Project Statement

Version 1.0

Integrated Land and Resource Registry Project

For the

Ministry of Sustainable Resource Management

Integrated Registry Branch

Sierra Systems Group Inc.
880 Douglas Street, Suite 500
Victoria, BC V8W 2B7
www.SierraSystems.com

Contact: Simon Lanoix
Phone: 250-385-1535
Fax: 250-385-4761
Email: SimonLanoix@SierraSystems.com
Date: November 24 , 2003

TABLE OF CONTENTS

Appendices

Sierra
New thinking.

1. INTRODUCTION

1.1. Audience

This Project Statement document is intended for all members of the Integrated Land and Resource Registry (ILRR) Project Team and other resources involved in the review of deliverables and workshop participation. This Project Statement will be ported to the ILRR project Website making it available to stakeholders, potential clients and general public.

1.2. Purpose

The purpose of this document is to define structure and methodology for the delivery of Business Requirements and System Architecture for Integrated Land and Resource Registry (ILRR) Project for the Ministry of Sustainable Resource Management.

The Project Statement defines the scope, objectives, stakeholders, organization, staffing, approach, deliverables, milestones, timelines and work-plan. Once accepted, the project statement outlines the *shared understanding* between all project members.

The project statement is a living document that will be revised to reflect any changes in the project, ensuring it continues to be a valid definition of the *shared understanding* between the project team members. A revision log will be maintained in Appendix A of this document.

1.3. Assumptions

The ILRR project is proceeding with the following documented assumptions:

- All tasks and activities assigned to MSRM or other stakeholder resources will be completed in a satisfactory and timely manner, so as to not adversely impact the project plan and schedule.

- All Stakeholders will be available (with appropriate notice) to attend the workshops as described in the ILRR Project schedule and the project work plan.

- MSRM support resources will be available as required, or as scheduled on the detailed project plan once it is completed

- The change control process established in this document will manage additions or changes to the project scope.

- MSRM will permit Sierra Systems access to all project-related documentation and information.

- MSRM will permit Sierra Systems access to all required business documentation and information technology and plans documentation.

- The project work plan assumes a maximum of five days for ministry and stakeholder resources to review, comment on and approve all interim and final deliverables. The only exception is the 15-day review period for the final Business Requirements deliverable.

- As established (as part of this document), any change to the number of working groups or the proposed membership of these groups will be managed through change control.

- As established (as part of this document), any change in the number of proposed workshops will be managed through change control.

- Documentation of the legislative and policy changes will be done through the interaction of working group members and previous documentation.

- Collaboration with the Ministry on the work undertaken in the areas of data quality, business change management, and project management will be limited to what is estimated in the project work plan, included the value-add work. Additional effort required will be managed through change control.

- Deliverables will comply with the standards as set forth in Section 2.8.

1.4. Standards

The ILRR Project will, at a minimum follow the guidelines as outlined in the following standards as published by the Ministry of Sustainable Resource Management:

Area	Document	Version
Quality Assurance	SDLC STANDARDS	Version 1.0
	Quality Assurance Guidelines as described in Section 2.11 of this document.	April 22, 2002
Project Statement	SDLC STANDARDS	Version 1.1
	Project Statement Standard – this document	May 10, 2000
System Analysis	SDLC STANDARDS	Version 1.1
	Content outlined in Section 2.8	June 7, 2000
System Design	SDLC STANDARDS	Version 1.0
	Content outlined in Section 2.8	June 7, 2000
Risk Management	SDLC STANDARDS	Version 1.1
	Risk Management Standards – outlined in Appendix C.	February 12, 2002
Project Status Reporting	SDLC STANDARDS	Version 1.1
	Project Status Report – outlined in Appendix D.	September 20, 2000
Project Minutes	SIERRA STANDARDS	New
	Outlined in Appendix D.	

2. PROJECT FRAMEWORK

2.1. Background

As the owner and manager of most of the land and resources in British Columbia, the Province has been granting rights to develop and use land and resources to individuals and companies for over 100 years. To convey rights, an individual typically submits a request to the ministry responsible for managing and issuing those types of rights. The ministry then reviews the request against legislative and regulatory criteria; checks the availability; and, if both are acceptable, grants the request to convey the rights by issuing a legal document to the individual. This system of administration works well as long as Crown Land and resources are plentiful and potential conflicts are few and far between.

However, as more and more Crown Grants take place over time, and the types of grants grow, the administration of this mosaic of Crown allocations is becoming more complex and expensive to operate. This has led to delays in responding to individual requests. In the very worst cases, these delays are measured in years, and seriously impede the effective use of Crown Land and resources.

As part of its New Era commitments, Government has directed the Ministry of Sustainable Resource Management to move from the current diverse set of inefficient electronic databases and multiple tenure registries to an "integrated register" that will assist government agencies and industry in *quickly and accurately* selecting areas of operational interest, and processing requests for land and resource rights.

The ILRR Project vision is a spatially enabled, accurate, efficient and accessible electronic register of all legal interests in Crown and private land and resources, which serves the business needs of a diversity of users and clients.

The Ministry has conducted a study of the current state of rights registration in the Province, international examples of tenure registries, and best practices in the field of tenure and land status.

The conclusion outlined in this *Business Strategy and Transition Plan* is that the Province should transition its rights registries to a single "interests based" register of land and resource rights. This "interests based" register will be the authoritative source of information regarding new land and resource rights. In order for a land or resource right to exist, it must first be registered in the integrated register. Ministries will continue to manage the process of tenure applications and approvals
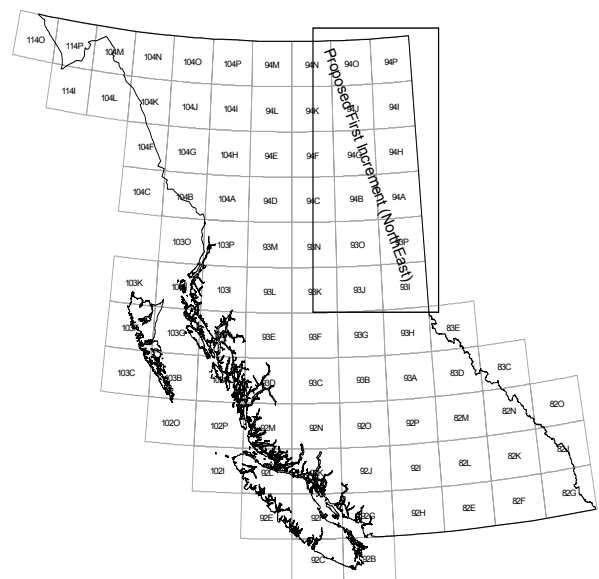
and maintain their operational systems. These systems will use the integrated register to officially register rights once they have been granted, to de-register lapsed and expired rights, and to ensure that conflicts do not occur.

