Project Charter

Project Name: BC Spatial (Stage 1)

Focus Area: Province of British Columbia

Product/Process: Parcel data processing and distribution

Prepared By

Document Owner(s)	Project/Organization Role
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Project Charter Version Control

Version	Date	Author	Change Description
1.0	01/21/2009	Barry Logan	Document created using Project Gantt Chart narratives authored prior
1.1	01/28/2009	Barry Logan	Additions to Sections 4.1 & 4.4
2.0	05/14/2009	Paul van Nieuwkuyk	Updated program approach and definition

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1 PURPOSE

BC Spatial is the name assigned to the project by which ICIS will serve as a one-stop access point and provide integration services for cadastral parcel information. This initiative is in response to the priority requirement for a single cadastre established at the conclusion of the May '08 planning session.

In this first stage, BC Spatial will not attempt to reconcile the various member parcel compilation programs, establish member-wide requirements for a single parcel layer, or define a single, common parcel product.

Instead, BC Spatial will begin by performing a province-wide assessment of the available parcel datasets to quantify the integration challenges, and then establish a best-practices framework for automated delivery, population, integration and distribution that provides members with timely access to parcel information along with the required qualitative information required to make informed decisions about its use.

This approach will provide a foundation for subsequent targeted efforts to improve parcel data throughout the province, and will:

- Adhere to ICIS' vision and move towards the goal of achieving a uniform parcel dataset
- Quantify the issues and effort associated with integrating a seamless parcel fabric
- Provide quality reporting that addresses the needs of the member segment business requirements
- Further reduce costs for administering and governing multiple relationships between the member segments
- Standardize, automate and streamline the data processing activities
- Improve the overall quality of ICIS' data
- Eliminate one of the observed weaknesses of the society
- Leverage one of the observed opportunities for the society

Stage 1 of the project is comprised of 4 milestones associated with a number of deliverables. Each milestone is further marked by a number of components by which the effectiveness of the project may be measured. See Section 3.3.

The overall design is to leverage externally supplied cadastres and to distribute an integrated presentation of them according to member needs. The key to effective delivery is to standardize and automate the data processing activities and to produce the required data quality products that will assist users in determining the best available data for their purposes.

NOTE: As an aside, 2009 will see ICIS participation as a CPF partner in tandem with BC Spatial cadastral work. The value that ICIS brings to the CPF table is the ICF, member data, data sharing license agreements and integrated cadastral business requirements. As the CPF evolves, then this cadastral parcel data will be considered the base data for the BC Spatial cadastral parcel fabric. However, incorporation of the CPF data is considered out of scope for Stage 1.

BC Spatial Stage 1 work is included in the approved 2009 ICIS budget. It is estimated that approximately 50% of the effort allocated to overall support numbers should suffice. This approximates to $65K. In addition, monies allocated to the ICIS IT Strategy will be utilized to accommodate infrastructure requirements for BC Spatial Stage 1.

2 PROJECT OVERVIEW: BC Spatial Stage 1

- Facilitate one-stop access to a uniform parcel fabric for the province of BC, resolving multiple and redundant data sources where they exist via qualitative selection criteria.
- Formalize, standardize and automate data processing to improve the currency and reduce the latency of data loading and distribution.
- Improve data quality by integrating reference data to comment on spatial data quality and currency and by creating and providing standard quality control reports.

3 PROJECT SCOPE

3.1 Goals and Objectives

Goals & Objectives

• Quantify the scope and scale of parcel integration issues in the province that require resolution for members, including parcel availability, parcel redundancy, currency and quality.
• Establish and automate standard processes for data management to:
  o Provide quality assurance for data handling,
  o Establish standard data products and bi-products,
  o Provide better reporting to members and data providers,
  o Improve the latency of data distribution
• Implement and test the automated data management framework through a pilot project with selected participants to quantify the benefits and better understand the broader rollout implications.

