



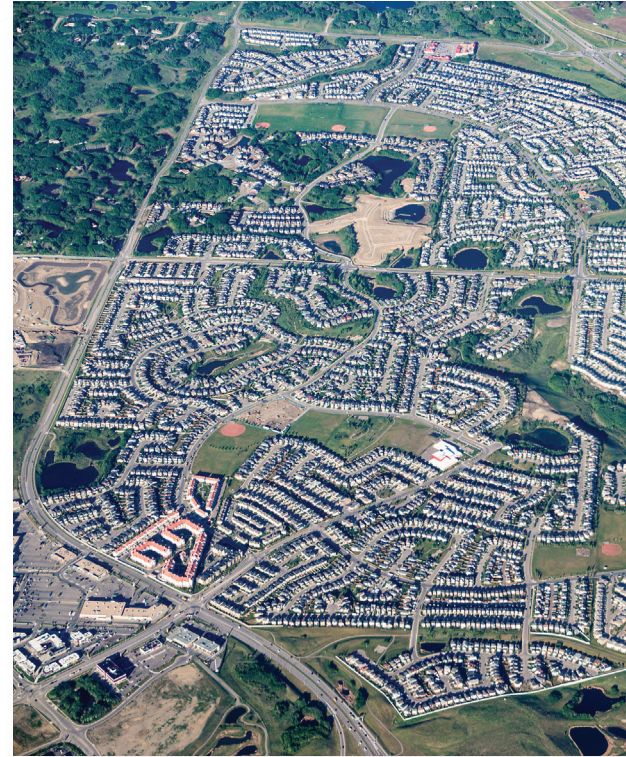
mnc

 Alberta
 Government

Precision in Practice: How MNC Aligned Alberta's Municipal Boundaries for Modern Land Administration

Accurate mapping of administrative boundaries such as municipalities, towns, and Indian reserves is essential for effective land management and planning. In Alberta, however, these boundaries were not aligned with the cadastral fabric (the authoritative map of surveyed land parcels). As cadastral records frequently change, reflecting new registered survey plans such as subdivisions and consolidations, Alberta required a robust method to ensure its administrative boundaries always matched this dynamic dataset.

In 2001, recognizing these challenges, the Government of Alberta partnered with **MNC (Martin Newby Consulting Ltd.)** to create a system where administrative boundaries precisely align and are updated in lockstep with cadastral mapping. **The result is a sounder foundation for governance, resource management, and digital service delivery.**



CHALLENGE

The cadastral base, or survey fabric, serves as the authoritative spatial record of all land parcels in Alberta. However, the existing administrative boundaries were not consistently aligned with the provincial cadastral mapping, limiting their reliability for planning, governance, and operational decision-making. **This misalignment affected everything from jurisdictional clarity to service delivery,** especially in areas where precise boundary delineation was essential.

Additionally, cadastral maps are dynamic and are continually updated to reflect new registered survey plans for subdivisions, consolidations, and other changes that affect property boundaries. Without an effective framework to manage these updates, administrative boundaries risked becoming outdated, leading to spatial inaccuracies over time, impacting those organizations that are dependent upon them for accuracy.

KEY CHALLENGES INCLUDED:

- **Inconsistent alignment** between administrative boundaries and cadastral parcel boundaries.
- **Difficulty maintaining synchronization** between administrative boundaries and cadastral boundaries as the cadastral map evolved with ongoing survey updates.
- **Limited ability** to use administrative boundaries confidently for planning and operational decisions due to inaccuracies.
- **The need for a scalable, repeatable process** to support continuous alignment and maintenance over time.

SOLUTION

Beginning in 2001, to achieve accurate alignment between municipal boundaries and cadastral boundaries in Alberta, MNC implemented a comprehensive, step-by-step approach combining strategic planning, advanced geospatial technology, and stakeholder collaboration.

KEY STEPS IN THE SOLUTION:

INITIAL DATA ANALYSIS:

- **Conducted a thorough review** of existing spatial datasets.
- **Identified discrepancies** and areas requiring alignment between administrative and cadastral boundaries.

REFINED MAPPING PROCESS:

- **Developed** improved methodologies that incorporated the most current cadastral information.
- **Ensured that changes over time**, such as subdivisions and consolidations, **were accurately reflected**, and that Geo-Administrative boundaries remained consistently aligned.

ADVANCED GEOSPATIAL TOOLS:

- **Deployed industry-leading software**, including MicroStation (Bentley) and ArcGIS (Esri).
- **Utilized these tools** to align boundaries precisely, by identifying and correcting inconsistencies between municipal and cadastral boundaries in real-time.

QUALITY ASSURANCE & FEEDBACK LOOPS:

- **Integrated continuous feedback** mechanisms and quality control checks.
- Regularly **verified the accuracy** of boundary alignments and refined processes as necessary.

STAKEHOLDER ENGAGEMENT & TRAINING:

- **Collaborated closely with stakeholders** to ensure the practical applicability and accuracy of the updated maps.
- **Provided ongoing support** to facilitate a smooth transition to the upgraded system and empowered users to utilize its enhanced mapping capabilities.

This integrated process and technological deployment resulted in a more coherent and precise representation of municipal boundaries, fully aligned with Alberta's cadastral boundaries. By ensuring boundary accuracy, MNC has enabled improved governance, efficient land management, and enhanced decision-making for local governments across the province.

RESULTS

Today, Alberta's municipal and administrative boundaries are systematically synchronized with its cadastral fabric. Key benefits include:

RELIABLE, UP-TO-DATE BOUNDARIES: Administrative boundaries now stay current as new registered plan parcels are added to the cadastral fabric, ensuring decision-makers always have access to the latest data.

IMPROVED GOVERNANCE: Local governments and provincial agencies use accurate boundary data to streamline land registration, taxation, infrastructure planning, and more.

CONSISTENT DATA ACROSS SYSTEMS: Centralized, automated updates mean all users work from a single, reliable source, reducing confusion and errors.

STAKEHOLDER CONFIDENCE: Users are assured that the data is reliable and accurately reflects cadastral records.

Led by MNC, this alignment initiative has become a model for effective land administration, delivering lasting improvements in accuracy, operational efficiency, and stakeholder confidence across Alberta.

MNC SERVICES & TECHNOLOGY USED

SERVICE CATEGORIES:

- GIS Strategy and Planning
- Data Conversion/ Migration

TECHNOLOGY PLATFORM & TOOLS:

- ArcGIS (Esri)
- MicroStation (Bentley)



CONTACT US TODAY to discuss your geospatial needs.

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ABOUT MNC

The Cadastral and Parcel Mapping Experts



MNC is a trusted leader in cadastral and parcel management with 25+ years of experience delivering GeoAI-ready datasets, modernizing parcel fabrics, and automating GIS workflows. As an Esri Gold and Cornerstone Partner with a Parcel Management Specialty and State and Local Government Specialty, MNC provides scalable advanced GIS, ArcGIS Pro, FME automation, MicroStation, AutoCAD and cloud-ready geospatial systems that improve data quality and support government land administration modernization across Canada, the USA, and the Caribbean.