The *Business Strategy and Transition Plan* further recommends that the implementation of the ILRR proceed in geographically distinct "increments". The first increment will be delivered in the Northeast part of the Province to maximize development value by supporting ongoing oil and gas exploration.

The *Business Strategy and Transition Plan* identified data quality as being one of the most significant issues affecting the outcome of the Integrated Land and Resource Register project. High levels of data quality are key to establishing the level of user confidence, certainty, reliability and efficiency required for the ultimate success. Conversely incomplete, inaccurate and poorly defined or out of date information would result in a system of little value to anyone.

The Ministry will take the lead in resolving data quality issues and will work collaboratively with Sierra Systems to integrate this process into the business requirements, systems architecture phase (Phase I).

2.2. Project Overview

The Ministry of Sustainable Resource Management is moving to consolidate land and resource rights registration into a single Integrated Land and Resources Register (ILRR). The ILRR will become the authoritative reference for land and resource tenure information throughout the Province, eliminating duplication in business processes, and speeding up the tenure administration process across all areas of government.

Two main deliverables of the first Phase in preparation for the implementation of the ILRR are:

- **Business Requirements** – a statement of high level business requirements, a statement of systems goals, objectives and principles, and a business process description that will document current rights registration processes and how to best connect them to an Integrated Land and Resources Register.

- **Systems Architecture** – a business process model, logical data model and the application architecture and technical architecture that will document the information technology requirements of the Integrated Land and Resources Register itself, and provide the initial blueprints for implementation. The systems architecture will align with the ministry's architecture and will re-use standard components/applications where cost beneficial to the ministry. In addition as the systems architecture is developed, Sierra and IMB will work closely together to identify candidate standards and/or reusable components that may be incorporated as standards into the ministry's architecture.

The ILRR, and in fact the Province, is looking for a high degree of integration and interoperability between information systems. The Systems Architecture will consider linkages and integration with government operational databases, and some external databases (i.e. Integrated Cadastral Information Society). The architecture design process for the ILRR may also have to consider some Province wide enterprise architecture.

2.3.   Project Objectives

This phase (Phase 1) of the ILRR project will focus on defining the what and the how of the ILRR.

- *We need to know*: What are the rights that are registered? What do the rights registration organizations currently do to register their rights? What will these organizations need to do to support an ILRR?

- *We will answer*: How the rights are registered and how the organizations will use ILRR to register them.

2.4.   Project Scope

2.4.1.   Overall ILRR Project

The Ministry of Sustainable Resource Management is moving to consolidate land and resource rights registration into a single Integrated Land and Resources Register. The ILRR will become the authoritative reference for land and resource tenure information throughout the Province, eliminating duplication in business processes, and speeding the tenure administration process across all areas of government. The ILRR will have a strong link with other government operational databases including Forest Tenure Administration (FTA), Mineral Information Data System (MiDA), Tantalis (contains Crown Land ownership, land tenure information, and survey parcel details), as well as the Ministry's Land and Resource Data Warehouse (an integrated spatial data warehouse). The scope of the overall ILRR project will be undertaken and completed through the next four years.

ILRR INCREMENTAL DELIVERY APPROACH

2003/04	2004/05	2005/06	2006/07

Systems Architecture Revisions

Technical Solution

Business Requirements and Systems Architecture (Phase 1)

Deployment in the Northeast

Deployment in Area 2

Deployment in Area 3

Alternate Service Delivery

Province's responsibility

Operational Support	*Operational Support*
Data Quality Management	*Data Quality Improvement*
Business Change Management	*Legislation, Governance & Business Planning*
Project Management	*Project Management and Communication*

Alternate Service Delivery

Consider ASD Options

**Option 1. ASD Solution**

Option 2. Government Solution

2.4.2. ILRR Phase 1 Project Scope

The scope of the Phase 1 – ILRR Project is well described in the deliverables section of this document (Section 2.8) and in the ILRR proposal (Section 3).

The two deliverables of this first Phase of the ILRR Project are:

- **Business Requirements** – a statement of high level business requirements, a statement of systems goals, objectives and principles, and a business process description that will document current rights registration processes and how to best connect them to an Integrated Land and Resources Register.

- **Systems Architecture** – a business process model, logical data model and the application architecture and technical architecture that will document the information technology requirements of the Integrated Land and Resources Register itself, and provide the initial blueprints for implementation.

Integrated Land and Resource Registry Project Timeline
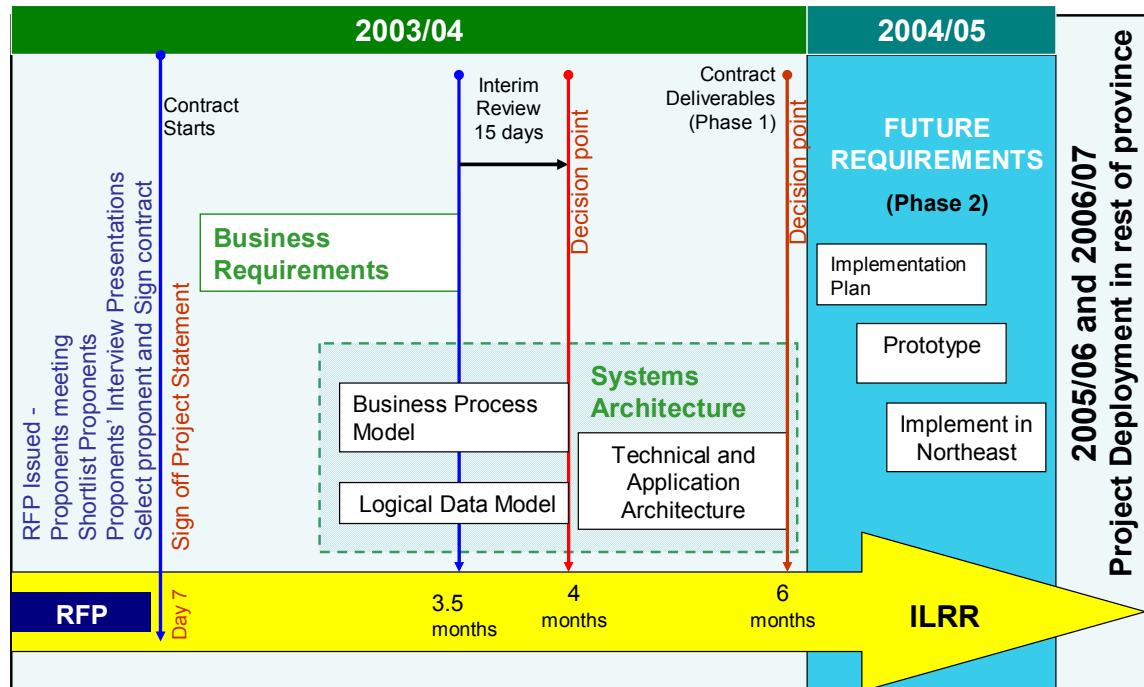
The scope of this component of the ILRR project is to complete Phase 1 (see diagram above) of the technical solution work as outlined in the Business Strategy and Transition Plan. The two main activities identified for this Phase are Business Requirements and Systems Architecture. Our team will also collaborate with the Ministry on the work they are undertaking in the areas of data quality, business change management, and project management.