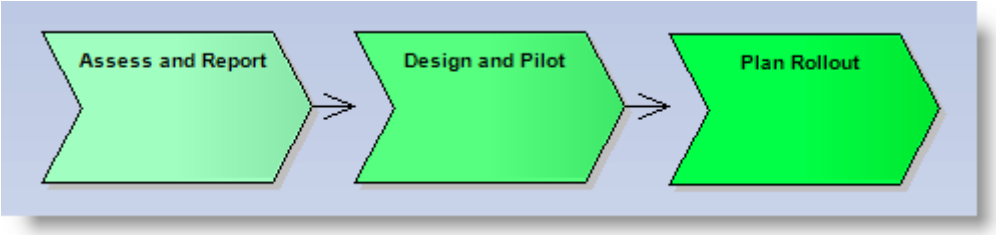
3.2 Project Benefits

Benefits
• Understand the scope and scale of issues related to multiple parcel providers for the Province of BC. • Establish reliable, repeatable and sustainable data management processes. • Improve the efficiency and quality of data handling. • Improve the latency of data provided to members. • Improve the reporting and quality of ICIS-provided data. • Provide a uniform and holistic basis for focusing CivicSpatial grant expenditures. • Provide a one-stop access point for the best available parcel data in the province, augmented with the quality reporting required to enable data users to make informed decisions about its fitness for purpose.

3.3 Project Approach

The overall approach to Stage 1 of the project is presented in Figure 1, below.

