



Terms of reference for Development of a corporate geographical information system

Table of Contents

1. Introduction
2. Background
3. Objectives
4. Scope of work
5. Expected output
6. Timetable
7. Study management

Douglas Shire Council
64-66 Front Street
Mossman, Qld 4873
Tel: (07) 4099-9456

Tender opens 20 January 2007
Tender closes 19 February 2007
Tender number: 30-06/07

1. INTRODUCTION

- 1.1 Douglas Shire Council is a small rural council located some 75km. north of Cairns in far north Queensland. The Shire is one of the nation's top tourist destinations, with the Daintree and Great Barrier Reef World heritage sites in, and abutting, the Shire and with Port Douglas as the main centre for tourist accommodation.
- 1.2 Over the last couple of years the Shire has been engaged in an Organisational review to ensure that its management practices, and its operational environment, are adequate for the 21st century. As part of this process it has been identified that there is a need to undertake a fundamental review of the Shire's geographical information systems (GIS), a fact which is which reflected in this being a requirement of the 2006/07 Operational plan (reference no. 1.2.3). These terms of reference are concerned with initiating investigations in to the Shire's GIS needs.

2. BACKGROUND

Administrative context

- 2.1 The Shire's administrative offices are located in Mossman, with outlying facilities in the form of a works depot and library, both in Mossman. Four departments make up Council administration, employing some 60 staff indoors with another 100 dedicated outdoor staff. Council offers a full range of services appropriate to a Shire of its size and location.

Business context

- 2.2 Council's Operational Plan for 2006/07 is designed to support and progress achievements of the Council in the 2005/06 financial year, not least of which include:
- Completion of an extensive organisation review, which has culminated in the creation of the four new departments: of Development & Environment, Community & Corporate, Finance & Administration and Engineering;
 - Recruitment of General Managers and Managers: two new General Managers to head up the departments of Development and Environment and Community & Corporate and two new Managers to manage the Budget & Accounting Program and the Information Technology Program;
 - Substantial progress towards completion of the "organisational realignment" project, specifically directed at improving the Council's corporate governance, recruiting the specialist staff described above, instilling a performance focused culture across the organisation, providing greater support for the human resources of the organisation, leadership development, improved internal communications and work process improvement.
- 2.3 The 2006/2007 Operational Plan builds upon those achievements. Importantly the strategies and actions described in this plan are specifically directed at contributing to achievement of the objectives described in the Douglas Shire Council Corporate Plan 2005/10. The strategies and actions described within this Operational Plan have been reflected in Council's 2006/07 budget document. This Operational Plan and budget

are inextricably linked and together provide a holistic representation of the works, services and other initiatives the Council intends to focus upon, and just as importantly, direct scarce resources towards, in 2006/07.

- 2.4 The 2006/07 Operational Plan recognises the current circumstances of Council's organisation, particularly in respect of a very clear need to improve information management practices, staff skill levels, manpower and operational systems and procedures. Therefore much of the resources of the organisation will be internally focused in 2006/07 and specifically directed at addressing these issues. There is specific provision in the Operational Plan to "commence investigations into GIS requirements and options".
- 2.5 This is a very conscious decision of Council to continue to "get its house in order" prior to creating any widespread expectations within the community of improved service delivery capability by the organisation. It is also a clear recognition of much criticism emanating from the Douglas Shire community about the effectiveness and responsiveness of the organisation to community needs and aspirations. The priorities for the Council and its organisation within the 2006/07 Operation Plan can be summarised as follows:

Internal focus	External focus
Information management systems improvement	Tourism structure implementation
Human resources development	Disaster planning & management
Introduction of the new planning scheme	Western precinct – "Gateway Master Plan"
Implementation of Food Handling and Health legislation	
Total Assets Management Planning	
Revenue capacity, review including Infrastructure charges policy	
Governance processes	

Technical context

- 2.6 Council's information technology (IT) environment consists of ...

Network

- One main building (approximately 80 staff)
- Two auxiliary sites connected by 1K IP WAN (sufficient to support email and some file sharing)
- 1K ADSL Internet link via MS-Proxy
- Web site, hosted externally
- Email hosted in-house
- VPN and Dial-up services supported
- Wireless connectivity in main building only.