2.5. Project Approach

In keeping with the organization of requirements as set out in the RFP, the ILRR Project will organize Phase 1 of the ILRR project into three primary activity streams: (1) Business Requirements (2) Stakeholder Consultation and (3) Systems Architecture. These three streams are supported by Project Management/Administration. The following diagram outlines the three streams and key activities within them.

2003/04 Phase 1
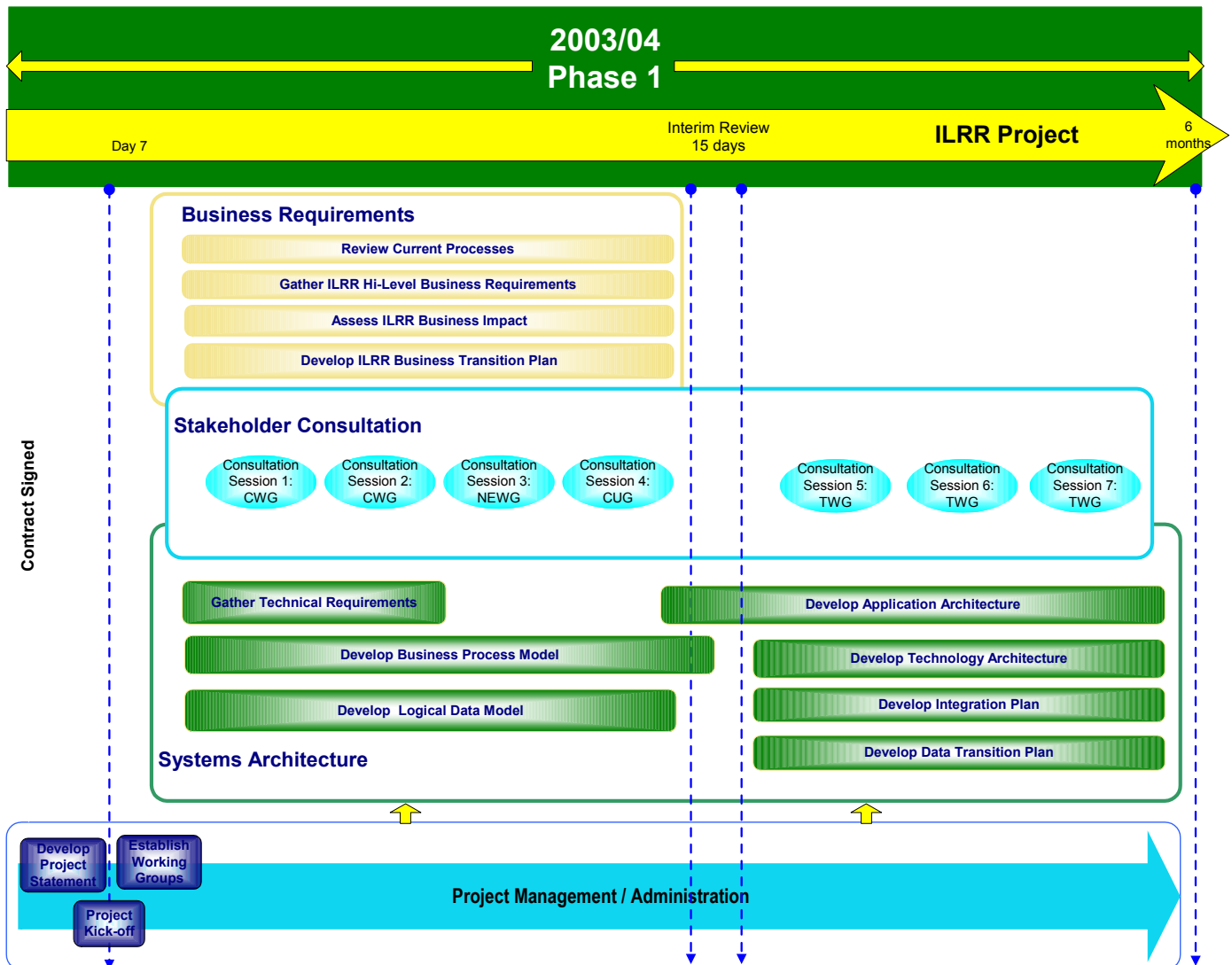
The Business Requirements and Systems Architecture stream is resourced to complete planned activities as they work toward producing a set of deliverables for that stream. While each stream may have individual activities and goals, they are by no means independent of each other. The ILRR Project approach applies common elements across Business Requirements and Systems Architecture to bring together these two distinct streams of activity. These common elements of our approach are:

- Stakeholder consultation process.

- Rational Unified Process® (RUP®) based methodology.

The approach can be summarized as; each iteration of Business Requirements and Systems Architecture activities revolve around a consultation session. Each iteration is working to further refine the information.

The benefits of applying these elements to our approach include:

- Efficiency (numerous stakeholders must be consulted in a short time frame);

- Integration (work completed in Business Requirements will feed into Systems Architecture); and

- Consistency (the group discussion in the consultation process will facilitate the development of consistent business practices where it makes sense.

The Business Requirements and System Architecture streams are described in detail within sections 3.2 and 3.3 of the ILRR proposal

Stakeholder Consultation Process

The ILRR Project will provide an iterative consultation approach. Working initially with a core set of stakeholders the project team will be able to quickly develop the nucleus of the business and system models for the ILRR. This first iteration of these models will form the basis of our consultation with progressively larger sets of stakeholders, allowing us to further refine the models. At the end of the consultation process, all stakeholder groups will have had an opportunity to provide input to the final business requirements and system design.

The iterative approach will allow us to conduct comprehensive consultation with the full range of stakeholders within the short timelines set out by the Ministry.