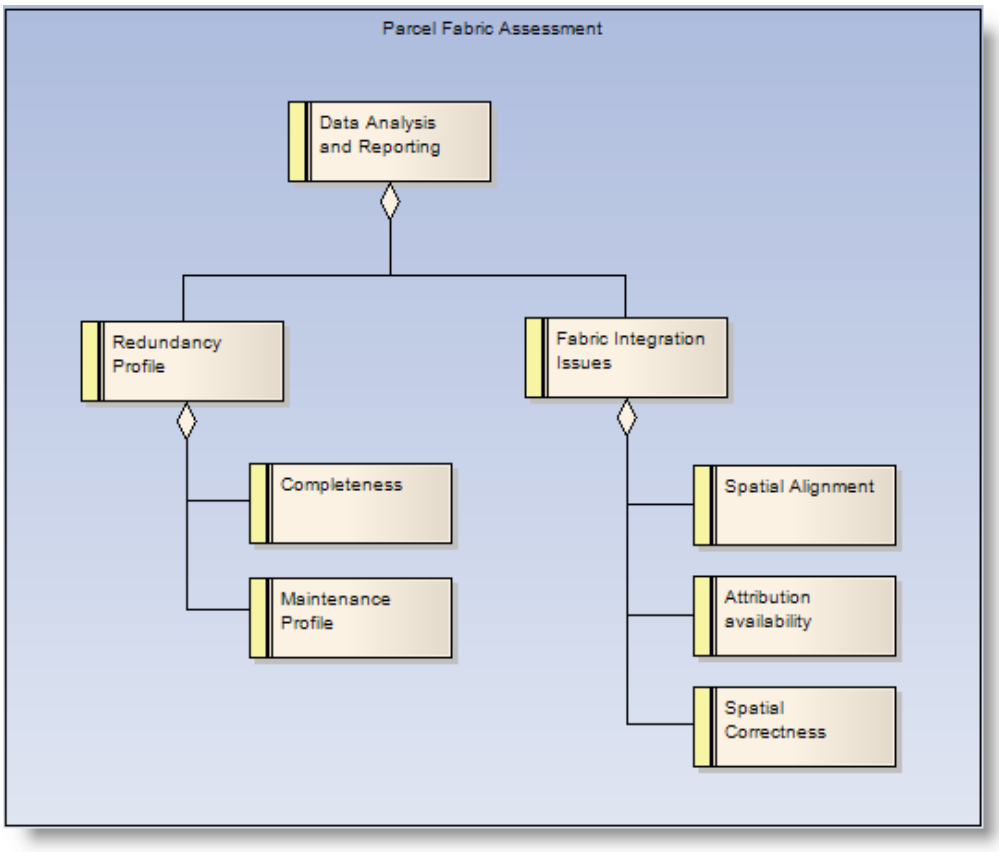
Figure 1: Project Approach



The **Assessment and Reporting** phase will analyze the current state of parcel data in BC and quantify the challenges for managing multiple and sometimes redundant sources of parcel information. This information will provide a foundation for the automation of data processes in the **Design and Pilot** phase, which will oversee the automation of a selected set of representative datasets and result in data distribution efficiencies for these areas and metrics for the effort to roll the program out on a broader basis. The **Rollout Planning** phase will comprehensively describe the computing and technical resources required to roll out and sustain the program on a province-wide basis.

3.4 Project Deliverables: Stage 1

Figure 2: Parcel Fabric Assessment Milestones



Milestone 1: Parcel Fabric Assessment

Data Analysis and Reporting milestones will result in a snapshot assessment of the current state of ICIS' parcel data, including that provided by local governments and by the Province of BC (ICF). The objective of the data analysis and reporting milestone is to understand the scope of issues related to managing inputs from multiple providers of parcel data with different parcel standards and to providing a uniform and integrated view of this information.

An understanding of these issues will guide the subsequent database, application, workflow and infrastructure development activities so that the BC Spatial project addresses priority user needs.

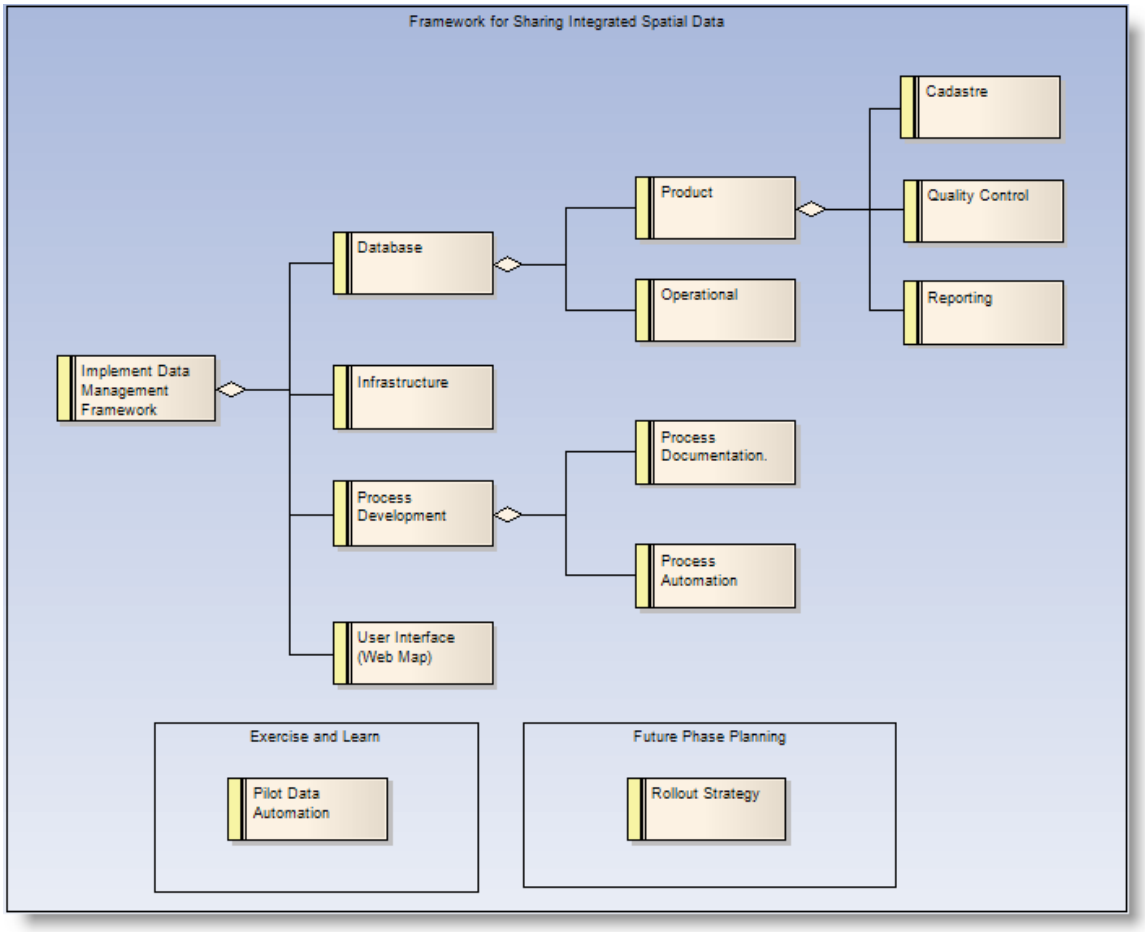
A **Redundancy Profile** will focus on geographic areas that have multiple parcel data providers (i.e. typically a local government and ICF dataset), and will measure the following:

