

City of Hamilton Surveys and Technical Services Department Updates its Document Management System Called PRISM

By Julius Palladino, O.L.S., O.L.I.P.

Background

PRISM (Plan and Record Index System) is an early document management system now approaching 10 years old that originally managed only engineering plans for the City of Hamilton.

Challenge

PRISM was becoming technologically outdated, difficult to maintain, support and cumbersome to use. The City of Hamilton reviewed the cost associated with upgrading the existing PRISM application and deemed it not cost effective due to the age of the existing application. Furthermore, upgrading the existing PRISM would not take advantage of some of the newer advances in leveraging the Web to provide much broader and easier access to survey and engineering plans.

Gord McGuire OLS, Manager of Technical Services, said, “*Our vision is to provide a solution to our users that will facilitate the convergence of technologies and departments within the City of Hamilton.*”

Key Design Objectives:

- Simple access,
- Combine mapping and user forms,
- Powerful search capabilities that are spatially aware,
- Easy to use,
- Intelligent reporting tools, and,
- A solution that will scale in functionality with the city’s projected growth.
- Leverage City of Hamilton investment in Oracle

Opportunity:

Angus GeoSolutions Inc. (AGSI) was selected to build a new PRISM system based on the existing features and functionality that were established as critical to the success of the new system while enhancing and adding new functionality that was lacking or missing previously.

AGSI has a long successful history working with many different municipalities and has delivered two similar solutions to the survey

industry using our **GO360™** Web technology (See description below); to Land Survey Records Inc. and to Annis, O’Sullivan and Vollebakk Ltd. (AOV) for their Ottawa Surveyor Portal.

What is GO360?

AGSI developed a Web based application called GO360 that is currently being used by many customers in numerous industry segments to view, edit, analyze, report, and share information with their users over the Web. AGSI’s security engine provides the protection to ensure only authorized users can gain access to a corporation’s data. In simple terms, GO360 turns your Web browser into a powerful interactive application and does not require the use of any special middleware software. A middleware software solution is a costly option with a very steep learning curve and does not lend itself well to configuration changes. These factors lead businesses to conform their internal operations to the software application instead of configuring a software solution to meet a business’s objectives. The ability to configure the solution to meet the business rules is one of the key advantages of using GO360.

The Solution:

In order to address the key design objectives described above, AGSI and the City of Hamilton agreed a Web based solution

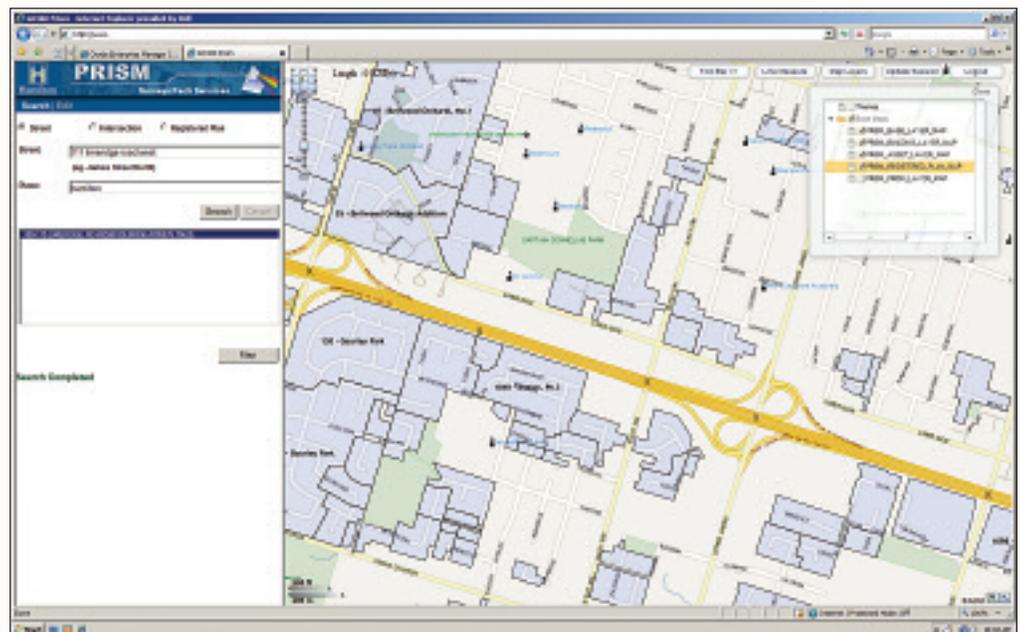


Figure 1: PRISM Web Application (GO360 Web Application)