Given the large number of stakeholders, the diversity of the registries and the project constraints, A number of "Working Groups" each with specific knowledge, and responsibilities will ensure that the project team is working with the right person/organization(s) at the right time in the project. More information the membership of these working groups is available in Section 2.7.2.

Rational Unified Process (RUP) Based Methodology

For the definition of the ILRR Business Requirements and Systems Architecture, the overall methodology will be based on the Rational Unified Process® (RUP®). RUP is widely regarded as one of the industry-leading standardized frameworks for systems delivery, and while this phase of the ILRR project is not a systems development project, there are RUP best practices that are relevant:

- **Use an Iterative Approach -** An iterative approach is generally superior to a linear or waterfall approach for many different reasons.

  – Risks are mitigated earlier, because elements are integrated progressively.

  – Changing requirements and tactics are accommodated.

  – Improving and refining the product is facilitated, resulting in a more robust product.

  – Organizations can learn from this approach and improve their process.

  – Reusability is increased.

- **Manage Requirements -** Requirements management is a systematic approach to finding, documenting, organizing, and tracking a system's changing requirements. We formally define requirements management as a systematic approach to both:

  – eliciting, organizing, and documenting the requirements of the system; and

- establishing and maintaining agreement between the customer and the project team on the system's changing requirements.

- **Use Component Architectures -** Components are cohesive groups of code, in source or executable form, with well-defined interfaces and behaviors that provide strong encapsulation of their contents, and are, therefore, replaceable. Architectures based around components tend to reduce the effective size and complexity of the solution, and so are more robust and resilient.

- **Model Visually (UML) -** Visual modeling is the use of semantically rich, graphical and textual design notations to capture software designs. A notation, such as UML, allows the level of abstraction to be raised, while maintaining rigorous syntax and semantics. In this way, it improves communication in the design team, as the design is formed and reviewed, allowing the reader to reason about the design, and it provides an unambiguous basis for implementation.

- **Continuously Verify Quality -** Software problems are 100 to 1000 times more costly to find and repair after deployment. Verifying and managing quality throughout the project's lifecycle is essential to achieving the right objectives at the right time.

- **Manage Change -** Managing change is more than just checking-in and checking-out files. It includes a disciplined approach to managing iterations and releases of software. It also means strictly controlling changes to the software.

Please refer to section 3.2 and 3.3 of the ILRR Proposal for details of how RUP best practices will be applied to each stream.

2.5.1. Significant Value-Adds

The ILRR Project approach for Phase 1 includes the following:

Spatial data expertise – Dr. Pam Sallaway will ensure that the business requirements and systems architectures accurately address the complex spatial and attribute data needs of the many stakeholder organizations, and will work with the Ministry on strategies for data quality improvement.

Deliverable quality assurance – Naomi Hamilton will provide quality assurance on the team's deliverables, to ensure they meet the project objectives. She will also collaborate with the Ministry on their Business Change Management responsibility during this phase.

Alternate Service Delivery support – To assist the Ministry in assessing the viability of alternate service delivery (ASD) options for the registry, Ken Davidson will investigate alternate service delivery models that are tuned for the unique requirements of the public sector.

2.6. Project Communications

It is important to us that our clients understand the status of their project. To ensure that all project members, ministry users and stakeholders understand the status of the project, the ILRR

Project Team will have formal communication and progress reporting structure, including ongoing informal meetings with appropriate Ministry staff throughout the duration of the project.

Communications will take several forms on a project. The following table identifies the communication mechanism and the intended audience appropriate for the level on information.

The first form is communication within the project team including Ministry staff. The team will meet weekly to discuss all aspects of the project. This is particularly important given the short timeframe for the project. We propose meeting weekly with the Ministry Project Manager at which time we will present the bi-weekly status report and have a Q&A session.

Another form of communication is with the stakeholder community. This includes anyone directly or indirectly involved or interested the project. The style and method used here will be determined in the Communication Plan created as a part of the Project Statement.

Communication Mechanism	Content	Target Audience	Frequency
Project Team Meeting	Detailed work plan level project status – review of activities, schedules, issues.	Project Team	Weekly
Project Managers Meeting	Detailed work plan level project status – review of activities, schedules, issues, and other PM topics.	Project Managers	Weekly
Steering Committee Meeting	High level information sessions to provide ILRR project update and resolve any outstanding issues	Minimum of 3 meetings or as required by risk / issue escalation	After deliverables and as required
Status Reports (promote to Web)	Management level information about ongoing ILRR project progress.	Project Team, Ministry Users, Stakeholders, Public	Twice Monthly (1st and 15th of each month)
FAQs (promote to Web)	Bulletins and general information gathered during the project and promoted to the Web as often as possible.	Project Team, Ministry Users, Stakeholders, Public	Ongoing
Deliverables (promote to Web)	Three deliverables of the project; Project Statement, Business Requirements, System Architecture	Project Team, Ministry Users, Stakeholders, Public	As scheduled

Templates for Status Reports and Meeting Minutes are in Appendix D.

2.7. Project Team

The ILRR Project is made up of three critical entities in order to provide the support, the technical expertise, and the business expertise required to successfully complete this phase of the project.

### 2.7.1. Integrated Land and Resource Registry Governance Structure

The Ministry has established a Governance Structure for the ILRR (depicted below). The ILRR Project Team Structure will provide a seamless integration with the existing ILRR Governance Structure. This approach builds on the synergies of the existing committees and task forces and ensures that all stakeholders remain informed of project progress.

