.1.3 Invitation Process using Prequalification Registers

The departmental officer will allow the listed consultant(s) the opportunity to indicate its interest in preparation of a complete offer for the consultant services concerned. An initial verbal contact should be made with the selected consultants to confirm their availability to undertake the consultant services in accordance with the invitation documents. The authorised officer need only forward invitation documents to the first available consultant (sole invitee) or the first three available consultants (multiple invitations).

Where a consultant rejects a proposed invitation, the reason should be documented and placed on the project file. This will not be included in the rotational system count.

Where the rotation of consultant selection does not identify consultants with the discrete knowledge for a particular project in a multiple invitation situation, then one or two consultants meeting the requirements may be invited to make an offer. Documentation of this decision is essential.

If an internal TMR design group is selected/required to make an offer in a multiple invitee situation, then it shall be an additional invitation giving a total of four invitations.

4.2.1.4 Multi-Stage Invitation Process for Prequalified Consultants

Where the required consultancy is for an extremely large and complex project or the project work description is on the outer fringe of a standard Work Category, Level 3 then a Multi-Stage process of short duration may be utilised to ensure the relevant specialist expertise is identified. No rates are to be sought at this stage.

A typical Registration of Interest Documents is included with The System documentation (Refer Clause 1.5.1 - System Documentation). The evaluation criteria included at this stage only relates to the short listing process. New or different criteria can be included in the Invitation to Offer (2nd stage document).

Invitations seeking detailed offers including price at the second and any subsequent stages can be limited to the shortlisted suppliers. Such offers are to close in the offer lodgement box in the normal manner.

4.2.1.5 Multi-Phase Projects

A multi-phase project involves distinct phases of a long term or complex project. Consultant services may be required for the term of all phases of the project or alternatively, consultant services may be required for each distinct phase, independent to any previous or following phases. Whichever process is determined, the initial expression for interest or invitation should fully outline the intentions on how consultant services are to be engaged over the entire project. Information to be provided should include:

- the phases proposed for the entire project;
- the estimated timeframe for each phase;
- the objectives for each of the proposed phases, e.g. Options Analysis, Business Case, etc.

If future phases are dependent on the outcomes of the initial or subsequent phase, this also should be disclosed.

For projects involving distinct phases, documents calling for expressions of interest or invitations for offer should clearly state that it is a multi-phase project and whether or not offers may be called for each successive phase. Where competitive offers may not be called for subsequent phases, consultants should be required to submit proposals for proceeding on options from one phase to the next, as part of the first phase. Any proposed extension of the
consultant contract to deliver the next phase will be subject to a satisfactory Performance Report and agreed pricing arrangements.

4.2.1.6 Genuine Urgencies

The authorised expenditure officer has the authority to set aside the standard invitation procedures when that officer considers that the required service must be purchased urgently to satisfy the need. In the context of prequalified suppliers this may mean the use of a sole invitee process where the estimated fee exceeds $250,000.

The requisition must be fully completed and approved by the authorised expenditure officer and include reasons, in detail, for the urgency.

The procurement section is to ensure that adequate reasons are provided for the genuine urgency and then create an order and advise the client and successful offeror of the details. The official order will be then issued to the supplier endorsed "Confirmation Only" if the order information has already been conveyed to the supplier. Otherwise the order is to be processed expeditiously as the original order.

Urgent situations are to be avoided to the greatest possible extent by the adoption of forward planning techniques.

4.2.1.7 Significant Project Information

Where a particular consultant has acquired significant project data, knowledge, and understanding of the project requirements (this will be a relatively rare occurrence) then a sole invitee arrangement may be entered into due to the potential time and cost savings to the department.

A sole invitee should not be contemplated where these criteria are not genuinely met.

This information could come from a range of circumstances not directly related to the immediate preceding stage, e.g. associated and/or adjacent projects.

Where project information is acquired from an immediate previous stage commission then it is extremely important that previous stage engagement process identifies that the commission may be extended as a new consultant contract subject to a satisfactory performance report being achieved.

4.3 Invitation Documents

4.3.1 General

The documents associated with the invitation for offers consist of the department's contract system documents including a written functional specification.

NOTE: Refer to Chapter 10 for details.

There has been a tendency for offers to comprise large parts of "standard" responses to be included when addressing the assessment criteria. This can make the offer documents very large and this makes them difficult and time consuming to assess. To assist in the offer assessment process, restrictions on the length of consultant responses when addressing the criteria may be established. It is important for this requirement to be established to suit the requirements of the project under consideration. An example of how this might be done is:

- Technical Skills of Key Team Members (4,000 words);
- Delivering the Service (2000 words);
- Relationship Management (2000 words);
- Local Knowledge & Interfaces (2000 words)
- Quality of Deliverables (2000 words).

Non-engineering consultancies on engineering projects may use different criteria to suit the particular project concerned. However, the same principles apply to restrict unnecessarily wordy submissions.

4.3.2 The Functional Specification

The Functional Specification generally describes the design/work elements (including Fee Schedule Items and the Schedule of Fees) that comprise the consultant services e.g.
Environmental Management, Hydraulic Analysis, etc. It also includes planning information provided by the department, design criteria, standards for design and construction as well as the deliverables required. These must be matched against the expected functional outcomes described in the project proposal.

Functional Specification Proformas for consultant services by prequalified consultants for large projects are based on North Coast Region’s extensive set of documents prepared as a consequence of publication of the department's Preconstruction Processes Manual using the OnQ project management approach.

The functional specifications for the four major stages of preconstruction are for:

- Options Analysis;
- Business Case;
- Preliminary Design; and
- Detailed Design.

In addition, common functional specifications are available for Introduction and Administration as well as Native Title, Land Acquisition and Limitation of Access.

Users of these Proformas will have to include their local requirements e.g. Codes of Practice, to supplement the requirements of Main Roads' source documents for planning/design. To view/ acquire these Proformas see Clause 1.4.1 System Documentation.

4.3.3 The Schedule of Fees

It is very important for sufficient information to be provided to assist in the appropriate assessment of offers. The "Attachment to Assessment Schedule 2 - Schedule of Services" (See Clause 4.2 of the Offer Form C7586) requires the consultant to provide details of the proposed work activities/tasks to deliver the service concerned together with the proposed deliverables.

A companion to the Schedule of Services is the Price Submission (Form C7587) that also includes a duplicate list of the required services (Clause 2.1) against which the consultant is required to specify the pricing structure to deliver the work activities/tasks and deliverables identified in the Offer Form C7586.

When pricing an offer the consultant should ensure appropriate staff are nominated to perform the work, e.g. senior staff nominated to perform routine work is not appropriate.

The Schedule of Fees is prepared by departmental officers to contain project specific Items. Key points about the Schedule of Fees are:

- It provides a basis for negotiation in Qualification Based Selection (see Chapter 7 Clause 7.1.2);
- It is used for a comparison of approaches by offerors in Value Based Selection (see Chapter 7 Clause 7.1.2);
- It provides a basis for price variations valuations and price renegotiations where appropriate eg change of work scope during the contract;
- It can be used as a tool in assessing progress of the work and for assessing progress payments.

4.3.4 Preclose Presentation of the Functional Specification/Brief

The requirements of the Functional Specification/ Brief are to be presented to all offerors at a preclose meeting to ensure a uniform and clear understanding of the requirements both in terms of expected outcomes and deliverables. The consultant's clear understanding of the problem or need to be addressed is a crucial prerequisite for the achievement of the required outcomes and supporting deliverables.

4.3.5 Computer Software used to Produce Computer System Outputs

Consultants shall use the Principal’s Computer Software as nominated in Item 3.5 of the Invitation for Offer (C7585) in the electronic
production of design, drawings and electronic models.

In addition, the Consultant is required to provide to the Principal with each work package or at a time otherwise agreed, the raw model, the design parameters that were used to generate the design model, including the input files, modifiers and macros that were applied to generate the various elements of the design model, horizontal and vertical alignment, pavement widths/depths, crossfall/superelevation, tapers, drains and batters.

4.4 Approving Invitation Processes

Before invitations are issued for the engagement of consultants, the invitation process or documentation must be approved by an authorised purchasing officer. (Refer Instrument of Delegated Purchasing Authority.)
Chapter 5

Invitation Process - Other than Prequalified Consultants
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Chapter 5

Invitation Process - Other than Prequalified Consultants

5.1 General

5.1.1 Sole or Limited Invitations

Regardless of the value, a sole invitation is to be issued directly to a supplier after it has been determined that the supplier is the only one capable of supplying the required service or the urgency or other approved condition makes such an invitation imperative.

Approval must be sought from an authorised purchasing officer that the required services can only be obtained from one supplier. The requisition is to be endorsed as to the reasons why a sole supplier situation exists, or alternatively, a memorandum may be attached setting out the reasons.

The amount and form of invitation documentation required for a Sole Invitation must be consistent with Clause 3.1 (Refer Table 3.1 Process Summary for Invitation and Assessment), depending on the estimated value of the sole invitation.

Invitations may be confined to a supplier or limited number of suppliers, after due investigation has determined that the required services can only be supplied by a sole supplier or limited number of suppliers. The degree of investigation for additional suppliers requires judgement based on the nature and value of the required services. For this reason, the purchasing officer must accumulate a wide knowledge of the particular market so that expert knowledge can be brought to bear in this decision making process.

Purchase approval must be obtained from an authorised purchasing officer, who is to be satisfied that offers can only be obtained from a sole supplier or limited number of suppliers.

If the authorised purchasing officer considers the use of a sole supplier likely to be contentious, then that purchase should be brought to the attention of an officer with the appropriate purchasing delegation. The recommendation is then forwarded to the Authorised Purchasing Officer within the relevant corporate unit or commercial unit (refer to the Instrument of Delegated Purchasing Authority) for consideration and approval of the purchasing decision. At this stage, the purchasing process is to be validated. If the process appears flawed, it must be referred to the next level of purchasing authority for review. Seriously flawed processes must be cancelled.

Procedures for Invitations and Offers are to apply except:

- public advertising is not required,
- invitations must be made to all identified suppliers in the case of limited suppliers,
- for sole supplier situations, sole invitations are to be forwarded direct to the supplier.

5.1.2 Multi-Stage Invitations

A multistage invitation process involves the calling of expressions of interest and capability, followed by invitations to shortlisted, approved or registered consultants.