Server environment

- All Servers Microsoft 2000 Server - all current model Dell
- All Databases on Microsoft SLQ
- Using Dell PowerEdge RAID Array on main DB server (160GB used, 44GB Free - 4 free slots for additional 7)

Application suite

- AusSoft "Community" suite of Local Government accounting, management applications. Includes "Latitude GIS" software¹
<http://www.aussoft.com.au/>
- DataWorks, Record Management System (being upgraded to the latest release in February 2007) <http://www.avand.com.au/>
- Microsoft Exchange / Office 2003

Desktop

- 80% Windows XP Prof, 20% Windows 2000 Prof
- 80% of PCs = modern, the remainder due for refresh by 30th June 2007
- Laptops in use by key & senior staff - i.e. not widely used.
- No desktop management product (other than Microsoft Domain Policies)
- Microsoft Office Professional 2003 installed
- Community and DataWorks fat clients installed locally using ODBC / SLQ to talk to DB server

Printer/scanners

- Dedicated scanners for records management (incoming mail etc)
- Xerox Docu Centres (copier, fax, print, scan) used for printing, document scanning to email and fax / email gateway

2.7 With regard to the review of GIS needs, Council operate the following software packages –

1. Latitude GIS, version 10.54, dated May 2006: this is the organisation's principal GIS platform and is used by staff in planning, finance, engineering and corporate services. Although there is currently provision for 147 layers of information, actual data is limited to 18 layers – see footnote. In practice the software is primarily used as an electronic map from which extracts are taken for Council reports.
2. Arc Info: the Council's new planning scheme (August 2006) was prepared on this software package and currently resides only here. Council has an arrangement with Mossman Agricultural Services whereby Council pay the

¹ There are eighteen current data layers available: Parcel polygons; Road boundaries; Lot boundaries; Lot/plan numbers; Road names; Shire boundary/road centreline; Parcel numbers; Property numbers; Divisions; Sewer retic (under construction); Coral Sea; Port Douglas; Town planning scheme (superseded only); Contours at one five and twenty metres; DSC logo; DSC road names; Title text; and Locality

annual license fee for this one workstation so that it's planning scheme can be maintained. This is not envisaged as a suitable long-term arrangement. The only staff member with some Arc knowledge has recently resigned.

3. Map Info, Professional version 8.5, dated 2006: this package is used exclusively by the Engineering department specifically for mapping declared and environmental pests. Map Info serves as a GIS platform used in conjunction with GBM Mobile Version 4.1 and PDA (HP iPaq hx4700) for collecting data in the field (e.g. species, density, area etc) relevant to pest management.
4. Property.gov, version 8 dated 30 July 2006: this is Council's principal property database and is used extensively in rates and financial matters. Planning and other departments take specific pieces of data (e.g. lot size, address etc) for their work. The data base does link to Latitude but data entry is often a time-consuming manual exercise.
5. DataWorks, number 3, release 4: Council's existing DataWorks package needs substantial upgrade, with migration to release four commencing in January 2007. It is anticipated that this upgrade will provide –

Improved automated responses utilizing information already existing within Council's systems which can either be printed or automatically distributed via email;

Automated workflows which define business processes and manage service delivery. Workflows will be established which automatically routes the information users need, and when the task is completed, routes it to the next person in the process;

Reporting summaries of data held in DataWorks. The Standard Suite of Reports shows security summaries, metadata integrity issues, and user performance such as outstanding tasks on task lists; and

Email integration with Microsoft Outlook. E-mail may be used as the corporate communication channel whilst DataWorks provides the corporate vault into which information of corporate significance is stored.