2.7.2. The ILRR Working Groups
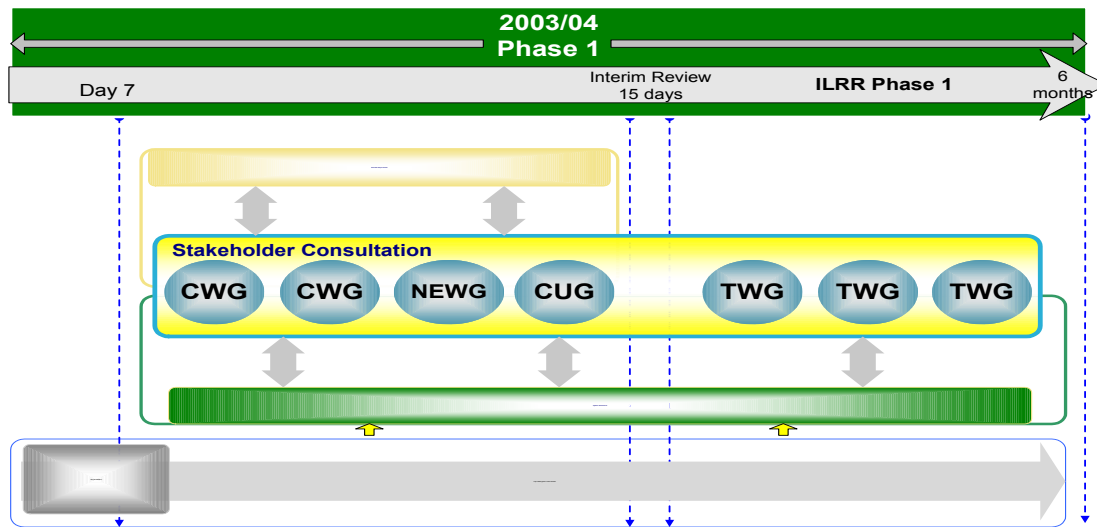
Suggested Core Working Group (CWG) Membership:

15 to 20 people, assume management or senior level business experts

- Sustainable Resource Management (SRM) registry, SRM Information Management Branch, SRM Land Planning and Corporate Policy Branch, Registry Data Branch, Surveyor General, Archeology and Registry Services, SRM Integrated Cadastral Fabric,
- Ministry of Forests (MoF) Tenure, Forests Timber Sales,
- Energy and Mines – mineral, Energy and Mines - petroleum
- Transportation – Land Survey and Tenure, Property Administration,
- Attorney General (Treaty Negotiations)
- Water, Land and Air Protection – Parks and Protected Areas, Fish and Wildlife,
- Land and Water BC Inc
- Oil and Gas Commission
- BC Assessment

Suggested Northeast Working Group Membership:

Approximately 20 people with knowledge specific to their business area and the Northeast.

- Same organizations as the Core Working Group, plus representatives from key stakeholder and industry associations with specific representation from the Northeast.
- Industry associations related to the Northeast include the Corporation of BC Land Surveyors, Council of Forest Industries, Integrated Cadastral Information Society, Canadian Association of Petroleum Producers.

Suggested Client User Group Membership:

Largest working group. Individuals with specific knowledge of the organizations rights granting process or stakeholder needs.

- Same organizations as the Core Working Group, plus representatives from key stakeholders and industry associations such as: Corporation of BC Land Surveyors, BC and Yukon Chamber of Mines, Council of Forest Industries, Canadian Association of Petroleum Producers, BC and Yukon Chamber of Mines, Integrated Cadastral Information Society (ICIS).

Suggested Technical Working Group Membership

The Technical Working Group will be made up of approximately 15 experts with extensive technical knowledge of their business area, and existing rights granting systems. The representation is not confirmed yet but will need to include the following:

- e-Government, Office of the Chief Information Officer
- Ministry of Sustainable Resource Management information technology standards expert.
- Forest interests (Forest Tenure Application, Incosada)
- Mineral, placer, coal interests (MiDA)
- Oil, gas and geothermal interests (EnerGIS and other systems)
- Crown land interests, official boundaries (Tantalis)
- Water rights
- Protected Areas, Fish and Wildlife
- Highways and rights of way
- Private lands (Land Titles ALTOS, and Integrated Cadastral Fabric)
- Archaeology
- Contaminated sites

Workshop participants will be provided with information packages prior to the workshop. Business and Technical workshops will include follow-on activities such as the distribution of workshop minutes, post workshop review and teleconference feedback sessions as required.

A preliminary schedule is in place for the delivery of 8 workshops using the above four working groups. The preliminary schedule is as follows:

Working Group	Estimated Workshop Dates
Core Working Group (CWG)	
1st Workshop	Dec. 1st & 2nd, 2003
2nd Workshop	Jan. 8th, 2004
3rd Workshop	Jan. 15th, 2004
Northeast Working Group (NEWG)	
Workshop	Jan. 29th, 2004
Client User Group (CUG)	
Workshop	Feb, 10th & 11th, 2004
Technical Working Group (TWG)	
1st Workshop	Mar. 15th, 2004
2nd Workshop	Mar. 29th, 2004
3rd Workshop	Apr. 16, 2004

2.7.3. The ILRR Project Team

The ILRR Project Team is a highly skilled team of key (and back-up) resources with defined roles and responsibilities that will meet the requirements of the Ministry and the ILRR project. The following diagram provides an organizational structure of all the key resource. For further information, please refer to the Proposal, where Appendix A describes the resource resumes and Appendix B outlines the skills using a skills matrix.
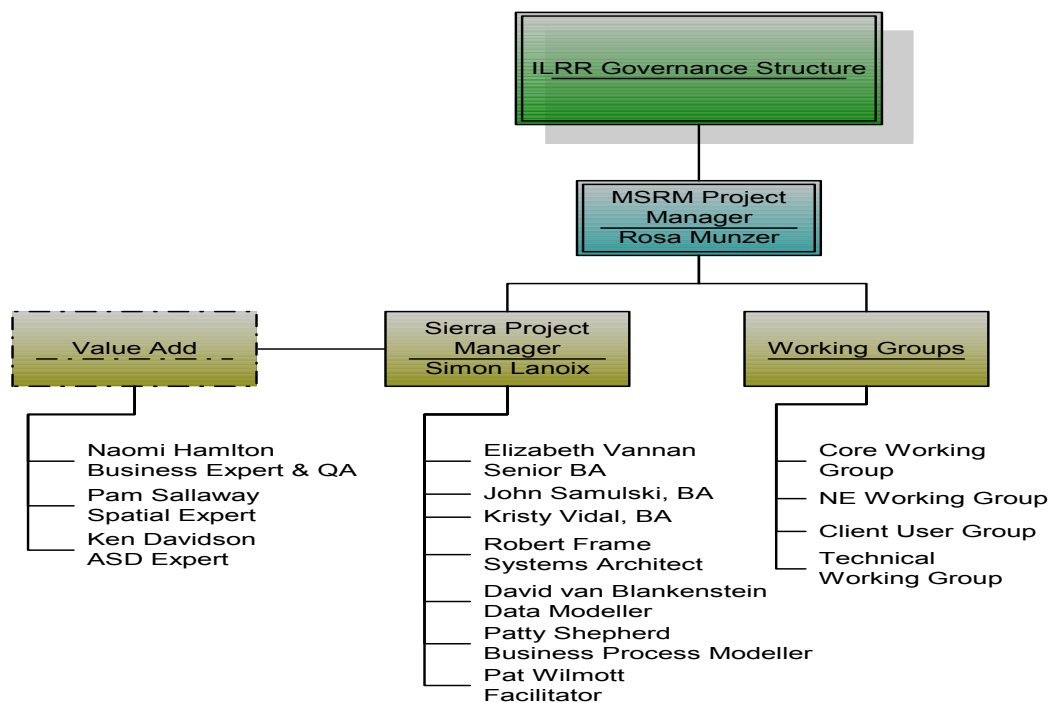
Information on individual role description can be found in the ILRR Proposal in Section 7.