This process would be utilised for services which are more complex (wider scope or unusual
features and/or circumstances), the multi-stage invitation process should be utilised. These services would not be covered by the standard categories of prequalification, e.g. the design of roadway tunnels.

Public request for Registration of Interest (non financial) followed by multiple invitations from short listed applicants from the Registration of Interest Process is the preferred method of multi-stage invitations.

Alternatively, where short timeframes are involved a public invitation by-passing the Registration of Interest stage may be considered, generally in local newspapers may be considered.

The expressions of interest stage is to be utilised to seek interested suppliers with the required credentials only. No rates are to be sought at this stage.

A typical Registration of Interest Documents are included with The System documentation (Refer Clause 1.4.1 - System Documentation). The evaluation criteria included at this stage only relates to the short listing process. New or different criteria can be included in the Invitation to Offer (2nd stage document). Criteria should be similar to that listed in Clause 7.2.1.

Each stage of a multistage invitation process is to be clearly identified in the advertising and calling of invitations.

Invitations seeking detailed offers including price at the second and any subsequent stages can be limited to the shortlisted suppliers. Such offers are to close in the offer lodgement box in the normal manner.

When the best offer has been determined by the authorised expenditure officer, the requisition is to be forwarded, by facsimile if necessary, to the relevant purchasing section.

The requisition must be fully completed and approved by the authorised expenditure officer and include reasons, in detail, for the urgency.

The purchasing section is to ensure that adequate reasons are provided for the genuine urgency and then create an order and advise the client and successful offeror of the details. The official order will be then issued to the supplier endorsed "Confirmation Only" if the order information has already been conveyed to the supplier. Otherwise the order is to be processed expeditiously as the original order.

Urgent situations are to be avoided to the greatest possible extent by the adoption of forward planning techniques.

5.2 Documentation

5.2.1 Registration of Interest Documents

Typical Registration of Interest documents are included on Main Roads Junction - see Clause 1.4.1 System Documentation.

5.2.2 Invitation Documents

The contract system documents for other than prequalified consultants are set out on Main Roads Junction - see Clause 1.4.1 System Documentation.

Generally, project specific Supplementary Conditions of Offer (covering assessment issues) and Supplementary Conditions of Contract (covering contractual procedures, etc) similar to those for prequalified consultants (see Chapter 4 Clause 4.3) will have to be prepared. PM (Contracts) is available to assist.
5.2.3  **Brief/Functional Specification**

A Brief/Functional Specification describing the subject matter of the contract, applicable standards, deliverables etc. is required.

5.2.4  **Preclose Presentation of Brief/Functional Specification**

See Clause 4.3.4 for requirements.

5.3  **Approving Invitation Processes**

Before invitations are issued for the engagement of consultants, the invitation process or documentation must be approved by an authorised purchasing officer. (Refer Instrument of Delegated Purchasing Authority.)
Chapter 6

Dealing with Invitees/Offerors
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<td>M Swainston</td>
<td>May 2012</td>
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Chapter 6
Dealing with Invitees/Offerors

6.1 Conflict of Interest

During the invitation/offer process and during the contract period, all departmental officers involved must be careful to avoid any suggestion of a conflict of interest or collusion.

Officers should not accept or entertain any approaches from offerors or potential offerors that might be interpreted as attempts to influence the invitation, offer assessment and acceptance process (e.g. attend lunches, functions or receive gifts from offerors or potential offerors).

6.2 Preliminary

6.2.1 Use of Offer Lodgement Box

Where it is necessary to seek competitive offers (i.e. where the estimated contract amount exceeds $250,000 for prequalified consultants or where the estimated contract amount exceeds $10,000 for other than prequalified consultants), arrangements should be made for these offers to close in an appropriate offer lodgement box. This will ensure confidentiality of each offer prior to closing time.

Offer lodgement boxes are located in all Region Offices and other allocated lodgement box locations.

6.2.2 Administration of Process

The following actions must be conducted by the relevant officer/s of procurement or RoadTek/Region Office/E&T that will arrange to:

- allocate a unique number (generally a contract number) before forwarding invitation documents to invitees;
- record details in the appropriate register of offerors sent invitations;
- prepare draft advertisement, where applicable, if not already provided by the responsible officer;
- prepare additional copies of invitation documents as required;
- arrange for Notices to Invitees and preclose meeting;
- open offers at the appropriate time and record the results in the register of offers;
- determine which (if any) offers do not conform with the invitation documents, giving reasons;
- forward both the conforming and nonconforming offers to the responsible officer for the assessment process.

NOTE: The inviting office must retain the original offer documents or maintain a record of where the documents are located.

6.3 Period up to Close of Offers

Procedures are set out in the General Conditions of Offer.

6.3.1 Queries

Where queries are received from invitees in relation to the content of invitation documents and those queries:

- require an amendment to the documentation; or
Consultants for Engineering Projects

- are of a complex nature; or
- are of substantial nature; or
- highlight an ambiguity;
then they must be submitted in writing.

Any advice given by the department to the invitees, in relation to such queries, must also be given in writing, generally in the form of "Notices to Invitees".

If it is considered that information provided by the department in relation to the content of invitation documents may have an effect on other potential offerors, then that same information is to be forwarded to all other invitees. This practice is intended to provide fair and equitable treatment to all invitees. A judgement may need to be made in relation to some information. In some circumstances, an invitee may seek information to help in producing an innovative solution. If such information were forwarded to all invitees it might prejudice the intellectual property rights of the first invitee. Therefore its release to other invitees would have to be considered carefully.

The names of members of the Assessment Panel should not be released to invitees prior to the commencement of the assessment process.

Any requests for information by an invitee, which may be regarded as referring to the personal, financial or business affairs of another invitee or of a confidential nature, should be refused. Information submitted by invitees must be treated as confidential and must not be released to other invitees or competitors.

6.4 Period from Closing Time for Offers to Letter of Acceptance

6.4.1 Late Offers

When offers close in an offer lodgement box, any offer received after the nominated closing time is not to be considered unless evidence can be shown that the offer:

- was delivered to the nominated place in time; or
- was despatched to the nominated place in sufficient time to effect delivery to the nominated place under normal circumstances.

Any late offer may be rejected regardless of the reason for late delivery.

6.4.2 Non-conforming Offers

Offers must be handled in accordance with the provisions of General and Supplementary Conditions of Offer indicated in the invitation documents. Non-conformance of a minor nature by an offeror should not result in the offer being automatically rejected, but must be considered where it can be demonstrated that it does not result in unfair treatment to other offerors and is in the department's best interest. Examples of minor non-conformances are:

- Failure to provide required information of a non-critical nature (e.g. phone numbers);
- Failure to return all necessary documents with the offer, providing the missing documents are only supporting ones and do not form a key part of the offer. (For example, a missing QA certificate could be acceptable but a missing Fee Schedule would not.)

For a minor non-conformance, an offeror may be given the opportunity to comply with the requirements of the invitation documents, but only without altering the substance of the offer (e.g. the Fee Schedule including the offered contract amount may not be added).

Any request by the department for clarification of an offer should be in writing. Any subsequent information provided by the offeror should be in writing and should form part of its offer.

6.4.3 General Offer Queries

After receipt of offers, there may be a need for the department or the Assessment Panel to clarify the nature of any offer or any component
of an offer. Clarification may serve to ensure that both the department/Assessment Panel and the offeror have a common understanding of the requirements and what is being offered. Clarification may be sought in writing or through interviews with the offeror's representatives. However, any clarification or interview must not provide:

- the opportunity for the substance of an offer to be altered in any form; or
- an offeror with an unfair competitive advantage due to the outcomes of the clarification or interview.

### 6.4.4 Clarification with “Recommended” Offeror VBS

Post close of offer negotiations may be held with the recommended offeror, in accordance with Clause 4.4 of the Supplementary Conditions of Offer - Prequalified Consultants.

Negotiations are aimed at securing the best outcome for the department but may not change the substance of the original requirement. Negotiations may secure improved extent of services, warranties etc, but may not be used as a vehicle for bargaining to secure a lower price.

Any clarifications, interviews or negotiations are to be conducted in accordance with Clause 7.7 and are to be documented with the outcome of the process being summarised and signed by both parties.

**NOTE:** *Price bargaining i.e. playing one offeror against another is not permitted.*
Chapter 7

Assessment of Offers
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<td>1</td>
<td>Clause 7.8.1</td>
<td>This section has been updated to include Contract Disclosure requirements for contracts above $10,000 in value.</td>
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<td>M Swainston</td>
<td>July 2012</td>
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<td>Updated Contract Disclosure advice with references to current Queensland Government eTender system.</td>
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<td>Changed wording for criteria headings, amendments to formula paragraphs.</td>
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<td>Clauses 7.4.7 &amp; 7.4.8</td>
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<td></td>
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<td>Combining of VBS spreadsheets C7567.1 (prequalified) and C7567.2 (non-prequalified) into single C7567, with additions of summary sheets.</td>
<td>M Swainston</td>
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7.1 Assessment of Offers

All offers must be assessed against the selection criteria shown in Clause 7.2 and where relevant Clause 7.3.

7.1.1 Assessment of Sole Invitee Offers

When seeking to engage a sole invitee consultancy the standard invitation and offer process is to be used. A sole offer must be evaluated for suitability to deliver the specified work. For a prequalified consultant the offer assessment score should be greater than 700 to justify acceptance. For a non-prequalified consultant the offer assessment score should be greater than 500 to justify acceptance. The acceptance process for a sole invitee offer must be rigorous to ensure the department receives value in the transaction.

7.1.2 Assessment of Multiple Offers

The process for determining the selection method when seeking multiple offers (where the estimated contract amount for the project is $250,000 or greater for Prequalified Consultants or $10,000 for other than prequalified consultants) depends on whether or not the work can be clearly and tightly specified. There are two approved methods for selecting a consultant and these are:

- Qualification Based Selection (QBS);
- Value Based Selection (VBS).

In both selection methods the non-price (C7586) and price (C7587) offer components are sealed in separate and clearly marked envelopes.

For offers involving prequalified consultants, details of the procedures, etc are set out in the Supplementary Conditions of Offer - Prequalified Consultants. For other than prequalified consultants, similar supplementary conditions of offer must be produced.

NOTE: The envelopes containing the fee schedule must be stored by an independent and qualified purchasing officer. For QBS offers the purchasing officer will return the unopened envelopes to the unsuccessful offeror.