Information management issues facing Council

- 2.8 As part of the organisational review Council have researched information management practices and have identified the following common issues –

- Fragmented systems across the organisation/no integration
- Lack of staff training, understanding and skills associated with competent records management practices
- Lack of confidence by staff in current systems
- Subjective data entry/document identification adversely affecting retrieval capabilities
- Non compliance by staff with required procedures

- Lack of staff resources to manage and improve what we have
- No designated responsibility for management of current systems
- Ineffective dissemination of information
- Lack of definition of roles/responsibilities for dealing with matters generally
- There are potentially high risks associated with not being able to find records/retrieve documents
- Limited staff backup capability for records management purposes
- Time wastage associated with looking for things that can't be found
- High risk of penalties being imposed for non compliance with records management legislation
- High risk of costs to the Council as a result of an inability to defend its position as a result of documents not being locatable
- Some data bases may not be industry standard – e.g. security standards
- Little understanding of user requirements
- Current systems not used to capabilities
- Inadequate technology
- Inadequate office space

2.9 In addition the following issues are apparent within the GIS environment –

User related:

- Data capture is often manual, when done;
- In common with most councils, GIS is viewed simply as an electronic map;
- The full analytical power of GIS is either not understood or known about;
- External data capture through handheld devices is non-existent;
- Limited, to no, training of staff in the use of relevant application software is available
- Maps are printed and then scanned for insertion into reports;
- Training is hard to manage/focus with at least three GIS platforms in use.

Data and software related:

- A variety of software applications are in use;
- Data sharing is often manual in nature;
- A limited amount of data in the form of layers and themes is available;
- Useful hard copy data exists, but no data capture program is in place²;
- There is a need to move into electronic processing of applications;
- Limited capture of management statistics for reporting purposes;

Delivery platforms;

- Delivery platforms may become more web-based;
- Council need not have a dedicated GIS – external providers may offer a better solution³.

² E.g. aerial photographs stretching back many years, property records, etc.

3. OBJECTIVES

3.1 The study has the following objectives –

- (i) Identify the business drivers for maintaining and growing GIS support;
- (ii) Identify the benefits of having in-house GIS capacity;
- (iii) Identify the need for, and use of, particular information;
- (iv) Identify and develop standards and procedures for data capture and maintenance;
- (v) Identify the opportunities to apply GIS across all departments of Council;
- (vi) Develop a blueprint to deliver improved/extended GIS services to Council;
- (vii) Consider the options for improved GIS integration; and
- (viii) Identify options for delivery of the GIS service.

4. SCOPE OF WORK

4.1 The following tasks are anticipated but are not necessarily the only tasks required of the consultant. In preparing the tender, firms should consider how best the objectives of the project are to be met and are free to identify a different set of tasks to achieve this.

Task 1: Identify issues relevant to developing a GIS capacity

4.2 This task is likely to involve a broad examination of geographical information systems generally, including their relevance to Councils, trends in the development of these systems, developments in information technology, benefits to be accrued, costs that may be faced, external opportunities⁴ and other relevant information. In addition the task involves an examination of Council's GIS environment including, inter alia, data availability, data capture procedures, information technology capacity, interface opportunities with other software programs, Councilor access, data security, risk analysis of the existing environment and other relevant information.

4.3 The task centres on identification of why several systems exist and how they can be rationalized to meet internal and external business needs, taking into account integration with other software used by Council, internal capability to deliver change and appropriate delivery channels.

Task 2: Develop a blueprint for GIS use within Council

4.4 This task is likely to include identification of the intended purpose of a Council GIS, Council and staff aspirations for it and user needs. Consideration of the options for improved GIS integration (e.g. integration of rates/GIS/development application systems/local government management software⁵, to deliver internal and external

³ For example ATGIS - *Atherton Tablelands Geographic Information Systems* is a joint initiative of the [Atherton Shire](#), [Eacham Shire](#) and [Herberton Shire](#) Councils.

⁴ For example the State government's *Smart e-DA* program which is designed to allow web-based lodging and processing of development applications.

⁵ The current applications software (e.g. the Community suite of products) is intended for review in the medium to long term.

information and services to both staff and public) will need to be explored and defined.

4.5 As part of developing the blueprint it is anticipated there will be a need to identify options for delivery of the GIS service. Options may include, but are not limited to -

- DSC purchasing from a vendor, selected through a tender process;
- As part of alliance with Tablelands councils or other groups; or
- As part of other shared services/hosted solutions.

4.6 Each of the options is to be tested and a recommendation as to the best option for DSC put forward in the blueprint. The result is a blueprint of council business needs and how GIS is, and could be, used both by internal and external users. It is anticipated there may be a number of blueprints that could provide the Council with GIS functionality and if so, this task would also seek to test them to determine the optimal approach.

