



Digital Validation for Survey Plans in Saskatchewan: The PSO Submission Platform

The Plan Submissions Online (PSO) application is a secure, web-based survey plan submission and validation system developed by **MNC (Martin Newby Consulting Ltd.)** for Saskatchewan Information Services Corporation (ISC). PSO streamlines the process of submitting digital survey plans by performing automated quality checks before they are sent to ISC's Plan Processing team.

Building upon the success of Alberta's Survey Plan Online Checker (SPOC), PSO leverages Commercial-Off-the-Shelf (COTS) software functionality and introduces digital pre-screening tools that eliminate the need for paper forms. The application validates essential information during the submission process and helps ensure all necessary data and support documents are included, significantly improving plan quality and reducing processing delays.

CHALLENGE

ISC required a modern workflow to support the online submission of digital survey plans by Saskatchewan land surveyors. The goal was to reduce paper-based processes and improve service delivery through automation, while also enhancing the quality of submitted plans to reduce rejection rates and improve efficiency for all users.

KEY CHALLENGES INCLUDED:

- Eliminating the reliance on manual form submissions
- Reducing the number of plan rejections due to incomplete or non-compliant files
- Improving the quality and consistency of submitted CAD files
- Streamlining review processes to support faster approvals and greater service reliability



SOLUTION

Building upon the success of the Survey Plan Online Checker (SPOC) application developed for Alberta Land Titles, MNC began development of a solution for ISC that leveraged proven functionality from the original project, creating a customized, Commercial-Off-the-Shelf (COTS) solution tailored for Saskatchewan.

The resulting web application, called Plan Submissions Online (PSO), allows digital survey plans to be submitted online and pre-screened prior to acceptance by ISC. Surveyors can enter, check, and store plans of survey and descriptive plans online before formally submitting them for examination and approval.

Essential data is validated as it is entered, helping users ensure all necessary information and supporting documents are included. The system improves plan quality by performing various checks prior to submission, including CAD layers, geo-referencing, and dimension annotations. It also validates location and allows the user to visually confirm their plan against Saskatchewan's cadastral mapping base and surrounding plans.

SYSTEM FEATURES:

- Checks to confirm **parcel closures**
- **FME-based checks** for required survey elements, such as a north arrow, to confirm inclusion
- Generates a **summary of file analysis**
- Supports **iterative checks**, with results reported to the surveyor until the CAD file passes quality review
- Produces **checklists for plan examiners**, summarizing automated QA tests performed
- Creates a complete **submission package**, confirming that all required documents are included for registration
- Allows surveyors to **associate supporting documents** with the survey plan
- Extracts relevant information from the CAD file and supporting documents to populate the **PITS (Plan Index & Tracking System)** database
- Performs **spatial queries** to extract information based on geographic location
- Converts all documents to standardized **TIFF format** and generates thumbnail images
- Supports submission of certain plan types (e.g., bridge plans, historic plans not in the Land Surveys Directory) for **information-only purposes**, bypassing PSO validation
- Transfers data using **ArcGIS Server Web Services** for seamless system integration

The screenshot shows the user interface of the Plan Submissions Online (PSO) application. At the top left is the Information Services Corporation (ISC) logo. The page title is "Plan Submissions Online". The user is logged in as "main.surveyor@mncl.ca" with links for "Logout" and "Help". Below the navigation bar are two tabs: "My Plans" (active) and "My Profile". A dropdown menu shows "Show All Requests". Below this is a table with the following headers: "Packet Num", "Client Refere", "Plan Purpose", "Request Typ", "Date Create", and "Date Submit". The table body is currently empty. At the bottom right of the table area is an "Add Request" button. The footer contains links for "About ISC", "Privacy Policy", "Legal", and "Contact Us".

RESULTS

The implementation of PSO has improved the efficiency, quality, and reliability of survey plan submissions in Saskatchewan.

KEY BENEFITS INCLUDE:

- **Reduced Errors and Costs:** Early error detection minimizes rework and lowers the cost associated with failed submissions.
- **Higher-Quality Submissions:** CAD files are validated for geo-referencing, parcel closure, and required survey elements, improving overall plan quality.
- **User-Friendly Experience:** Surveyors receive alerts if any necessary information is missing or incorrect, making it easier to resolve issues before formal submission.
- **Visual Confirmation Tools:** Plans can be previewed against the most current cadastral fabric, allowing surveyors to detect anomalies or conflicts in advance.
- **Faster Approvals:** Automation of technical checks expedites the approval process and reduces examiner workload.
- **Reduced Staff Effort at ISC:** With submissions pre-screened, ISC staff can focus more time on plan registration rather than verifying technical compliance.
- **Increased Security:** Survey plan packages are compressed, encrypted, and accessible only to ISC staff, safeguarding sensitive data.
- **Improved Metadata for Workflow Automation:** Verified metadata supports downstream automation in approval, unit counts, location indexing, and mapping tasks.

PSO demonstrates how intelligent automation and GIS-driven validation can significantly modernize land registry processes. For jurisdictions looking to streamline digital survey plan workflows, MNC's scalable solutions offer proven results.

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MNC SERVICES & TECHNOLOGY USED

SERVICE CATEGORIES:

- Data Conversion/ Migration
- GIS Planning and Strategy
- Geospatial Development Services

TECHNOLOGY PLATFORM & TOOLS:

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



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.





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