7.1.2.1 Qualification Based Selection (QBS)

The QBS process should be adopted in most situations and especially where the work cannot be clearly and tightly defined. The selection process has two steps:

- the preferred consultant is selected using the non-financial criterion only.
- the second envelope containing the offered contract amount and Price Schedule* for the preferred offeror is opened and the scope and contract amount are negotiated, agreed and documented. (The other offered contract amount envelopes are not opened).

* Offers not including a price schedule may be considered non-conforming.

Should an agreement not be reached, then and only then can negotiations commence with the second ranked offeror. The offered contract amount in the second envelope can then be opened for the next preferred offeror.

Once abandoned, any previous preferred offeror cannot be brought back into selection consideration.

7.1.2.2 Value Based Selection (VBS)

Note – if more than ten (10) offers are received, shortlist to ten using non-price ranking.

The VBS process must only be adopted where the work can be clearly and tightly defined. The selection process has two steps:

- the non-financial criteria are first assessed (the second envelopes are not opened before the non-financial criteria are assessed), scored and documented; and then
- the second envelopes containing the offered contract amounts are then
opened and the offered contract amounts are scored in accordance with the relevant formula set out in the Supplementary Conditions of Offer (Clauses 7.3.1 and 7.3.2).

The scores are added and the recommended offer is the one with the highest total points score subject to selection panel discretion, if appropriate. (Refer Clause 7.4.7.)

The process attempts to ensure value for money rather than finding lowest cost, by targeting selection to an average price instead of the lowest price. This process does not necessarily prevent the lowest price from winning.

This method must not be used if the estimated contract amount is greater than $750,000 (including GST). QBS must be used instead.

7.2 Offer Assessment
Non-financial Criteria

The offer assessment process will focus on project specific success factors. Care must be taken to distinguish between prequalified consultants and non-prequalified consultants.

For prequalified consultancies the assessment process should not focus on those areas covered by prequalification, as the consultant's capability has already been established. The important requirements in the offer assessment process are to address those issues which cannot be specifically assessed at the time of prequalification, e.g. availability of relevant skills. In this respect, careful consideration of job specific criterion is important if the most appropriate consultant to undertake the project is to be selected, and

Where other than engineering consultancies (Prequalified and Non- prequalified) are used on engineering projects the selection criteria and the price scoring method may be adjusted to suit the particular requirements of the project.

The evaluation criteria are usually derived from the specification together with suitable elements reflecting cost, organisational capability, time performance etc. Because criteria must be advised in the invitation, they must be established before the invitation is dispatched. Weightings should be assigned to each selection criteria and also must be finalised before the offers are opened. Weightings may be disclosed at the time of invitation if a better outcome is likely to be achieved by doing so.

In addition to conforming with the requirements of the invitation documentation, the offer is to be assessed using the relevant evaluation criteria which must be indicated in the brief.

Two Excel spreadsheets have been developed to assist in the offer selection scoring process. These are identified as Form Numbers C7566 and C7567, and represent all of the standard scoring processes within the consultant system for engineering projects. The following matrix provides guidance on the use of the various forms:

| Offer Assessment Spreadsheet Selection (Prequalified and Non-Prequalified) |
|---|---|
| Form | Assessment Type |
| C7566 | QBS |
| C7567 | VBS – Prequalified and Non-Prequalified (separate worksheets for each) |

These spreadsheets may be accessed from the TMR intranet Publications Series site.

7.2.1 Standard Non-financial Assessment Criteria

The non-price assessment of all consultant offers will be based on the following criteria:

- Technical Skills of Key Team Members
- Delivering the Service
- Relationship Management
- Local Knowledge and Interfaces
- Quality of Deliverables

NOTE: An element of 'Track Record' is embedded in all of the assessment criteria. The assessment panel will use past performance information during the assessment process to apply a "Reality
7.2.1.1 Technical Skills of Key Team Members

The assessment process for rating these criteria will take into consideration the following:

- Technology expertise/ knowledge relevant to these Consultant Services as set out in the Functional Specification or Brief;
- Understanding Main Roads' design and construction standards and relevant processes, especially those in the following Manuals comprising the primary sources:
  - Preconstruction Processes
  - Project Cost Estimating
  - Road Planning and Design
  - Drafting and Design Presentation Standards
  - Road Drainage Design
  - Pavement Design
  - Manual of Uniform Traffic Control Devices
  - Standard Drawings
  - Standard Specifications
  - Main Roads' Project Delivery System
  - Public Consultation
  - Environmental Management Manuals;
- Expertise / capacity to deliver suitable outputs, for example, Design Solutions, Engineering Drawings, Supplementary Specifications, Program, Schedules, Estimates, Electronic Models, Tender Documents, Quality Plans and so on. Where indicated in Item 4 of the Offer for Consultant Service - Non-Price Component, additional emphasis during assessment will be given to expertise/ knowledge in the nominated areas;
- General capacity to handle project type and ability to provide backup in the event of changes to key team members (Include the proposed Organisation structure).

NOTE: The Offeror must demonstrate that its Key Team Members, including sub-consultants, have experience/expertise in their proposed role in Consultant Services of a generally similar nature as well as any locally nominated areas.

7.2.1.2 Delivering the Service

An evaluation will be made of the offeror's approach methodology and apparent understanding of the need to be satisfied and the expected outcomes to be achieved by the completed project.

Where applicable the offeror must detail the systems and computer programs to be used. The offeror -

(a) must articulate its proposed approach methodology for delivering the specified Consultant Services on time and in accordance with the Invitation to Offer documents.

(b) must supply a precedence diagram showing how completion of the project will be achieved within the program cost and timeframe. This is essential. Activities must relate to the items specified in the cost schedules;
Specified milestones must be included as reference or hold points in the precedence diagram; and

Specified times for the Principal's audit and/or review before work can proceed to the next stage.

(c) must articulate its detailed approach to the areas listed in the following table.

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of Environmental Factors and Environmental Management Plan (Planning)</td>
<td>Environmental Design Report</td>
</tr>
<tr>
<td>Public engagement and consultation</td>
<td>Public engagement and consultation</td>
</tr>
<tr>
<td>Traffic Counting and Analysis</td>
<td>Hydraulic Analysis and Design</td>
</tr>
<tr>
<td>Hydraulic Analysis</td>
<td>Provision for Traffic and Sidetracks</td>
</tr>
<tr>
<td>Bridge Planning Report</td>
<td>Landscaping</td>
</tr>
<tr>
<td>Planning and Preliminary Design Layouts and Report</td>
<td>Road Design and Drawings</td>
</tr>
<tr>
<td>Geotechnical Investigation, Analysis and Report</td>
<td>Bridge Design and Drawings</td>
</tr>
<tr>
<td>Project Proposal Report</td>
<td>Quality in documentation, design and cost estimating</td>
</tr>
</tbody>
</table>

For each area of work listed above the Offeror must detail the specific methodology for that area. In particular the offeror must include detail on the issues described below together with all other aspects of the relevant areas:

- The incorporation of specific environmental requirements into all aspects of the project together with how the impacts will be managed;
- The proposed strategy for handling public consultation throughout the contract, including the proposed procedures for addressing complaints from the public and communication with Members of Parliament;
- The proposed strategy for collection of traffic data (including type and location of traffic surveys), methodology for predicting future traffic and the methodology for analysing the traffic data (including all software to be used)
- The details of any additional geotechnical work the offeror considers is necessary and intends to carry out including frequency, locations, and testing details. The Offeror must separately identify the cost of such additional geotechnical work;
- The methodology for conducting hydraulic design, including proposed analytical tools (including computer programs) to be used.

(d) must have a comprehensive understanding of project management methodology (including the nine Project Management Body of Knowledge (PMBoK) elements) and how they will be applied including the use of:

- Integration management
- Scope management
- Time management
- Cost management
- Quality management
- Human resources management
- Communication management
- Risk management
- Procurement management

### 7.2.1.3 Relationship Management

The Offeror must demonstrate its commitment to:

- Working in a partnering approach to manage the Consultant Services;
- Working together with the Principal on the basis of the Principal playing an informed leadership role,
- Working in a relational way where the Principal will be part of the decision making process on a progressive basis;
- Setting up and attending regular project meetings together with relevant Key Team Members (including subconsultants), as appropriate;
• Progressively identify and resolve variations at the earliest opportunity at project meetings;
• Doing business in a positive way, e.g. without 'creative variations'. (as a Prequalified Consultant, the nature of the work is understood and therefore a negotiated and agreed brief should include an 'in principal' approach not to seek variations for minor discrepancies in the documents);
• Performance Reporting at all progress meetings together with a final official Performance Report.

7.2.1.4 Local Knowledge & Interfaces

The offeror shall demonstrate its knowledge and understanding of:

– Local conditions
– Local supply chains and materials
– Local community requirements
– Road user requirements

The offeror shall demonstrate its approach to how the project team interface is to be undertaken. It would be an advantage to have:

– the availability of local personnel with local expertise and capacity, enabling face to face communication for project reviews and a local team for any site inspections.

7.2.1.5 Quality of Deliverables

The Offeror must demonstrate its commitment to quality, including how this will be put into practice.

• General reputation for work quality,
• Design Quality:
  – Appropriateness of Design Solutions,
  – Design compliance with design standards
  – Design Presentation Clarity,
  – Freedom from Errors

• Appropriateness for approval purposes
• Engineering Drawings Quality:
  – Drafting compliance with Drafting Standards
  – Drawing Readability/Clarity
  – Freedom from Errors
  – Appropriateness for construction purposes
• Documentation Quality:
  – Number of Notices to Tenderers due to errors
  – Number of request for 'creative' variations
  – Extent of Rework
  – Value of claims by the Principal for rectification costs

• Estimating (Work Scheduling and Costing)
  – Accuracy and completeness of Scheduled Work Items
  – Accuracy of Work Item Quantities
  – Appropriateness and accuracy of identified Risks
  – Accuracy of Risk Contingency provisions
  – Accuracy of unit cost rates

Note: The focus of these criteria is on effective project scoping for costing purposes.

7.2.2 Weightings for Assessment Criteria

The following default weightings apply to the assessment criteria for QBS and VBS situations as indicated (default weightings may be changed in accordance with Clause 6 (QBS) and Clause 7 (VBS) of the Supplementary Conditions of Offer-Prequalified Consultants).
Individual weightings for QBS and VBS may be marginally varied to suit specific job requirements.