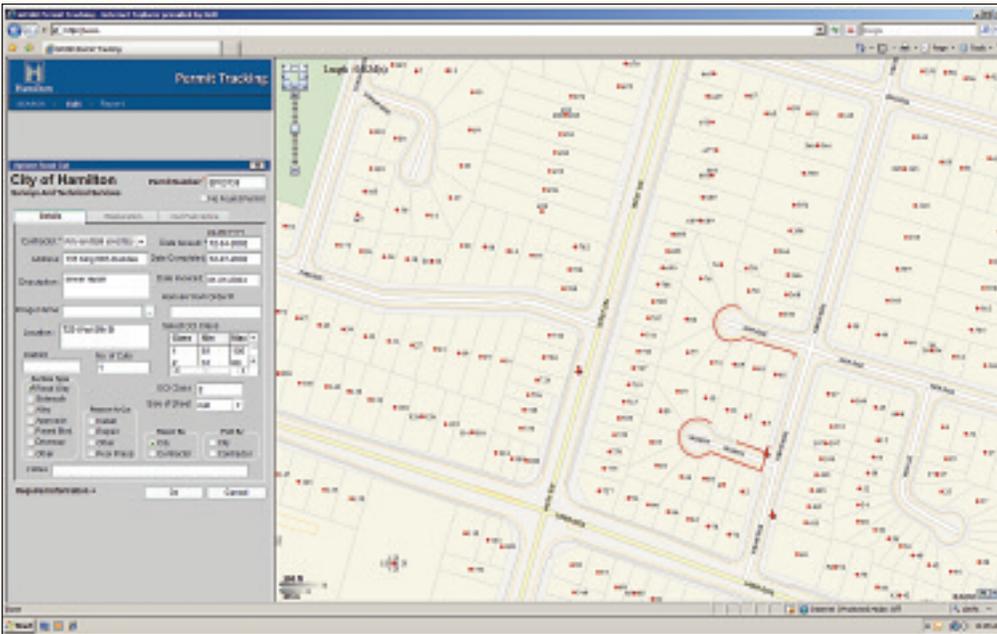


Figure 2: Permit Tracking (GO360 Web Application)

would address both the “Simple Access” and “Easy to Use” design aspects of the solution. In addition, one of AGSI’s key strengths over the years is our powerful search capability especially when dealing with spatial data. AGSI’s GO360 Web based solution was instrumental in providing the application development foundation that would provide the necessary reporting tools and future functionality support required for the City’s growth plans. A Web based application also provided a very cost effective solution as there is no requirement to purchase and maintain a standalone middleware application.

In line with Corporate IT direction, PRISM’s associated data will be migrated to a centralized server using the corporate database standard (Oracle/Oracle Spatial) and embracing a spatial data model that builds and retains relationships.

The development will be part of a long-term solution for document management of a more precise nature, while accommodating expanded features and datasets, richer data content, enhanced metadata, and much more accurate object placement. AGSI’s PRISM enhancements will result in a more streamlined process that will provide greater efficiency, improved operations, extended longevity, and greater benefits downstream.

AGSI’s solution includes a simplified methodology for geometry creation. The original PRISM application utilized a multi-step process whereby the user maintained the geometry through the existing GIS/CAD process and used multiple products to manage the records. With the AGSI GO360 solution, the basic geometry creation and editing functions are incorporated in the processes to manage the required drawing record information. The methodology utilizes an approach for automated or simplified geospatial positioning, where attributes (such as Address, PIN, etc.) are sufficient to locate the document. Where precise location (and/or complex coverage) is required, the process offers the option to invoke and integrate corporate CAD.