Measure	Deliverable
Completeness	Thematic maps and associated statistics that describe how complete each dataset is with respect to authoritative parcel references (i.e. the Land Title and Crown Land registries). Observations will also be recorded of the presence or absence of other classes of parcels, such as planned – but not registered – parcels, elevated strata, foreshore, etc.
Maintenance Profile	Thematic maps and associated statistics describing the frequency of update of each dataset.

Fabric Integration Issues will examine the data processing hurdles and resulting data consistency issues with compiling a uniform and standardized layer from multiple diverse datasets, and will measure the following:

Measure	Deliverable
Spatial Alignment	Thematic maps and associated statistics describing how and where datasets align or fail to align with other datasets, irregardless of the correctness of their positioning. This analysis will also describe parcels that are available to members but which have not been integrated due to their format (i.e. paper, CAD) or to a lack of spatial referencing.
Attribution Availability	Thematic maps and associated statistics regarding the provided attribution and standardization characteristics.
Spatial Correctness	Thematic maps and associated statistics regarding the availability of evidence for the spatial correctness of parcels.

Figure 3: Framework for Sharing Integrated Spatial Data Milestones



Milestone 2: Parcel Data Management Framework

Data Management Framework milestones will result in a framework for an end-to-end process that automates the delivery, population, integration and distribution of spatial data. The objective of the framework is to minimize the manual handling of datasets and improve the efficiency, quality and reporting of data services.

Database milestones include the modeling and implementation of both ICIS data **products** and **operational** information required to support the data processing. Database deliverables will include the following:

Measure	Deliverable
Cadastral Model	A data model that incorporates local government and ICF parcel data submissions and their presentation to end users through the web portal and web map.
Quality Assurance Model	A data model that describes the outputs of quality assessment processes performed by ICIS and made available to members.
Reporting Model	A data model that describes ICIS reporting products, whether spatial or not.
Operational Model	Specifications for database components that support the data management processes

Process Development milestones will define and automate standardized data processes for data delivery, population, integration and distribution. Process development deliverables will include the following:

Measure	Deliverable
Process Documentation	Graphic and narrative documentation of the standardized processes for data delivery, data population, data integration and data distribution. Process documentation will follow standard Unified Modeling Language (UML) conventions and provide a master reference for data processing workflows.
Process Automation	Scripts to carry out the data delivery, population, integration and distribution workflows. Scripts will leverage existing technical infrastructure and be based on industry-leading COTS solutions (including Safe Software's FME) so that they are robust, maintainable, extensible and broadly supportable.

