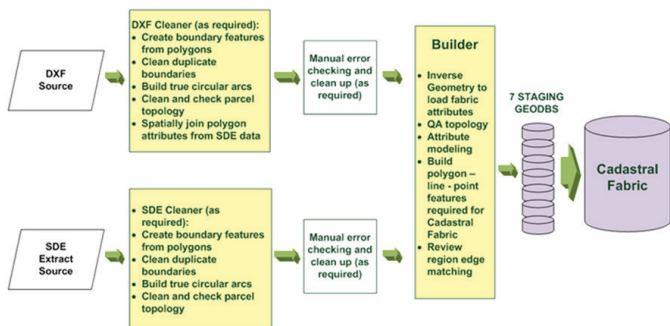




Community and Regional Planning Assessment Fabric Conversion: MNC Transforms Manitoba's Parcel Data for Smarter Planning and Land Assessment

In 2011, the **Province of Manitoba** launched a major initiative to **modernize its land parcel data** to support more effective community and regional planning. Led by **MNC (Martin Newby Consulting Ltd.)**, the project involved overhauling Manitoba's system by acquiring, analyzing, converting, cleaning, and migrating data for more than 347,000 land parcels. This complex undertaking required consolidating information from 196 diverse datasets, including both CAD and GIS shapefiles, into a single, authoritative digital parcel fabric.

Using Esri's Parcel Fabric data model as the foundation, **MNC delivered a GIS-ready spatial dataset that established a consistent and accurate framework for land assessment and planning.** By integrating these disparate datasets, the project supported the province's Community and Regional Planning (CRP) program with a reliable, maintainable, and standardized parcel fabric, enabling more informed, efficient, and transparent decision-making across Manitoba's municipalities and regions.



Manitoba Fabric Conversion Generalized Workflow

CHALLENGE

Before the start of the project, **Manitoba's land parcel data was fragmented and inconsistent.** Parcel information was maintained by numerous data providers using a mix of outdated CAD files and GIS shapefiles, resulting in significant variation in both geometry and attribution.

The key objective of the project was to integrate 196 disparate datasets into a unified digital fabric that conformed to Esri's Parcel Fabric standards, requiring accurate geometry and correct, consistent, and complete attribution. However, the condition of the source data presented several technical and operational challenges.

KEY CHALLENGES INCLUDED:

- **Overlaps, gaps, and spatial misalignments** between parcel boundaries.
- **Inconsistent or incomplete attribution** across datasets.
- **Varying data quality** due to differences in how parcels were originally captured or maintained.
- **No standardized province-wide parcel fabric**, which hindered planning and assessment.

The process of maintaining and updating parcel data was also **labor-intensive** and **error-prone**, with no centralized system for managing changes. These inefficiencies contributed to **delays in subdivision approvals**, regional planning, and land assessment workflows.

These conditions underscored the need for a comprehensive conversion strategy that could unify parcel data under a single, authoritative structure to support reliable community and regional planning across Manitoba.

SOLUTION

To resolve these challenges, MNC led a province-wide parcel data conversion and integration initiative, using a structured and phased approach to ensure the accuracy and integrity of the final product.

KEY STEPS IN THE SOLUTION INCLUDED:

DATA ACQUISITION AND INTEGRATION:

- Collected 196 datasets representing over 347,000 parcels from municipal and provincial sources.
- Included both CAD and GIS shapefiles in varying formats and quality.

DATA ANALYSIS AND CLEANING:

- Conducted thorough QA/QC (Quality Assurance/Quality Control) to identify and correct errors such as gaps, overlaps, and spatial misalignments.
- Standardized attribute tables to ensure consistency and completeness across all parcels.

MIGRATION TO ESRI PARCEL FABRIC:

- Migrated the cleaned and standardized parcel data into Esri's Parcel Fabric model.
- This allowed for improved editing, versioning, and management of parcel data within a geodatabase structure.

DELIVERY OF A UNIFIED DATASET:

- Produced a single, GIS-ready parcel fabric with accurate geometry and complete attribution.
- Ensured the dataset could be maintained and updated efficiently by provincial or municipal staff.

The result was a complete and reliable spatial framework capable of supporting complex planning, assessment, and land management functions across Manitoba.

RESULTS

The Community and Regional Planning Assessment Fabric Conversion project delivered a modernized, digital parcel framework tailored to Manitoba's needs. The unified dataset, consisting of over 347,000 parcels, is now available in Esri's Parcel Fabric format and supports high levels of accuracy, consistency, and completeness.

KEY OUTCOMES INCLUDED:

DATA QUALITY AND CONSISTENCY: Eliminated spatial errors and standardized attribution across the province.

IMPROVED PLANNING AND ASSESSMENT: Enabled municipalities and provincial agencies to conduct more reliable community and regional planning.

FASTER DECISION-MAKING: Reduced delays in development approvals and regional policy decisions by providing a trusted spatial foundation.

LOWER MAINTENANCE COSTS: Streamlined data management, reducing duplication and the need for local governments to maintain separate systems.

SCALABILITY FOR FUTURE ENHANCEMENTS: Created a strong foundation for integrating Ortho imagery, zoning, and other spatial data layers.

Through MNC's project leadership, Manitoba now has a unified parcel framework that empowers planners, municipalities, and policymakers with the spatial intelligence needed for effective decision-making and sustainable regional planning.

MNC SERVICES & TECHNOLOGY USED

SERVICE CATEGORIES:

- Parcel Fabric
- GIS Strategy and Planning
- Needs and Requirements Analysis
- Data Model and Database Design
- Data Conversion and Migration

TECHNOLOGY PLATFORM & TOOLS:

- ArcGIS (Esri)
- AutoCAD (Autodesk)
- FME (Safe Software)



CONTACT US TODAY to discuss your geospatial needs.

+1 (403) 294-1028 | mnc@mncl.ca | www.mncl.ca

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.