2.8. Deliverables

As described in both the ILRR RFP and Proposal, three main deliverables will be delivered within six months of signing the contract. The three deliverables are as follows and described with supporting information further in this section (2.8):

- Project Statement,

- Business Requirements,

- System Architecture.

2.8.1. Deliverables

This sections describes the content of each deliverable. The first deliverable, this document (Project Statement), is not described.

2.8.1.1. Project Statement

This document, due seven days after signing the ILRR Project contract (November 20, 2003).

2.8.1.2. Business Requirements

The Business Requirements deliverable will provide the Ministry with the following information:

Topic	Description

Current Process Review	• Identification of all ILRR stakeholders and their associated right-granting authority.
	• Document and define all government business processes which result in the creation, maintenance, update or removal of registered interests in land and resources with a focus on the following processes:
	  – Granting rights.
	  – Updating rights
	  – Terminating rights.
	  – Statusing.
	• Preparation of business process models for all existing processes that will interface with the ILRR.

ILRR Business Requirements	• ILRR system goals, objectives and principles. • Business processes that the ILRR will support. • Basic expected ILRR use cases. • At the conceptual level, themes of data to be captured by the system. • ILRR interface points with current business process with recommendations on how best to connect them.
ILRR Business Impact	• Existing stakeholder business processes impacted by the ILRR. • Specific legislation, regulation and policy changes required by ILRR.
ILRR Business Transition	• A transition plan for each business area to ensure that the stakeholders' business functions continue uninterrupted during the ILRR implementation. • A data quality assurance process to provide data quality improvements to support the integration of stakeholder data with the data in ILRR. • Recommendations for changes to business processes to reduce or eliminate data quality problems.

A draft table of contents for the Business Requirements Document is included in Appendix E. Further detail description of the deliverable can also be found in the ILRR Proposal – Section 3.2. The format for delivering this document and the components will follow Ministry standards (i.e. MS Word 2000, etc.)

2.8.1.3. System Architecture

The System Architecture deliverable will provide the Ministry with the following information:

Topic	Description
Business Process	The *Business Process Model* will primarily be delivered as a Microsoft Word

Topic	Description
Mapping	document, containing diagrams and supporting text, each describing a discrete business process. It will be delivered as a section of the overall Systems Architecture deliverable.
Logical Data Model	*E-R Diagram* – The model will be developed in Oracle Designer/2000 and will be delivered as a workspace export accompanied by a folder of printed E-R diagrams and a Microsoft Word document.
	Entity and Attribute Descriptions – Each entity will be given a description, to be ratified by the business domain experts. Attributes will be identified and named.
	Spatial Element Descriptions – The spatial requirements of the system are not easily modeled in Oracle Designer, but do require definition. In Oracle, the geometry will be "stubbed", as an attribute or as a linking key in a correlation table. Diagrams and text describing the geometric sections of the model will be assembled into a Microsoft Word document and where appropriate supplemented by UML diagrams.
Metadata Management Plan	*Metadata Requirements* Consists of the following requirement categories; Data sources, Representation, Accuracy, Availability, Discovery or linkage requirements.
	Tool and Registry High Level Design – select tools to support metadata management for the following; Population, Report Generation, and Maintenance. High level design of metadata repository. Development of metadata management implementation plan
	Metadata management implementation plan – A plan for the population and validation of the metadata
Application Architecture	The Application Architecture will be comprised of:
	• Elaborated Use Case View – storyboards for user interfaces (screen mockups and narratives).
	• Logical or functional view of the proposed application architecture – includes the most important layers, subsystems, packages, frameworks, classes and interfaces.
	• Process view – depicts the collaboration of the application components for the major process threads.
	• Supporting Information – Describes the motivation of the architecture design. It is a summary of the architectural analysis and decisions that support the architectural views.
Technology Architecture	This physical representation will describe each component of the solution's various layers of technology; Network and Hardware layer, Non-application software layer, High Level Application Software layer, Security layer, and Data distribution.
	Each layer will be described through a graphical model and a textual description.
Integration Plan	The *Integration Plan* will be delivered as a Microsoft Word document. It will contain; External Agency Interfacing, ICIS Integration, LRDW Integration, Common Services Interoperation, Metadata Management Plan.
Data Transition Plan	The plan will be delivered as a Microsoft Word document and as a Microsoft Project MPP binary file. As a plan, the content will primarily consist of tasks, dependencies, resources and milestones.

A draft table of content for the System Architecture Document is included in Appendix F. Further detail description of the deliverable can also be found in the ILRR Proposal – Section 3.3. The format for delivering this document and the components will follow Ministry standards (i.e. MS Word 2000, etc.)

Sierra
New thinking.

2.9. Project Schedule and Milestones

The ILRR project schedule is structured with fluid events within a fix and structured deliverable framework. At contract sign-off the schedule is as identified below and also as represented in the detailed work plan in Appendix B.

Deliverables	Estimated Dates
Contract Signed	November 13, 2003
Project Statement	
Delivered to Ministry	November 20, 2003
Approval by Ministry	November 25, 2003
Business Requirements	
Tentative workshop dates:	
1st Core Working Group Workshop (2 days)	December 1/2, 2003
2nd Core Working Group Workshop (1 day)	January 8, 2003
3rd Core Working Group Workshop (1 day)	January 15, 2003
Northeast Working Group Workshop (2 days)	January 29, 2003
Client User Group (2 days)	February 10/11, 2003
Business Requirements Deliverable to Ministry	February 23, 2004
Review by Ministry complete	February 27, 2004
Interim Review Period	
Review period start	February 23, 2004
Decision made	March 12, 2004
Systems Architecture	
Three one day workshops to be scheduled before Feb, 22/04. Tentative dates for these workshops are; March 16/2004, March 30/2004 and April 15/2004	May 5, 2004
Systems Architecture Deliverable to Ministry	May 10, 2004
Review by Ministry complete	
ILRR Phase 1 Completion	May 10, 2004

2.10. Critical Success Factors

In this section are identified the project's critical success factors (CSFs). Built into the approach are aspects that address each of the factors. By taking this approach we incorporate the CSFs into the Project Management fiber of the project. The content of this section will be the building block for the risk management plan (see Section 2.13 for more information)

Meeting 04/05 commitment for North East

Sierra
New thinking.