The **User Interface** milestone will describe the requirements for how ICIS members will interact with ICIS' distribution services, and will provide:

Measure	Deliverable
Web Map Specification	A description of web map functionality required to support the business requirements of the system, including how users access and select data products (cadastre, quality control and reports). The specifications may or may not leverage existing web mapping infrastructure (ArcIMS).

Milestone 3: Data Processing Automation

The **Pilot Data Automation** milestone will engage selected ICIS members in an activity to automate the loading and integration of their data, and will provide:

Measure	Deliverables
Pilot Data Automation	Scripted delivery, population, integration and distribution of an identified set of pilot participant datasets. Production of standardized quality reporting and quality output products. Metrics on the effort required to automate member data handling.

Milestone 4: Strategy for BC Spatial Rollout

The **Rollout Strategy** milestone will summarize the lessons-learned through Phase 1 of the project and establish a plan for its broader adoption by:

Measure	Deliverables
Rollout Strategy	A description of the hardware, software and network infrastructure required to support the data management framework. A description of required updates to ICIS data distribution services, including the web map specification and likely associated costs. A description of the effort and human resources required to automate the data processing for all ICIS datasets. Alternate approaches to rolling out the data management framework. A recommended approach for rolling out the data management framework.

3.5 Future Deliverables Out of Scope of Stage 1

- Correction of identified parcel fabric assessment issues, such as boundary alignment problems, redundant data sources, missing or incomplete fabric, topologically unstructured data, non-standardized attribution, etc.
- Province-wide data processing automation (i.e. outside of identified pilot datasets)
- Data alignment, such as Utility or BC Assessment data.
- Web map infrastructure upgrades, such as may be required to facilitate the selection of best-available parcel data.

3.6 Project Estimated Costs & Duration

Reference project Gantt Chart for details

4 PROJECT CONDITIONS

4.1 Project Assumptions

- Individual member parcel compilation programs, such as the ICF and local governments, will be respected in their current form; this phase of the project will not imply any changes to existing parcel compilation business processes.
- ICIS members have varying needs for parcel data; this phase of the project will not seek to define a single parcel definition to support all member needs, but will identify common data characteristics and provide standardized quality reporting.
- ICIS will work with the data as-provided.
- Pilot participants will be identified and engaged.
- Reference datasets, required to provide quality commentary, may be identified and sourced.
- 2009 budget allocation is adequate for BC Spatial Stage 1

4.2 Project Issues

- Embracing an alternate approach to resolving multiple-parcel sources: moving away from attempting to coerce a consolidated compilation model and standards at the compilation tier, and moving towards better data assessment/reporting and more flexible selection options at the distribution tier.
- Appropriate technical infrastructure to support data management tasks.

4.3 Project Risks

- Inadequate funding for ongoing sustainability
- Inadequate Cooperation and support
- Lack of participation
- Adequate Resources

- Denial of direct access to required data

4.4 Project Constraints

- Resource availability
- RD & Local government buy-in
- 100% ICIS membership
- Limited access or restricted access to certain required databases

5 Project Team Organization

Project Team Member	Project Team Role
Barry Logan	Program Manager
Paul van Nieuwkuyk	Project Manager
	Database development
	Process automation
Ken Rigler	Technical liaison
	Membership participation
Steffan Chmuryk	IT strategy
Ann Archibald	Civic spatial administration

6 PROJECT DOCUMENT REFERENCES

Milestone	Deliverable
Project Charter	Project Charter (BCSpatial-Project-Charter-01192009-93,doc)
Business requirements	Business Requirements Interview template (ICIS Member Requirements-template-062008.doc)
	Business Requirements matrix - Instruction Document (Business Requirements Matrix - Instruction Document.doc)
	Business Requirements Matrix (Business Requirements Matrix.xls)
	BCSpatial Project Milestone report (BCSpatial Project Phase I-01192009-93.doc)
Data Base Model	
Implement Data Model	
BC Spatial Data Loading	BCSpatial Project Plan (BCSpatial.mpp)

7 APPROVALS

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