Task 3: Determine data needs, capture and maintenance requirements

4.7 Data availability, data capture procedures in real time and capture of historical documentation needs to be investigated in the light of the Council's GIS blueprint. The task will need to establish what data needs to be acquired (e.g. planning scheme, utilities, cadastral information, etc.) in the light of an agreed blueprint and the appropriate methodology for doing so (e.g. outright purchase, digitizing, GPS scanning, etc.)

Task 4: Preparation of a business case

4.8 This task will involve the preparation of a business case for the upgrade of GIS capacity within the Shire and will need to cover not only software and IT but also training, data capture and other identified issues. It is anticipated that the business case will include a costed implementation program, including identification of any specialist skills required to implement the program. The business case will need to include a staged approach in order to minimize up front costs, and deliver early benefits, that would demonstrate the value of further funding by Council for successive stages of work.

Task 5: Educate staff on how fundamental information can be effectively used

4.9 In working towards development of the business case it is expected that the work will be undertaken in a consultative fashion with staff to ensure there is a much greater understanding of GIS capabilities and user acceptance of the eventual upgrade. This task will also include working with Council, including formal briefings, to ensure that the upgrade program is justified, supported and funded.

4.10 This task is also likely to involve a series of events that are designed to engender a greater understanding of GIS and its benefits amongst users, identify the principal objectives for the Shire's GIS and lead to the formation of options for further testing and evaluation. In particular the task will need to educate management and key staff on

how fundamental information can be better managed, accessed and integrated to deliver business efficiencies.

5. EXPECTED DELIVERABLES

5.1 The following documents are expected –

- *DSC business and information needs: a blueprint for introducing GIS capability*
- *The Council's GIS environment: systems, information holdings and staff budget*
- *Benefits and opportunities for enhanced GIS support in Douglas Shire Council*
- *DSC Strategy for enhanced GIS support: stages, costs and deliverables*
- Monthly progress reports to Council

6. TIMETABLE

6.1 Council's budget cycle is expected to commence in early February: the study needs to inform this process and, in any event, be completed by 30 June 2007.

7. STUDY MANAGEMENT

- 7.1 The Council's project manager is Paul Trotman to whom all enquires should be directed in the first instance.
- 7.2 Given the corporate importance of this project the Steering Committee will consist of the Corporate Executive of five. In addition Council has a GIS User's Group who will act as the technical reference for this project. The Project Manager sits on the User's Group and the Corporate Executive.
- 7.3 Council meets three weekly on Tuesdays, with the Agenda closing at 12.00pm on the Tuesday preceding. Council meeting dates can be found on the Council's website – www.dsc.qld.gov.au .
- 7.4 Tender documents are to respond to these terms of reference and should also include curricula vitae, fees payable by expected outputs (shown as ex and inclusive of GST), billing rates, reimbursements and any other relevant information. In addition the tender should specify the form of contract: Council can contract under Local Buy for all Queensland Councils and offer the *General conditions of contract for engagement of consultants* as prepared by Standards Australia.

7.5 The following evaluation criteria and weightings will be applied to tenders –

- Methodology 30%
 - i. Relevance to the study
 - ii. Ability to deliver desired outcomes
 - iii. Clarity of
 - iv. Degree of risk to the Council
 - v. Understanding of Council's needs

- Staff/firms experience 40%
 - i. Of the team leader
 - ii. Of the assigned staff
 - iii. Of the lead firm
 - iv. Of any associated firms

- Cost and time 30%
 - i. Offer price⁶
 - ii. Value for money
 - iii. Ability to deliver on time

7.6 Tenders are to be submitted by the date given at page one of these terms of reference and are to be lodged in the Council's tender box at the address given above, no later than 2.00pm on the closure date. Six copies of the tender document are required. Email and facsimile tenders will not be accepted. All tenders must be marked with the tender number on the advertisement, be addressed to the Tender Receipt Officer and marked for the attention of the Project Manager, by name.

⁶ Although the Council has a budget for this work, this will not be revealed as part of the tender process.