### 7.2.2.1 QBS Weightings (for both Prequalified & Nonprequalified consultants)

The Panel should use the following weightings for the non-financial assessment criteria:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Default Weightings (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Skills of Key Team Members</td>
<td>40</td>
</tr>
<tr>
<td>Delivering the Service</td>
<td>30</td>
</tr>
<tr>
<td>Relationship Management</td>
<td>10</td>
</tr>
<tr>
<td>Local Knowledge &amp; Interfaces</td>
<td>10</td>
</tr>
<tr>
<td>Quality of Deliverables</td>
<td>10</td>
</tr>
<tr>
<td>Price</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

The individual Default Weightings above may be adjusted to suit specific job requirements in 2.2(b) Value Based Selection (VBS) of Invitation for Offer for Consultants Service (C7585) to provide the weightings for assessment of this Offer.

Where the boxes for Actual Weightings (VBS) are not completed, the Default Weightings above will apply.

### 7.2.2.2 VBS Weightings (for both Prequalified & Non-prequalified consultants)

Weighting on price should be between 20% and 50% for non-engineering consultancies and 20% for engineering consultancies. The selection of the price weighing should be done on a project by project basis but it must not reduce the required quality and value in the transaction.

The Panel should use the following weightings:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Default Weightings (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical Skills of Key Team Members</td>
<td>40</td>
</tr>
<tr>
<td>Delivering the Service</td>
<td>13</td>
</tr>
<tr>
<td>Relationship Management</td>
<td>9</td>
</tr>
<tr>
<td>Local Knowledge &amp; Interfaces</td>
<td>9</td>
</tr>
<tr>
<td>Quality of Deliverables</td>
<td>9</td>
</tr>
<tr>
<td>Price</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>

The individual Default Weightings above may be adjusted to suit specific job requirements in 2.2(b) Value Based Selection (VBS) of Invitation for Offer for Consultants Service (C7585) to provide the weightings for assessment of this Offer.

Where the boxes for Actual Weightings (VBS) are not completed, the Default Weightings above will apply.

### 7.2.2.3 Assessment of Non-Price Criteria

The assessment criteria have been devised to meet the general requirements of departmental engineering projects.

### 7.3 Offer Assessment - For Price (VBS)

For a VBS process, the Panel will finalise the non-financial agreed ratings (in accordance with Clause 7.2) for each of the offerors, based on their responses in the Non-Price Component in Envelope 1. Subsequently the Panel will open each Envelope 2 containing the Price Component.

#### 7.3.1 VBS Scoring for Prequalified Engineering Consultancies

The Panel may, where there are any errors, discrepancies, alternatives or matters that would otherwise result in an unfair assessment, adjust the Offered Contract Amount from the Fee
Schedules to obtain a Comparison Amount (C Amt) for each of the Offers.

For engineering consultancies the average of the Comparison Amounts, (CAmtav) is then determined and the calculated rating for each Offer are determined in accordance with the following formula set out in Clause 4.7 of the Supplementary Conditions of Offer - Prequalified Consultants.

All price offers are preliminarily processed to determine if there are any exceptionally low or high bids. The intent is to establish if any of the bids fall outside of the tolerance zone \[ \pm (0.3 \times \text{mean}) \]. For the offers which fall outside the tolerance, they receive the rating (minimum) of 1 and are removed from the Price Rating equation. For all the other offers the following calculation is used.

\[
\text{Price Rating} = 10 - 10 \times \frac{C_{\text{Amt}} - C_{\text{Amt av}}}{C_{\text{Amt av}}}
\]

When using this formula the rating will be between 1 and 10.

An Excel spreadsheet program (Form C7567) with the specific engineering consultant criteria together with the above formula incorporated has been included on TMR Publications - see Clause 1.5.3 in Chapter 1.

**NOTE:** This formula must not be used for non-engineering consultancies.

### 7.3.2 VBS Scoring for Non-Prequalified Consultancies on Engineering Projects

Each criterion is to be rated using a numeric scoring system (1-10) with decimal points not being permitted.

A zero rating for criteria (except price) should normally disqualify the offer on the grounds of non-conformance unless there are exceptional circumstances. A zero rating would not normally apply when prequalified consultants are used.

The price rating is to be calculated using the following formula and ratings from 1-10.

\[
\text{Price rating} = 5 + 10 \times \frac{S_M - S_T}{S_M}
\]

Where \( S_M \) = the median price for 3 or more proposals, or the mean price if 2 are being considered.

Where \( S_T \) = offer price.

Where the use of the formula gives a result which is:

- negative, then the adopted rating shall be 1;
- greater than 10, then the adopted rating shall be 10.

An Excel spreadsheet program (Form C7567) with the specific engineering consultant criteria together with the above formula incorporated has been included on TMR Publications - see Clause 1.5.3 in Chapter 1.

**NOTE:** The above formula must not to be used for calculating the price rating when assessing engineering consultancy offers.

### 7.3.3 Weighted Total Scores (VBS)

For a VBS process, the individual agreed ratings (non financial) and calculated ratings (financial) shall be subject to weighting in accordance with Clause 7.2.2.2 and a total score determined for each Offeror (e.g. weighting by rating = score). The Offeror with the highest total score will be the "recommended" Offeror and the Panel will proceed to advise the Principal's Delegate of the identity of the "recommended" Offeror.

### 7.4 Assessment Basics

#### 7.4.1 Assessment Panel

Departmental officers with appropriate professional technical knowledge of the
consultant services shall be involved in the assessment process.

All conforming offers shall be assessed.

The Assessment Panel must be appointed before offers are opened and where the estimated Contract Amount is greater than $250,000 must include at least two persons (one person is acceptable if the estimated Contract Amount is less than or equal to $250,000). For situations other than well-understood, uncomplicated projects, the Assessment Panel must include at least three persons, including at least one independent (preferably non Main Roads employee) where the estimated Contract Amount exceeds $500,000.

7.4.2 Alternative Offers

The Offeror may submit one or more alternative offers but only if they have submitted a conforming offer. The Principal reserves the right to consider and accept any alternative offer.

An offer is considered alternative if it in any way attempts to change the wording or conditions of the Principal's offer documents or contract documents, including any project documents e.g. the brief.

7.4.3 Conditional Offers

The Principal reserves the right to reject any offer that is submitted with conditions that attempt to over-ride the requirements of standard contract documents (e.g. General Conditions of Contract, Supplementary Conditions of Offer, etc).

7.4.4 Offer Assessment Process

The same non-financial criteria shall be assessed for all offers before moving on to the next criterion and progressively refine the method so that a satisfactory consistent result is obtained.

7.4.5 Rating of Assessment Criteria

For the rating of non-financial criteria the Assessment Panel will use the rating method as set out in Clause 8 of the Supplementary Conditions of Offer - Prequalified Consultants.

Standard rating considerations are shown in Clause 5 of the Supplementary Conditions of Offer (C7551). Any special project specific considerations are shown in the relevant Assessment Schedule of the Offer.

A clear requirement of this assessment process is a sensitivity and risk analysis. Panel members should be completely conversant with the project scope and outcomes, so that they are able to understand the relevance of the assessment criterion to the department's exposure to risk in respect of each of the criteria. When the assessment result is sensitive to the rating of a particular criterion, or risk is seen to be high, evaluating officers will need to give fullest attention to the comparative attributes of the offers. In some cases, offerors may be advised in the invitation documents of such special project needs, so that they can adequately address them in their offer.

Each criterion is to be rated using a numeric scoring system of whole numbers (1 to 10) in accordance with Clause 8 of the Supplementary Conditions of Offer - Prequalified Consultants. For each criterion, no score shall be assessed as being the same. All scores shall be in whole numbers to separate assessments, to better relate to the threshold score and to differentiate between similar responses.

7.4.6 Sensitivity and Risk Analysis

The rating determined by the assessment shall be subject to sensitivity and risk assessment based on past performance and any other valid information. Panel members shall moderate the ratings based on the likelihood of the ratings reflecting reality based on past performance.
history. Where the sensitivity and risk analysis results in moderating the original score the supporting objective evidence shall be documented.

7.4.7 Value Based Selection (VBS) Price Assessment

If undertaking a Value Based Selection, the offer with the highest score for the non-financial and financial attributes (the sum of the products of weighting by rating for each criterion - the maximum possible score is 1000) shall be selected by the Panel as the recommended Offeror and submitted to the relevant departmental delegate for any clarification with the recommended Offeror followed by financial and purchase approval.

The offeror's understanding (demonstrated in its offer) of the requirements of the functional specification should be subjected to a clarification process and where necessary, reconciled to ensure a common understanding and a problem free delivery process. Adequate time to deliver the consultant services is an essential element in the scope clarification process.

7.4.7.1 Benchmarking

When consultant services are being sought from:

- a sole or limited number of consultants, or
- specialist or confidential consultants,

it may be appropriate to develop a benchmarking system to determine whether or not the price of the best offer is appropriate for carrying out the work specified in the brief.

In the selection process, it is of particular importance, when only one or two offers are received, to gauge if value for money and a satisfactory product are being offered.

To establish if the prices and product quality are representative of the relevant market sector, evaluating officers should obtain information from other government agencies undertaking similar activities and industry associations, to establish profiles for comparative benchmarking.

Each project needs to be assessed separately as to whether benchmarking is required and if it is, the appropriate benchmarking must be determined by the selection panel prior to evaluating the offers.

7.4.8 Qualification Based Selection (QBS) Assessment

For Qualification Based Selection, the Offeror with the highest weighted score for the nonfinancial criterion (the sum of the products of weighting by rating for each criterion - the maximum possible score is 1000) shall be selected by the Panel as the preferred Offeror and referred to the relevant departmental delegate for a negotiation process. Should more than one offeror achieve the highest weighted score then the scoring process shall be repeated and the scores separated using decimal points where necessary to make discrete differentials in the scoring. The process demands a single winning weighted score.

The offeror's understanding (demonstrated in its offer) of the requirements of the functional specification must undergo a negotiation process and where necessary, be reconciled to ensure a common understanding and a problem free delivery process. Adequate time to deliver the consultant services is an essential element in the negotiation process. This could result in a modification to the offered contract amount/fee schedule depending on what was varied to reach the common understanding.

The negotiated offer is then submitted by the relevant departmental delegate for financial and purchase approval.