Overall AGSI’s efforts will maximize the department’s existing

products, services and processes; provide many future benefits; and meet both the City’s short term and long-term business requirements. With the addition of GO360, the department can not only integrate many other departmental data sets, but also leverage the technology to help track and manage operational efforts such as issuance of permits for road allowance installations and cuts. Amongst many technical innovations planned for the future, the surveys department’s efforts are focused on:

- Enhancing, developing and maintaining its PRISM product, (a drawing management system approaching one third of a million documents),
- Delivering geo-referenced data sets such as iLOOKABOUT’s high-resolution street side imagery (with about 2.5 million City of Hamilton images),
- Integrating a permit tracking system for authorization and administration of municipal consents and for excavation permits for road cuts,
- Managing the various departmental projects and documents such as survey plans, notes, sketches, correspondence, reports, etc.

Summary:

AGSI is working with the City of Hamilton to provide an improved implementation of a forward-looking Drawing Management System that incorporates existing drawings, accommodates other departmental documents such as survey plans, notes, sketches, etc. and supplies improved functionality, completeness and performance in the management of relevant Surveys and Technical Services plans and documentation.

In the future we expect to extend the capabilities of the new PRISM system to encompass most of the department’s records including:

- registered plans,
- reference plans,
- survey and engineering projects,
- reports,
- scanned files,
- documents,
- street imagery, and
- project photography.
- Municipal Utility Permits and application drawings.

About AGSI:

Since 1993, AGSI has been providing strategic technology and information solutions to our customers via our experienced team of professionals. AGSI offers extensive integrated technology, address based solutions and services by leveraging

small teams of highly experienced industry/process consultants, developers, technologists, field resources and end users. Our team's in-depth industry knowledge and business function processes has become a valuable asset for our clients.

Since 1993, AGSI has been providing advanced technology and information solutions to our customers and has established four key areas of expertise and success:

- Advanced Technology (GO360™)
- Advanced Information (Location Warehouse™)
- Hosting Services
- Professional Services

AGSI has envisioned and developed GO360 for our own internal purposes and has been creating a Canada wide address solution that currently contains tens of millions of records. After a few years, our existing AGSI customers started asking about our success and the tools we were using. We demonstrated our tools to a select few, and were encouraged when these clients wanted to adopt our solution in their environment. GO360 was born!

GO360 is based upon web services and enables organizations, including our own, to access, view, manage, edit, report, collaborate their information anywhere, anytime by any authorized user. AGSI's GO360 technology enables corporations to "Empower the Enterprise" by eliminating the use of middleware software and providing a solution to access any information available to the enterprise using a standard Web browser.

About City of Hamilton (Surveys and Technical Services):

Mission Statement

To provide legal and engineering surveys to support capital

projects and land acquisition. Acquire and distribute base mapping and aerial photography for the corporation. To maintain and monitor a series of benchmarks and control points to support GPS and other precise positioning techniques. To direct Utility companies' activities while coordinating long term capital works through the Utility Coordinating committee.

Our Role in Public Works

Our staff of professional land surveyors, utility coordinators and technologists provide survey, mapping and project management services on city projects for the purpose of infrastructure rehabilitation, open space enhancements, and transportation master plans including:

- Delivery of engineering project support files and services, legal surveys and field data acquisition.
- Mapping program management advice, support, and program development for Public Works;
- Leading and supporting the City's CAD and engineering systems;
- Supporting sustainable municipal infrastructure financing through pavement degradation fees;
- Leadership and best management practices in Utility management and mapping systems;
- Strategic alliances with other departments, other municipalities and Utility coordinating bodies to develop and enhance agreements, costs recovery strategies and mapping standards



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Letter to the Editor

International Contracts

A foundation of the world's economic system is the registration of land and property rights. A partial solution to poverty is to deed land to the world's poor so they have a recorded financial foundation. A partial solution to toxic debts related to mortgages is to register all interests in property so it can be traced. I expect the UN will be promoting the

establishment of cadastral and property information systems.

I would encourage Ontario surveyors to join or form a consortium (legal, IT, financial, etc.) ready to undertake international contracts.

The Annual General Meeting Committee may want to include speakers on this topic.

I believe it would be in the AOLS's interest to do both. Merge with the Ontario Professional Engineers and form a national SIG group.

Ralph A. Smith, retired OLS, OLIP, CLS

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