This phase of the ILRR project needs to position itself successfully to meet the commitment to deploy in the Northeast by the end of fiscal 04/05. The registry must be sufficiently deployed to enable the Oil and Gas Commission and the Ministry of Energy and Mines to meet their revenue targets by 2005.

Collaboration across multiple ministries, agencies, etc.

Both this phase and the end success of the registry relies on the ministries and the agencies that are supplying and accessing registry data. It is critical that these organizations buy-in to the design and implementation plans for the registry.

ICIS meeting their delivery objectives

ICIS is the steward for the integrated cadastral fabric. This is one of the key building blocks for the ILRR and as such, there is a "mission-critical relationship" between ILRR and ICIS. The ILRR project members will ensure collaboration at several levels to ensure risk mitigation as the ILRR project moves forward. Recommendation for risk mitigation is outlined in the Risk Management Plan framework in Section 2.13.

Provide an effective linkage with the Data Warehouse Project

The Land and Resource Data Warehouse Project (LRDW) and the ILRR project should be able to take advantage of areas of joint development and implementation to meet the needs of their respective clients.

Support and availability for subsequent project phases

As there is a strong desire to use some form of Alternate Service Delivery to fund subsequent phases of the project, it is important to position the project to act on viable options. The ILRR project tackles this topic front and center by delivering a preliminary ASD viability white paper by the end of this phase.

2.11. Quality Assurance

Quality assurance is one of the key processes to meet Ministry standards as well to ensure complete and accurate compilation of information to create a solid foundation for the next phase of the ILRR Project. For the ILRR project, time is of the essence, the quality assurance process will also help maintain focus on scope and schedule.

Quality Review Matrix

The table below identifies responsibility for leaders, participants, reviewers, and approvers for deliverables and processes during the ILRR Project:

	Project Director	Minitry Project Manager	Core Working Group	Northeast Working Group	Client User Group	Technical Working Group	Project Manager	Technical Architect	Lead Business Analyst	Data Modeler	Business Process Mapper	Business Analysts	Value Added Data Quality	Value Added Reliable Delivery	Value Added Funsing Alternatives
Project Deliverables															
Project Management															
Status Reports	R	A					L	P	P						
Issue Log	R	R					L	P	P						
Change Request(s)	R	A					L	P	P						
Risk Management	R	R					L	P	P						
Project Statement	R	A					L	P	P						
Steering Committee Presentation	A	L					L	P	P						
Business Requirements															
Business Requirements	R	A	R	R	R		P	P	L	P	P	P	R	R	
Current Situation Assessment	R	A	R	R	R		P	P	L	P	P	P	R	R	
Impact Assessment	R	A	R	R	R		P	P	L	P	P	P	R	R	
Transition Plan	R	A	R	R	R		P	P	L	P	P	P	R	R	
Steering Committee Presentation	A	L					L	P	P		P				
System Architecture															
Technical Requirements	R	A	R			R	R	L	R	P	P	P	R	R	
Business Process Model	R	A	R			R	P	P			L	R		R	
Logical Data Model	R	A	R			R	R	P	R	L			R	R	
Application Architecture	R	A	R			R	R	L		P				R	
Technology Architecture	R	A	R			R	R	L		P				R	
Integration Plan	R	A	R			R	R	P	P	P	P	L		R	
Data Transition	R	A	R			R	R	P		L	P	P	R	R	
Steering Committee Presentation	A	L					L	P	P	P					
ASD White Paper	R	A	R				R							R	L

L = Lead   P = Participate   R= Review   A = Approve

2.12. Risk and Constraints

Risk management is a key element in project success. The ILRR Project Team will use a formal risk identification and management process as an integral part of the project management methodology. The proposed processes are consistent with the Ministry's standards.

The risk management plan will be maintained throughout the project and reviewed weekly with the Ministry Project Manager as part of the weekly status meeting. The risk management approach includes identifying risk areas of the project and establishing both preventative and contingency actions throughout the life of the project. This Project Statement includes a first

version of the risk management plan (Appendix C). These contingency actions are continually addresses and documented, making risk management a daily activity.

2.13. Project Management Processes

The project approach is supported by a well-defined set of project management activities, which include the following:

- **Project Work Plan**. The project work plan (Appendix B) outlines the activities required to produce the deliverables, and ensures these activities are clearly defined, accurately estimated, and managed at an appropriate level of detail. Each activity is assigned to a person responsible for ensuring it is completed successfully. The project plan will be reviewed regularly and updated throughout the project, as new information becomes known. The ILRR (Sierra) Project Manager will be responsible for ensuring all parties, have a complete and up-to-date understanding of the status of the project.

- **Risk Management**. The risk analysis and risk management plan (Appendix C) will be regularly assessed and updated as the project progresses. The risk management approach includes identifying risk areas of the project and establishing both preventative and contingency actions. These actions are continually built back into the project plan, making risk management a daily activity.

- **Status Reporting**. To ensure consistent understanding of the status of the project, semi-monthly status reports will be prepared and summarized for the ILRR (ministry) Project Manager and Executives. As described in Section 2.6, the status reports will include descriptions of activities completed during the previous period, activities anticipated for the following period, and issues and problems requiring resolution. (See Section 2.6 and Appendix D)

- **Status Monitoring**. In addition to status reporting, meetings will be conducted with the Project Team and Project Managers on a regular basis. During these meetings, team members will provide an update of progress made as well as the estimated completion dates. Any issues and concerns identified during these meetings will be documented in the status reports.

- **Project Change Control**. To ensure timely and effective delivery of the project, scope will be tightly managed. Project change control procedures will be reviewed with the team at the beginning of the project, to ensure they are clearly understood. This review will help establish a common understanding of the need for project change control and the mechanism for implementing a change to the scope of the project, should that be required. (More information in this section and template in Appendix G)

- **Project Audit**. As part of the quality assurance process, a formal project audit will be scheduled. The purpose of the audit is to ensure the project is on-track and within budget, that project management practices are being implemented effectively, and that expected deliverables are being completed within the timeframe identified. (See Section 5.5)

2.13.1. Change Control

A change refers to any modification and/or new development deviating from the latest approved project work plan. Change control refers to a series of procedures and development standards by which all development and modifications to production systems are measured and approved. All

potential changes are compared against the latest approved project work plans in terms of functionality, schedule, cost, upgrade capability, maintainability, and resources. ILRR Project Managers will raise change requests based on input from team members.