7.4.9 Selection Panel Discretion

(appplies only in VBS process where the contract amount is less than $250,000 and when offers have been assessed as having the same relative total assessment score, e.g. within a 5% point score spread)

Panel may select the lowest price offer, taking into consideration any pertinent and relevant
considerations using a risk management approach.

For example, when assessing offers for a design development project a risk assessment exercise could be performed on:

- Whether the offeror is fully conversant with local regional requirements, and
- Small businesses generally have lower overheads than larger businesses.

7.4.10 Financial Approval

After the selection process has arrived at a recommendation, the evaluating officer/panel shall submit the selected offer for financial approval to an officer with the appropriate delegated financial authority. Refer to Section B3.10 Financial Delegation of Authority in the TMR Financial Management Practice Manual issued by Finance Division.

Consulting expenditure will be classed as operating expenditure for the purposes of financial approval limits.

Where necessary, application for Ministerial/Executive Council Approval may be arranged, in accordance with current "limits of authority" by Finance Division in Brisbane or the appropriate area in the Regional Office.

7.5 Purchase Approval

7.5.1 Approving the Purchasing Decision

On completion of the recommendation, the approved requisition, together with a copy of the recommendation including evaluation details and where required, the signed original Letter of Acceptance, should be forwarded to an appropriate purchasing officer for the creation of a purchase order. Letters of acceptance should, where possible, indicate the order number.

The recommendation for the successful consultant is to be reviewed by the relevant purchasing unit for conformance with the Queensland Procurement Policy, this Manual and the "conditions of offer" included in the invitation documentation.

The purchase approval to engage the successful consultant must be obtained from an authorised purchasing officer in accordance with the Instrument of Delegated Purchasing Authority.

On receipt of purchasing approval, an official order shall be produced and sent with, where necessary, a letter of acceptance to the successful consultant. The consultant should be requested to show the order number on all invoices.

(NOTE: The issue of a purchase order allows for greater control of expenditure, as well as providing a means of ensuring that invoices are paid against the correct projects.)

So that there is no delay in the processing of order and payment for your contractors, please ensure all of these details included in your requisition are accurate before submission of requisition.

NOTE: To meet departmental financial reporting needs, if the material number used in the requisition is that of a contractor, the following information must be included in the item note of the requisition also:

- Contractor
- Name of individual providing service
- Whether that individual is a previous employee
- And if so, the termination date with the department.

7.6 Negotiation with preferred Offeror QBS

The basis for clarification/negotiation is set out in Clause 4.3.4 of the Supplementary Conditions of Offer (Prequalified Consultants) and aims to:

(i) develop a clear and common understanding of the scope of the consultant services having regard to:
• The original departmental brief/functional specification; and

• The consultant’s understanding expressed in its offer documents.

(ii) adjust the Contract Amount using the Price Schedule to reflect any changes to the scope of the consultant services;

(iii) determine the extent of the consultant services to apply to the offered Contract Amount (the department may not proceed where there is an unacceptable discrepancy)

As a result of this process there is an expectation that the consultant will not seek “creative” variations during the contract. The actual outcome may be reflected in the consultant's performance report for this contract and used as objective evidence during future offer assessment processes.

7.7 Interview Rules

Any face-to-face discussions with invitees/offerors must be with the approval of appropriately delegated procurement officers or relevant Regional Office/E&T/RoadTek and:

• attended by at least two (2) departmental officers;

• held at departmental premises (except where inspection of invitee/offeror's premises is required);

• held as an official meeting with minutes being kept;

• before the meeting closes, a consensus should be reached by both parties on the outcomes of major points discussed and a summary of such points should be signed by both parties.

7.8 Period after Award of Contract

7.8.1 Advice to Unsuccessful Offerors

Unsuccessful offerors who have responded to a written invitation shall be advised in writing of the name of the successful consultant and the contract amount.

Details of accepted offers exceeding $10,000 will be published using the Queensland Government eTender system (https://secure.publicworks.qld.gov.au/etender).

Requests from unsuccessful offerors for reasons for not being successful are to be submitted in writing and feedback/counselling of those unsuccessful offerors will be conducted under the conditions stated in the Interview Rules (Clause 7.7).

Such advice shall be restricted to the offeror's offer and shall not refer to any other offer. However, that advice will contain the offeror’s assessment scores, together with its ranking in relation to other offers (refer to Section 7 Assessment of Offers). Individual Consultant’s scores are confidential and shall not be released to other parties, especially to other consultants/competitors.

7.9 Costing

The department is required to include expenditure on consultants in its annual report (refer to Section 8.4 for Annual Reporting). To achieve consistency in this reporting across all departments, Department of Public Works has released a revised definition for a consultant which is to be used solely for financial reporting purposes.

For Main Roads, this annual reporting information is compiled from expenditure recorded in GATEWAY System against "Consultant" account codes. Accordingly, the correct account code must be determined based on an assessment against the Public Works definition for a consultant - refer to Clause 7.9.1. If this assessment does not identify that the service provider is a consultant (for financial reporting purposes), then an alternative account code is to be allocated for the required service, most probably a "Contractor" account code.

NOTE: This account code determination has no influence on the current procurement procedures for engaging a consultant or contractor, documented in
this manual or the Departmental Procurement Procedures.

7.9.1 Account Code Determination

Because Queensland Treasury's definition of a consultant is not exactly the same as the definition of a consultant for taxation or superannuation purposes, business units must determine the appropriate account code separately to the process of determining the purchasing process to engage the service provider. Determination of the correct purchasing process is performed first and then, if this identifies that the procedures to engage and manage a consultant are required, the 2nd step of determining the correct account code occurs against the Public Works definition of a consultant.

The "account code determination" procedure is firstly an assessment of the service provider and scope of service compared to the following five criteria:

1. Provides their expert knowledge to analyse information, draw conclusions and make recommendations in the form of a written report or an intellectual product for future action which the department must then decide upon or take a certain course of action.

2. The nature of the output is not necessarily predictable, but tends to be open-ended and is more complex (e.g. a range of recommendations which a department must consider).

3. Develops a new concept or process and where the department requires critical judgement to consider the recommended course of action.

4. Engaged for a fixed period of time at an agreed rate of payment.

5. Work which is not directly supervised by the department.

For a service provider to be categorised as a "consultant" for the purpose of financial recording and reporting, all (5) of these criteria must be satisfied. If any of the five criteria are not appropriate to the required service provider or service, then that service provider will NOT be classified as a consultant, in the determination of the correct account code.

The following examples of consultants have been provided by Queensland Treasury:

Consultants

This manual specifies the requirements for engaging consultants for engaging planning and/or design consultants for road infrastructure projects or for engaging consultants whose outputs can be used in the planning or design of road infrastructure projects. The typical consultancies delivered by this system are:

1. The Planning and Design of Road Infrastructure
   - Engineering Survey - electronic collection of data and information in a way that allows accurate electronic reproduction
   - Public Consultation and Engagement consultation, reporting, including issues and recommendations
   - Environmental Investigation investigations, studies and reporting, including issues and recommendations
   - Cultural Heritage investigations, consultations and reporting, including issues and recommendations
   - Native Title - investigations, consultations and reporting, including issues and recommendations
   - Geotechnical Investigations - investigations, collecting samples, interpretations and reporting, including issues and recommendations
   - Hydraulic Studies - investigations, data collection, consultations, interpretations and reporting, including issues and recommendations
   - Traffic Studies - investigations, data collection, consultations, interpretations
and reporting, including issues and recommendations

- Pavement Designs - materials investigations, material sources, testing and reporting, including issues and recommendations
- Road Traffic Noise - investigations, data collection, interpretations and reporting, including issues and recommendations

Account Code 51080 applies to all of these examples of consultant services.

7.10 Awarding the Contract

7.10.1 General

Consultant contracts are formalised by issue of an official departmental order. Where required, either a letter of acceptance (C7599 or equivalent) or a formal contract must also be included or referred to in the official order. Each order must indicate to the consultant that the contract will be in accordance with the department's General Conditions of Contract and Supplementary Conditions of Contract, and other Contract Documents, including the functional specification (refer to Clause 10 and Functional Specification Proforma) and should include the following information as a minimum:

- description of the consultant services including the deliverables;
- fee basis;
- reference to consultant's offer;
- correct consultant account code;
- duration of contract.

The level of documentation required to complete the contract will be determined by the departmental officer approving the purchasing process.

Before a letter of acceptance is prepared a check of the consultant's PI Insurance is necessary to confirm compliance with the requirements of the contract.

7.10.2 Letter of Acceptance

A letter of acceptance must be sent to the successful offeror in all cases, where:

- clarification of the recommended offer has occurred (VBS);
- negotiations have taken place with the preferred offeror (QBS).

In these circumstances, the letter of acceptance should address all the issues that are different to the offer documents. The letter of acceptance will form part of the contract and therefore should be used to finalize the deliverables, process to be adopted, fees, duration and any other issue requiring clarification.

The letter of acceptance shall set out clearly the extent of the contract documents.

7.10.3 Letters to Unsuccessful Offerors

All unsuccessful offerors should be advised in writing that they were not successful on this occasion. For efficiency, draft letters to all unsuccessful offerors should be prepared simultaneously with the letter of acceptance. Also see Clause 7.8.1 - Advice to Unsuccessful Offerors.

7.10.4 Formal Contract

In cases where there is significant risk that the consultant or the department may suffer loss or damage subsequent to the contract, or the matter is one in which disputes are likely to arise, or a twelve year limitation period for taking legal action under the contract is required, a formal contract should be prepared in addition to the letter of acceptance. Advice should be sought from Manager (Contracts) when preparing contract documents such as formal contracts.

Execution of a formal contract and the binding of all contract documents to that document ensure that all documents, which comprise the contract, are identified. At least two (2) "original" documents shall be prepared, one for the department and one for the consultant.
The required contract documents shall include the formal contract and copies of the following, in order:

- letter of acceptance;
- official purchase order;
- correspondence referred to in letter of acceptance, assembled in chronological order, including Notices To Offerors (NTOs);
- invitation for offer, complete with functional specification, Annexure;
- consultant's offer or written confirmation of offer;
- General/Supplementary Conditions of Offer, Annexure; and
- General/Supplementary Conditions of Contract, Annexure.

Where an offer has been clarified/ negotiated, the changes shall be drawn up in line with the terms of clarification/negotiations, and signed by the consultant. The modified document will replace the original offer documents.

Due to the number of administrative arrangements associated with the preparation of formal contracts (e.g. preparation, execution and stamping), Regions are encouraged to make consultant contracts by means of a letter of acceptance. This provides a sound basis for the contract but avoids becoming too formal.

