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Alliance Pipeline SmartMap: Transforming Document Access and Project Management through Web GIS

In 1998, Alliance Pipeline undertook an ambitious infrastructure project to construct a **3,848 km (2,391-mile) natural gas pipeline stretching from northeastern British Columbia and northwestern Alberta to Illinois in the United States**. Designed to transport liquids-rich natural gas from the Western

Canada Sedimentary Basin to markets in the U.S. mid-continent and eastern Canada, this multinational project required **managing an enormous volume of engineering drawings, plans, and regulatory documentation** from diverse sources and jurisdictions.



CHALLENGE

The complexity of managing tens of thousands of documents, including proposed and as-built CAD files in MicroStation (Bentley) and AutoCAD (Autodesk) formats, facility drawings, emergency plans, and land applications, posed a significant challenge. **These essential documents were traditionally difficult for project teams dispersed across Canada and the United States to access efficiently.** Additionally, this large-scale project was launched during the early days of internet technology, making it imperative to implement a web-accessible Geographic Information System (GIS) that could support real-time data retrieval.

KEY CHALLENGES INCLUDED:

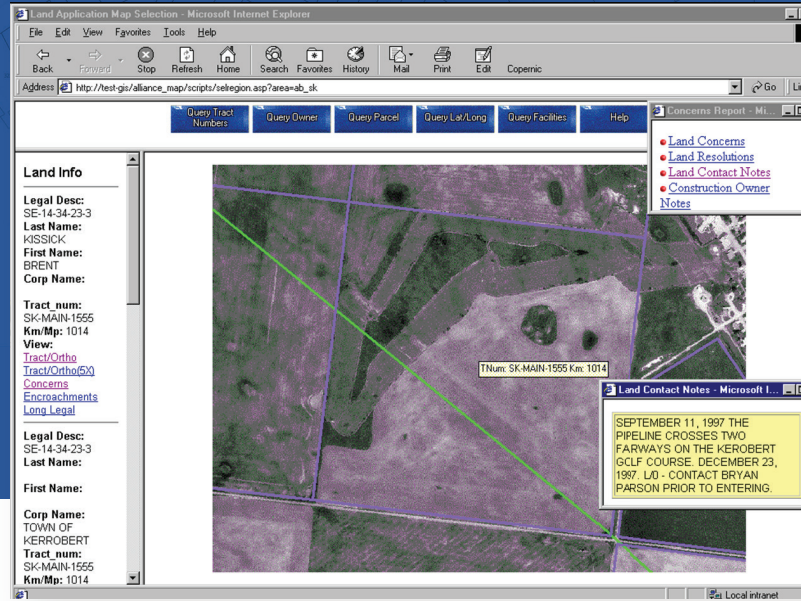
- **Integrating and geo-referencing** spatial plans and CAD files from multiple formats and sources.
- **Ensuring secure, role-based access** for engineers, managers, inspectors, and their teams.
- **Maintaining strict version control** across numerous document revisions.
- **Providing seamless, centralized access to critical engineering data** for teams across multiple geographic regions.

SOLUTION

Alliance Pipeline partnered with **MNC (Martin Newby Consulting Ltd.)** to design and develop a tailored Web GIS platform known as **SmartMap**. This innovative solution served as an interactive digital hub for the project's extensive data.

KEY FEATURES OF SMARTMAP INCLUDED:

- **An intuitive, map-based interface** that enabled users to query geographic data and access associated documents directly via any web browser.
- **Integration of scanned and digital documents, CAD drawings, and attribute data** linked via a robust metadata system to their precise spatial locations.
- **Role-based access controls designed to meet the specific needs of various user groups**, protecting sensitive information while enabling efficient collaboration.
- Support for multiple CAD formats and scanned images, ensuring comprehensive management of all engineering documentation.



RESULTS

SmartMap became the digital backbone of the Alliance Pipeline project, fundamentally changing how data was accessed, shared, and managed. The platform delivered measurable benefits that enhanced project delivery and stakeholder collaboration:

- **Centralized and efficient** access to tens of thousands of documents across both Canadian and U.S. operations.
- Significant reduction in time spent locating engineering drawings and spatial plans, thereby **boosting productivity**.

- **Improved coordination among stakeholders** through effective version control and seamless document management.
- **Set a pioneering example for the application of web GIS technology** in supporting large-scale, international infrastructure projects.

Led by MNC, the success of **SmartMap** demonstrated how early adoption of cutting-edge GIS solutions could streamline complex cross-border projects, providing a scalable and sustainable model for future pipeline developments.

MNC SERVICES & TECHNOLOGY USED

SERVICE CATEGORIES:

- GIS Strategy and Planning
- Data Conversion and Migration
- Needs and Requirements
- Training and Support Services
- Data Model and Database Design

TECHNOLOGY PLATFORM & TOOLS:

- MicroStation (Bentley)
- AutoCAD (Autodesk)



CONTACT US TODAY to discuss your geospatial needs.

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