- Category actions will be taken as follows:
  - Approved changes will be assigned to the appropriate project resource for further action; a change control log will be maintained throughout the project,
  - Rejected change requests will be placed on closed status in the change control log, along with an explanation for the rejection,
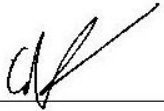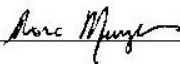
2.13.1.1. Scope Management

A change request can also be initiated whenever there is a need to change the scope of the project, as defined in the project charter. Scope change is acceptable, provided that:

- The need for the change is critical,
- The Project Managers agree that the new requirement or change is needed,
- The impact of the change has been analyzed and understood, and
- The resulting changes of the project (cost, timing, quality of deliverables, and human resources) are approved and properly implemented.

Scope Management will be reviewed weekly by the Project Managers.

2.14. Sign-off

The following signatures represent understanding of the materials contained in the project statement, and agreement to the scope and responsibilities described therein.

Dave Chater (Director)   Date MOV 28/03

Rosa Munzer (Ministry Project Manager)   Date Nov. 28/03

Simon Lanoix (Sierra Systems Project Manager)   Date Nov 27, 2003

APPENDIX A: PROJECT STATEMENT REVISION LOG

Version	Date	Description	Distribution	Author	Organization
Version 0.9.	November 20, 2003	Project Statement – final draft delivered for review	Rosa Munzer	Simon Lanoix	Sierra Systems
Version 1.0	November 24, 2003	Feedback from reviewers incorporated	Rosa Munzer	Simon Lanoix	Sierra Systems

APPENDIX B: ILRR PROJECT WORK PLAN

APPENDIX C: RISK MANAGEMENT PLAN

A risk Management Plan will be delivered within two week following the approval of the Project Statement. This Risk Management Plan will be reviewed weekly at the project status meeting with the Project Managers. Issues and Risks requiring management and executive attention will be escalated as required.

A preliminary Risk Management Plan structure is proposed below:

Risk Management Plan

Project Name:	Integrated Land and Resource Registry (ILRR) Project		Date:	November 15, 2003
Project Manager	Simon Lanoix		Ministry Project Manager:	Rosa Munzer

Risk	Impact (L, M, H)	Risk Status (G, Y, R) 2	Action	Resp.	Action / Date Status
The next phase of the project will not be completed by 04/05.	M	G	Ensure proper representation of Business and Technical expertise on the four working groups. Develop proof-of-concept that is specific to the Northeast in order to reduce risk in Phase 2. The project data conversion plan will utilize a "just in time" (JIT) concept as an avenue for a) ensuring success, and b) minimizing cost. Only clean the data required - what we need, when we need it).	Project Managers	Seek membership for Northeast participation by Dec. 12, 2003
Insufficient buy in from the agencies and ministries that supply and access the registry data.	M	G	Ensure working groups represent clients, and stakeholders. The Ratonal Requisite Pro tool will provide straightforward documentation that will facilitate communication with the working groups. The project teams contributions to the FAQ component of the Project web site and the publication of the status reports will both assist in keeping the project to the forefront.	Project Managers, Executives	Seek membership for Northeast participation by Dec. 12, 2003
Funding is constrained for the future phases	L	G	Include activities during this phase to assist the ministry in assessing viable options. Provide as a value-add access to resources such as Ken Davidson to assist in the development of an ASD strategy document.	Ministry Sponsor and PM	No current issues
Lack of user resources	L	G	Working groups will be established in project initiation providing lead time and allowing timely scheduling of their commitments	Project Managers, Executives	No current issues
Inadequate Project Communication	L	G	Status reports will be added to the existing project web site and FAQs will address some of the issues that arise. The project governance structure is inclusive and provides a number of points of contact with the stakeholders	Project Managers	No current issues

1 (L)ow, (M)edium, (H)igh
2 (G)reen – risk is being managed, (Y)ellow – risk is being managed but has some issues, (R)ed – risk is in trouble

APPENDIX D: TEMPLATES (STATUS REPORTS, MEETING MINUTES, CHANGE REQUEST, ETC.)

APPENDIX E: BUSINESS REQUIREMENTS TOC

The draft table of contents for the ILRR Business Requirements is as follows:

Title page, Version Control, Table of Contents

Introduction and Overview

Current Situation Assessment

    Current Situation Overview

    Managed Rights/ Interests & Designation/ Organization Table

    Current Business Process

        Stakeholder Group 1

        Stakeholder Group 2, etc.

ILRR Business Requirements

    ILRR Business Requirements

        Business Objectives

        Business Context

        High-Level Business Process Model

        Business Drivers/Issues

        Input & Output Requirements

    Functional and Non-Functional Requirements

        Business Function Model

        Triggers

        Process Model

        System Features

        Functional Requirements/Use Cases

        Existing Systems

            User Interfaces

            Hardware Interfaces

            Software Interfaces

            Communication Interfaces

        User Documentation Requirements

        Performance Requirements

        Security Requirements

        Software Quality Attributes

        Current Business Process Workflow Diagrams with ILRR Interface Points

    Conceptual Data Requirements

ILRR Impact Assessment

    Identification of Business Process Changes

    Identification of Legislation, Regulation and Policy Changes

ILRR Transition Plan

    Transition Plan Overview

    Stakeholder Specific Transitions Plans

        Stakeholder Group 1

        Stakeholder Group 2, etc.

    Data Quality Assurance Process

APPENDIX F: SYSTEM ARCHITECTURE TOC

The draft table of contents for the ILRR System Architecture is as follows:

Title page, Version Control, Table of Contents
Introduction and Overview
Business Process Model
    Objectives
    Context diagram of the ILRR system
    Business Process Model
Logical Data Model
    E-R Diagram
    Entity and Attribute Descriptions
    Spatial Element Descriptions
Metadata Management Plan
    Metadata Requirements
    Metadata Standard
    Tool and Registry High Level Design
    Metadata management implementation plan
Application Architecture
    Elaborated Use Case
        Storyboards for user interfaces
        Significant Architectural Requirements
    Logical or functional view of the application architecture
    Process view
    Supporting Information
Technology Architecture
    Network and Hardware layer
    Non-application software layer
    High Level Application Software layer
    Security layer
    Data distribution
Integration Plan
    External Agency Interfacing
    ICIS Integration
    LRDW Integration
    Common Services Interoperation
    Metadata Management Plan
Data Transition Plan
    Data Description
    Phased Area Processing
    Recommended Theme Inclusion Plan
    H.L Data Transition Activities
    H.L Data Transition Schedule