However, a good risk management approach requires adequate assessment of the probability and consequences of the risks to which the contract exposes the department. Where necessary, a formal contract will provide the best level of risk protection from the unacceptable exposures disclosed by such a study.
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Managing the Contract – Prequalified Consultants
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# Chapter 8 Amendments

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8.1 Delegated Officer

Departmental officer(s) shall be delegated to manage and review the performance of the consultant services. The delegated officer(s) must be fully conversant with the requirements of the contract and preferably should be departmental employee(s).

The name and contact details of the delegated officer(s) should be advised to the consultant in the letter of acceptance. The delegations are included in Annexure B to the Supplementary Conditions of Contract - Prequalified Consultants and should be completed at or before the initial meeting.

The responsibilities of the delegated officer(s) include:

- monitoring the performance of the consultant in carrying out the consultant services must be addressed at all project meetings;
- supervising the project;
- liaising with the consultant regarding project tasks, timeframes, milestones and progress updates;
- ensuring all project meetings are formal and have documented minutes that have been accepted at a formal project meeting. Meetings are not to be held in camera.
- records and preparing reports including the final performance report in relation to the contract;
- dealing with any unsatisfactory performance by the consultant;
- authorising the various payments to the consultant; and
- behaving in a manner specified in the contract documents.

In order to meet the day-to-day needs of the contract, the delegated officer(s) should arrange to be as accessible as possible to the consultant.

8.2 Management Issues

8.2.1 General

The contract will be managed by development and maintenance of good relationships and communication to ensure maximum outcomes for the department, the consultant, the community and government by aligning the efforts of the parties and making best use of the expertise and resources available.

The contract will be managed generally in accordance with the requirements of the General/ Supplementary Conditions of Contract.

This covers:

- Mandatory requirements;
- PMBoK systems and procedures;
- Managing Relationships;

The responsibility for the quality of technical engineering issues is clearly with the consultant. Some shared responsibility will exist for the appropriateness of technical solutions.

8.2.2 Mandatory Requirements

The consultant is required to comply with the relevant Legislation, Australian Standards and relevant local procedures. Key areas (but not limited to) requiring compliance are:
8.2.3 PMBoK Elements

The consultant is also required to have systems and procedures based on the nine PMBoK elements (refer to Clause 6.2 of the Supplementary Conditions of Contract) and to comply with those systems and procedures.

An important aspect of this is Communications Management encompassing training, interfacing with external stakeholders, persons directly affected including Public Utility Plant owners as well as regular and special meetings between the consultant and the department.

(Refer specifically to Clause 6.2.7 of the Supplementary Conditions of Contract.)

8.2.4 Managing Relationships

The consultant and the department are to manage their relationships, including attention to the following:

- "client leadership" requiring the department to be involved in decision making process on a continuous basis and using win-win and best for project approaches;
- creating a climate of cooperation and trust.

(Refer to Clause 6.1 of the Supplementary Conditions of Contract.)

8.2.5 Making Progress Payments

The Building and Construction Industry Payments Act 2004 affects the administration of Main Roads consultant contracts. Not only does the Act apply to payments from head consultant contractors to sub-consultant contractors it also applies to payments from principals to head consultant contractors. The Act provides for

- Statutory rights to
  - progress claims
  - progress payments
- Rapid adjudication
- Statutory rights to suspend works
- ‘Pay when paid’ and ‘pay if paid’ clauses are void
- Clauses in the contract cannot ‘contract out’ of the Act

Claims may (but do not have to) be made under the Act. However, claims made under the Act must state, "This claim or invoice is made under the Building and Construction Industry Payments Act 2004." Relevant regional staff must be aware of this requirement of the Act together with the required actions that must be
carried out. Failure to do this could result in Main Roads having to pay the full amount of the claim even if we dispute the claim. Given that a claim could potentially turn up in any part of the regional office, all staff need to be aware of the Act and on the look out for any claims made under the Act.

The Payment Certificate (Form C6948) serves a dual purpose as Payment Certificate under the contract and Payment Schedule under the Act. The Payment Certificate has a list of valid reasons under the contract for not paying the full amount of the claim.

8.2.6 The Department’s Contract Management Procedures and Forms

Procedures and Forms corresponding to various contract conditions have been developed by the department to assist in management of the project. (Refer Annexure A of the Supplementary Conditions of Contract.)

These include:

- purely contractual issues such as progress payments, authorisation of variations, dispute resolution procedures; and
- technical items such as submission and approval of project reviews at various stages of the project.

1. Core Management Procedures and Forms

The following procedures/forms apply to all projects:

- For contractual issues, the core procedures/forms relate to payment and the procedures/forms described in section 4 of Annexure A to the Supplementary Conditions of Contract (or similar agreed procedures/forms) are to be used in all appropriate situations.

2. Other Management Procedures and Forms

Other forms that are be used in association with Core Management Procedures and Forms include:

- Meeting Action Summary (MAS)
- Document Transfer (DTF)
- Document Transfer - Drawings (DTD).

The departmental delegate and the consultant may agree to replacement of the above forms, which form part of most consultants’ quality plans.

The remaining procedures and forms in Annexure A to the Supplementary Conditions of Contract (e.g. variations, dispute resolution) will not generally be used on most of the contracts awarded using this system. These procedures (which are in accordance with General and Supplementary Conditions of Contract - Prequalified Consultants) and forms will be limited to use on longer projects (> 6 months duration) or complex projects involving higher numbers of designers/subconsultants (> 10 individuals) requiring prequalification levels of HE3 and/or BD3. This would necessarily exclude application to most Sole Invitation contracts.

8.3 Performance Reports

8.3.1 Introduction

The reporting of contract performance is a process by which the Principal and the Consultant measure the relational and delivery aspects of the contract

The information collated from performance reporting provides an understanding of current issues, whilst also indicating improvements and evidence for future reference in prequalification assessment.

Performance reporting is to be conducted during two phases – Pre-construction (Part A) and Post-construction (Part B).
Pre-construction (Part A) reporting consists of three reports:
- Initiation of Contract (C7561.1)
- Milestone Performance Evaluation (C7561.2)
- Finalisation (C7561.3)

Post-construction (Part B) reporting is to be undertaken at the completion of the construction works.

Proforma performance reports can be found on the TMR intranet site in Publications and on the TMR internet site in Business & Industry/Technical Standards & Publications.

The summary scores for each evaluation criteria shall be entered into the Prequalified Database on Lotus Notes and sent to the Secretary (Prequalification Committee). This is an important requirement as:
- it will allow performance reports to be tracked through exception reporting; and
- it will provide performance information for input to future offer assessment processes and prequalification renewal processes.

The Post-construction performance report is easily forgotten, as there may be a significant time lapse between the time the design is completed and the completion of construction. In this respect, regular exception reporting using the Lotus Notes based system will identify those reports not completed.

The completion of these reports is essential to the effective administration of prequalification registers and subsequent feedback to future assessment panels, which need to take into account consultants who have a history of poor performance.

Completed Performance Reports are to be forwarded to the Secretary (Prequalification Committee) (referred to as S(PC)).

8.3.2 Rating of Performance Criteria

Each criterion is to be rated using a 1 to 5 scoring system with decimal points not being permitted.


NOTE: This assessment is of the consultant performance against the assessment criteria, not against other consultants. It is very difficult and unfair to compare consultants on different projects against each other.

The Performance Reports from past projects for the consultant concerned may be used as past performance information when assessing the rating for each criterion during an offer assessment process.

8.3.3 Pre-construction

All Part A Performance Reports are to be completed during the pre-construction phase/consultant contract of the project. It is essential that all performance reports are completed in due course during and post each reporting timeframe.

All reports must be discussed with the consultant and all conflicts resolved, where possible. Reasons for conflicts and any non-agreed resolution shall be documented in the relevant sections of the forms. The consultant must be afforded the opportunity to respond to any comments adverse or otherwise in the relevant sections of the forms. The response shall form part of the report.

The reports take the form of:
- Initiation of Contract (C7561.1)
- Milestone Project Evaluation (C7561.2)
- Finalisation. (C7561.3)

Performance assessment will be carried out on the following characteristics:
- Technical skills of key members – the ability and suitability of key team members in the application of their technical skills to the project
- Delivery of service – measurement of the consultant’s application of project management principles to the project
• Relationship management – the effect to which the consultant committed to the project in a relational manner, including the use of behaviours
• Quality of deliverables – the level of commitment to quality and its practical application.

8.3.3.1 Initiation of Contract
The Initiation of Contract (C7561.1) report provides an overview of the contract, describing the contract parties, the type of work and the level of prequalification required. This information essentially forms the outline of the contract and provides Contracts & Standards with knowledge of consultant engagement and capacity.

8.3.3.2 Milestone Project Evaluation
Milestone Project Evaluation (C7561.2) reports provide a means to aid the contract parties during the delivery of consultant services. Assessments are undertaken during pre-agreed hold points or milestones prior to commencement of service. To aid in the determination of required assessments, the table below provides a guide:

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<td>Complete</td>
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<td>form (C7561.2)</td>
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<td>(C7561.2) form</td>
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<tr>
<td>not required</td>
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The data obtained from these reports can be used in discussions that may result in dispute avoidance and resolution.

8.3.3.3 Finalisation
The finalisation (C7561.3) report provides a summary of the consultants delivered service. The information from this report will feed directly to prequalification assessors for use in future prequalification applications and can also be incorporated into evaluating future engagement opportunities.

It is therefore essential that this report is completed immediately following the delivery of the consultant’s service.

8.3.4 Post-construction
The Post-construction (C7563) report shall be completed within four (4) weeks of completion of construction of any resulting transport infrastructure. All reports must be discussed with the consultant and all conflicts resolved, where possible. The reasons for the non-resolution of conflict should be given in the relevant section of the form. The consultant must be afforded the opportunity to respond in writing to any comments, adverse or otherwise. The response should form part of the report.

The report shall include responses to:
• Resulting Design Output performance
  – Were construction contract documents free from major errors and/or omissions?
  – Did presentation of construction contract documents or design solutions cause construction difficulties?
  – Were on site design solutions adequate and effective?
• Was the standard of liaison and co-operation with the construction contract administrator during construction adequate?
• Was the response to the administrator's request for information timely?

All of the above issues are to be assessed at the end of the construction phase.
8.3.5 Register of Performance Reports

The completed performance reports will be retained in a register, located in relevant Regional Office, and with the Prequalification Committee, for future reference. The report summaries are to be entered into the Lotus Notes based Consultant System. This is necessary to assist in the consultant selection processes and prequalification application and to track if reports are done. The exception reporting process will enable regions and Senior Management to identify those projects where reporting has not been registered.

As a requirement of the Queensland State Procurement Policy and all associated policies and guidelines, all procurement activities greater than $10,000 are required to be advertised and published for public knowledge. This information is contained within the Queensland Government Marketplace (www.qgm.qld.gov.au) for current, closed and awarded contracts.

For this reason, it is important that performance reporting be undertaken on consultant services to address procurement justification in an open and largely scrutinised marketplace.

8.3.6 Performance Reporting Monitoring

The Senior Prequalification Officer (Infrastructure Contract Services), is responsible for the day-to-day operations of the system. This officer will regularly search all references for consultant contracts for engineering projects for all contracts worth more than $10,000 in fees. When identified, the SPO (ICS) will search the Lotus Notes database to confirm whether or not these projects have been entered into the database. Where they haven't been entered the SPO (ICS) shall enter the consultant contract details into the on-line Lotus Notes based prequalification system.

On a six monthly basis, the SPO (ICS) will conduct exception reporting for the existence of performance reports. Where no report exists the SPO (ICS) shall seek the missing performance reports from the relevant Regional Director.

Where it can be clearly demonstrated that performance reporting is not happening or being avoided then the Director (Contracts & Standards) shall seek such reports through dialogue with the region concerned.

8.4 Annual Reporting

To ensure a detailed snapshot of consultant performance delivery is achieved, a summary report of results will be published on individual consultancy performance. This information will be disseminated to Senior and regional management to provide an insight into acceptable practice and a means to highlight improvements to a consultant’s delivery in future engagement.

The information will also provide prequalification assessors with information that will assist in the undertaking of future prequalification applications.
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Chapter 9
Managing the Contract - Other than Prequalified Consultants

9.1 Delegated Departmental Officer
As for prequalified consultants, a departmental officer shall be delegated to manage and review the performance of consultant who are not prequalified. The delegated officer must be fully conversant with the requirements of the contract and preferably should be a departmental employee.

The delegations that apply (for General Conditions of Offer and General Conditions of Contract only) are included in Annexure B to the Supplementary Conditions of Contract - Prequalified Consultants.

However separate delegations will have to be prepared on a contract-by-contract basis for any Supplementary Conditions of Offer and Supplementary Conditions of Contract.

9.2 Contract Management
While Project Management - Contract Procedures (see Clause 8.2.5) are the same for prequalified and other consultants for the General Conditions of Contract, the requirements for management of technical aspects of a project for other than prequalified consultants will have to be developed on a project-by-project basis. The prequalified consultant technical procedures in Clause 8.2.5 may be used as a guideline and assistance may be obtained from Principal Manager (Infrastructure Contract Systems).

9.3 Performance Reporting
For contracts involving other than Prequalified Consultants where the Contract Amount is less than $10,000 the performance of the parties should be reflected in the minutes of regular meetings. Where the Contract Amount is equal to or greater than $10,000 formal performance reporting is required, and is conducted during two phases – Pre-construction (Part A) and Post-construction (Part B).

Pre-construction (Part A) reporting consists of three reports:
- Initiation of Contract (C7561.1)
- Milestone Performance Evaluation (C7561.2)
- Finalisation (C7561.3)

Post-construction (Part B) reporting (C7563) is to be undertaken at the completion of the construction works.
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Chapter 10

Document Requirements

10.1 Retention of Documents

Schedule 2 of the Financial Management Standard, 1997 requires that general documents (which include invitation, offer and contract documents) are to be stored in a secure area for a period of two (2) years after the financial year to which the record relates.

In order to comply with this requirement, each purchasing section shall retain all relevant requisitions and attachments relating to consultant contracts in an appropriate area. These records should be easily accessible during the retention period.

Attachments shall include the following:

- copy of invitation documents;
- the Offer for Consultant Service - Non-Price Component;
- the Offer for Consultant Service - Price Component:
- assessment, clarification/ negotiation and recommendation;
- copy of letter of acceptance;
- copy of any formal contract or agreement.

Note: Where it is impractical to store any of the above attachments with the requisition, a suitable notation should be made on the requisition of the location of the documents to establish an appropriate audit trail for review purposes. Such documents dealing with the management of the contract should be filed and retained in accordance with the department's Code of Practice for Records Management Systems.

10.2 Consultant System Documents

Throughout the text of this manual, reference is made to Consultant System documents, which are to be used at relevant stages for the engagement and use of engineering consultants. To view/obtain these documents see Clause 1.5.1 System Documentation.

The main classifications of Consultant System Documents are:

- Contract System Documents including Management Forms;
- Ancillary Documents (e.g. Prequalification Application Form, Performance Reporting Forms, Typical Registration of Interest Documents).

10.2.1 Contract System Documents

The contract system documents have been designed to ensure uniformity of operation through the department when dealing with consultants on engineering projects. The Contract System Documents comply with the State Procurement Policy. See Clause 10.3 for descriptions of these documents.

There are three types of Contract System Documents:

- "Invitation Documents".
  These are forwarded by the department to the Invitees.
- "Offer Documents"
  An Invitee should return a completed offer form and various schedules and Annexures with a letter to the department. Such documents (together with unchanged
invitation documents) are termed "offer documents".

- "Contract Documents"
  After successful negotiation/clarification with an offeror the departmental delegate forwards a letter of acceptance, documenting matters raised and agreed at such negotiation/clarification and listing all the individual documents (Conditions, Schedules, Annexures, NTOs, etc) that apply to the Contract. These documents are termed the "contract documents".

10.2.2 Ancillary Documents
The ancillary documents are to be used appropriately. They include the following Prequalification documents:

- User Handbook of Lotus Notes-based Prequalification System (for internal use only)
- Prequalification System Information Brochure (C7511)
- Prequalification System Application Form (C7512)
- Prequalification System Performance Reporting Forms (available on TMR internet site in Business & Industry/Technical Standards & Publications and on TMR intranet site in Publications) including:
  - Performance Reports - Consultant on Engineering Project Part A - After Completion of Consultant Service (C7561)
  - Performance Report - Consultant on Engineering Project Part B - After Implementation (C7563)

The ancillary documents (for internal use only) are:

- Typical Registration of Interest Documents.
- Computer Spreadsheet Programs for assessing both VBS (C7567.1 Prequalified, C7567.2 Non-Prequalified) and QBS (C7566) Offers.

10.3 Contract System Document Descriptions
These documents include:

(a) Common Documents that apply to all consultants on engineering projects

- Invitation for Offer (C7585)
- General Conditions of Offer (C7542)
- Offer for Consultant Service - Non-Price Component (C7586)
- Offer for Consultant Service - Price Component (C7587)
- Consultant Statutory Declaration Professional Indemnity Insurance and Public Liability Insurance (C7547)
- General Conditions of Contract (C7545)

(b) Documents for Pre-qualified consultants only (equivalent documents must be produced locally for other consultant contracts). :

- Supplementary Conditions of Offer (C7551)
- Supplementary Conditions of Contract (C7554):
  - Annexure A - Management Procedures and Forms (see Table 10.3 for list of Forms).
  - Annexure B - Delegation of Functions of the Principal and the Consultant.
  - Annexure C – Additional Clauses.

(c) Proforma Functional Specifications for large projects (available internally only)

- Introduction and Administration
- Options Analysis
- Business Case
• Preliminary Design

• Detailed Design

• Native Title, Land Acquisition and Limitation of Access

• Component Assessment Brief - Work Packages.
### Table 10.3  Management Forms

<table>
<thead>
<tr>
<th>Form Number</th>
<th>Form Code</th>
<th>Form Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Approvals/Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6941</td>
<td>SPR</td>
<td>Submission/ Approval of Initial Project Review Report</td>
</tr>
<tr>
<td>C6942</td>
<td>SDR</td>
<td>Submission/ Approval of Preliminary Design Report</td>
</tr>
<tr>
<td>C6943</td>
<td>DDR</td>
<td>Submission/ Approval of Detailed Design Report</td>
</tr>
<tr>
<td>C6944</td>
<td>SED</td>
<td>Submission/ Approval of Engineering Drawings/Other Engineering Documents</td>
</tr>
<tr>
<td><strong>2. Variations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6931</td>
<td>PPV</td>
<td>Principal Proposed Variation</td>
</tr>
<tr>
<td>C6950</td>
<td>CPV</td>
<td>Consultant Proposed Variation</td>
</tr>
<tr>
<td>C6930</td>
<td>RVQ</td>
<td>Request for Variation Quotation</td>
</tr>
<tr>
<td>C6932</td>
<td>VO</td>
<td>Variation Order</td>
</tr>
<tr>
<td><strong>3. Extension of Time</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6936</td>
<td>RET</td>
<td>Request for Extension of Time</td>
</tr>
<tr>
<td>C6937</td>
<td>GET</td>
<td>Grant of Extension of Time</td>
</tr>
<tr>
<td><strong>4. Payment</strong></td>
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<tr>
<td>C6947</td>
<td>PPCA</td>
<td>Invoice Attachment - Progress Payment Claim - Preliminary Design</td>
</tr>
<tr>
<td>C6953</td>
<td>PPCB</td>
<td>Tax Invoice Attachment - Progress Payment Claim - Detailed Design</td>
</tr>
<tr>
<td>C6948</td>
<td>PCR</td>
<td>Progress Payment Certificate</td>
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<tr>
<td>C6940</td>
<td>HRO</td>
<td>Hourly Rates Order</td>
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<tr>
<td><strong>5. Dispute Resolution</strong></td>
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<tr>
<td>C6955</td>
<td>NOD</td>
<td>Notice of Dispute</td>
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<tr>
<td><strong>6. Communication (Internal)</strong></td>
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<td></td>
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<tr>
<td>C6951</td>
<td>CP</td>
<td>Communication from Principal</td>
</tr>
<tr>
<td>C6933</td>
<td>RCI</td>
<td>Request by Consultant for Information</td>
</tr>
<tr>
<td>C6934</td>
<td>DRC</td>
<td>Direction/ Reply to Consultant</td>
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<td><strong>7. Communication (External)</strong></td>
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<tr>
<td>C6935</td>
<td>CLC</td>
<td>Consultant Liaison with other Consultants</td>
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<tr>
<td>C6946</td>
<td>PCA</td>
<td>PUP Conflict Advice</td>
</tr>
<tr>
<td>C6949</td>
<td>RSC</td>
<td>Reference to subconsultant</td>
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<tr>
<td><strong>8. General</strong></td>
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<tr>
<td>C6938</td>
<td>CR</td>
<td>Referral to Consultant</td>
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<tr>
<td>C6939</td>
<td>RPD</td>
<td>Referral to Principal's Delegate</td>
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<tr>
<td>C6945</td>
<td>MAS</td>
<td>Meeting Action Summary</td>
</tr>
<tr>
<td><strong>9. Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C6952</td>
<td>DFT</td>
<td>Document Transfer Form</td>
</tr>
<tr>
<td>C6954</td>
<td>DFD</td>
<td>Document Transfer - Drawings</td>
</tr>
</tbody>
</table>
10.4 Assembly of Invitation for Offer

The Invitation for Offer documentation shall be assembled in a consistent and appropriate manner. This is to ensure that the consultants and departmental officers are familiar with the look and feel of the documentation.

The documentation shall be comprehensive and fully detailed, to ensure that the Consultant has a full understanding of the scope services to be provided.

All forms listed below are available on the TMR Publications intranet site or TMR internet site, see Section 1.5.3 Standard Documentation. When compiling the Invitation for Offer documents the above sources should be checked to ensure the latest forms are used.

The Invitation for Offer Documentation would typically include the following:

<table>
<thead>
<tr>
<th>VOLUME 1</th>
<th>Offer Documents bound separately to be returned with Offer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Document</td>
<td>Form</td>
</tr>
<tr>
<td>Covering Letter</td>
<td>-</td>
</tr>
<tr>
<td>Cover sheets and Index</td>
<td>-</td>
</tr>
</tbody>
</table>

**Forms to be returned in Envelope 1**

- Offer for Consultant Service – Non-Price Component
  - C7586 Grey
- Annexure B to Supplementary Conditions of Contract (if req’d)
  - C7554.2 Grey
- Consultant’s PI Insurance Declaration
  - C7547 Grey

**Forms to be returned in Envelope 2**

- Offer for Consultant Service – Price Component
  - C7587 Grey

<table>
<thead>
<tr>
<th>VOLUME 2*</th>
<th>Document</th>
<th>Form</th>
<th>Colour</th>
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</thead>
<tbody>
<tr>
<td>Cover sheets and Index</td>
<td>-</td>
<td>Buff or Yellow</td>
<td></td>
</tr>
</tbody>
</table>

**Section 1 – Invitation for Offer, Conditions of Offer**

- Invitation for Offer
  - C7585 White
- General Conditions of Offer
  - C7542 Green
- Supplementary Conditions of Offer (if req’d)
  - C7551 Cream

**Section 2 – Conditions of Contract**

- General Conditions of Contract
  - C7545 Lilac
- Supplementary Conditions of Contract (if req’d)
  - C7554 Blue
- Annexure A to Supplementary Conditions of Contract (if req’d)
  - C7554.1 Blue
- Annexure C to Supplementary Conditions of Contract (if req’d)
  - C7554.3 Blue

**Section 3 – Functional Specification**

- Introduction & Administration
  - C7520 Lemon
- Options Analysis (if req’d)
  - C7521 Lemon
- Business Case (if req’d)
  - C7522 Lemon
- Preliminary Design (if req’d)
  - C7523 Lemon
- Design Development Report (if req’d)
  - M4211/ M4212 White
- Risk Management Activities (if req’d)
  - M4213 White
- Preliminary Design Report (if req’d)
  - - White
- Consultation Planner (if req’d)
  - - White

**Codes of Practice**

- Codes of Practice (if req’d)
  - - White

**Electronic Information**

- Supplied on Compact Disc or Floppy Disc or other media
  - - -

* On smaller projects Volumes 3 and 4 may not be required. Volume 2 would contain all information outlined in Volume 2 to 4 above.
10.5 Document Checklists

10.5.1 Introduction
The following checklists apply to Invitation, Offer and Contract Documents associated with contracts between the department and Pre-qualified Consultants.

These checklists presume that the Proposal and possibly other Concept Phase Activities have been completed and that one or more of the Concept Phase and Development Phase Activities are to be contracted.

10.5.2 Invitation Documents
TMR completes the relevant boxes in the following variable Invitation Documents including:
- Appropriate Functional Specification (Functional Specification Proforma)
- Offer for Consultant Service - Non-Price Component (C7586)
- Offer for Consultant Service – Price Component (C7587)
- Invitation for Offer (C7585)
- Consultant Statutory Declaration - Professional Indemnity Insurance and Public Liability Insurance (C7547)

10.5.3 Offer Documents
TMR must check that each Offeror has completed variable information in the following documents included in its Offer Documents:
- Offer for Consultant Service - Non-Price Component (C7586)
- Offer for Consultant Service - Price Component (C7587)
- Consultant Statutory Declaration - Professional Indemnity Insurance and Public Liability Insurance (C7547)

10.5.4 Contract Documents
TMR must check that the Contract Documents are complete and reflect the agreement between TMR and the preferred/recommended Offeror before forwarding the Letter of Acceptance:
- Letter of Acceptance (describing all documents comprising the Contract)
- Any changes to variable information in Invitation or Offer Documents
- Any changes to Annexure A to Supplementary Conditions of Contract (C7554.1)
- Any changes to Annexure B to Supplementary Conditions of Contract (C7554.2)
- Annexure C to Supplementary Conditions of Contract (C7554.3) – if required
- Any changes to non-variable information in Invitation/Offer Documents

10.6 Procedural Checklist

10.6.1 Introduction
The following checklist may be used in any audit of the management of the Consultant Services by the department.

10.6.2 Initiation
Did the Principal’s Delegate:
- Establish a NEED for an external Consultant
- Assess the correct Prequalification Category/Level
- Appropriately apply the relevant Local/Departmental Prequalification Register
- Assemble all necessary documents and information for the next stage of the Preconstruction Process
- Correctly select sole invitee or multiple invitee arrangement
- Correctly select QBS or VBS for multiple invitee

10.6.3 Pre-Invitation
Did the Principal’s Delegate:
- Prepare the Functional Specification/Fee Schedule and determine a realistic estimated Contract Amount
• Determine the local requirements for non-financial assessment criteria / relevant weightings and complete the Invitation Form Annexure
• Determine the composition of the Assessment Panel and advise/confirm members having regard to any conflicts of interest
• Coordinate preparation of Invitation Documents so that delays were minimal
• Ensure forms and annexures are accurately completed
• Include assessment sub criteria to allow for the nature of the Consultant Services and include local conditions
• Brief the Assessment Panel on the Assessment Criteria and answer any questions
• Consider whether a Formal Contract was warranted in this situation

10.6.4 Invitation Period - Up To Closing Date
Did the Principal’s Delegate:
• Keep appropriate records of all oral/written communications with invitees
• Distribute appropriate Notices to Invitees, ensuring no advice is given that would unfairly benefit or cause a detriment to one or more of the invitees
• Limit significant changes to invitation rules e.g. extend time for closing of offers, and ensure new rules apply to all invitees
• Hold a Pre Close of Offer meeting, dealing fairly with the invitees, ensuring all offerors have the same clear understanding of the requirements and providing all invitees with a written record of the meeting
• Deal with conflict of interest, confidential information and privacy issues at Pre Close meeting
• Understand the required fee structure of the offer
• Ensure all invitees have a clear understanding of:
  – the problem or need to be satisfied by the commission,
  – the corporate objective for the link,
  – the requirement for environmental sustainability,
  – the required operational/functional outcomes of the completed infrastructure.

10.6.5 Invitation Period Closing Date To Award
Did the Principal's Delegate (prior to giving Offers to the Assessment Panel):
• Act fairly in deciding whether offers complied with the requirements of the General Conditions of Offer (Clauses 4, 5 and 8) relating to:
  – Receipt at right place within time
  – All Schedules completed, etc.
• Act fairly in deciding whether Offers are non conforming or have unacceptable conditions
• Confirm that any Subconsultants had appropriate Prequalification Category/ Level status
• Check the current insurance status of all offerors
• Determine whether responses were generally consistent and in line with expected responses
• Keep records of all oral/written communication with Offerors including requests for additional information
• Coordinate all activities prior to the award well within the Validity Period

Did the Assessment Panel (after receipt of the Offer Documents):
• Understand and fairly apply the selection criteria/ weightings and make an appropriate recommendation to the Principal's Delegate
• Have sufficient background information - e.g. Prequalification Register details, specific Performance Reports, etc. to make informed decisions
• For VBS, determine any Comparison Amounts fairly
• Carry out some form of sensitivity analysis of the assessment to ensure a robust process
Did the Principal's Delegate (after receipt of the Panel recommendation):

- Conduct negotiations with the preferred Offeror (QBS) matching the Fee Schedule with the scope of the Consultant services, as described in the Functional Specification
- Conduct negotiations with the recommended Offeror (VBS) ensuring the Fee Schedule was within the scope of the Consultant services, as described in the Functional Specification
- Ensure that the preferred/recommended offeror (including Subconsultants) had acceptable insurance policies (especially PI)
- Ensure that the Letter of Acceptance correctly represented the agreement between the parties and included reference to all relevant documents

**10.6.6 Managing the Consultant Services**

Did the Principal's Delegate:

- Cooperate with the Consultant in accordance with client leadership principles including development and regular use of KPIs to monitor performance
- Use appropriate contract management procedures and forms (e.g. those in Annexure B to the Supplementary Conditions of Contract) and maintain records of contract communications between the parties
- Use appropriate project management procedures and forms (including various technical reviews) and maintain records of project management communications between the parties
- Respond to consultant queries in a timely and appropriate manner.

**10.6.7 After Completion of Consultant Services**

Did the Principal's Delegate:

- Complete the relevant Performance Reports Part A, obtain Consultant response and forward copy to Senior Prequalification Officer (Infrastructure Contract Services)
- Ensure that the Consultant was aware of future PI insurance requirements

**10.6.8 After Completion of Resulting Infrastructure**

Did the Principal's Delegate:

- Complete Performance Report Part B, obtain Consultant response and forward copy to Senior Prequalification Officer (Infrastructure Contract Services)