



POLARIS: LAND REGISTRATION OF THE FUTURE

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Introduction

The title "POLARIS" may conjure up in the mind of the reader visions of missiles and stars; but before I am labelled a militaristic visionary, let me explain.

POLARIS is the name given to the new land registration system being designed in Ontario. It stands for Province of Ontario LAnd Registration Information System. (Although I must admit those of us connected with the POLARIS project like to think that it will have the impact of a missile, shine brighter than any star, and certainly set the direction for land registration in Ontario.)

What then is POLARIS?

POLARIS comprises three major aspects of real property registration; the Legal components; the Operational (or system) components; and the Survey components. It is with the latter component that I am most familiar and on which this paper shall eventually dwell.

However, the new system is not yet ready (nor, in fact, totally approved in concept), therefore, the views you will read are speculative and certainly personal ones and not necessarily endorsed by the Ministry or the Government of Ontario.

Setting the Stage

Let me delve briefly into history.

Creation of the scenario for the new system began as early as 1967. Several committees in the late sixties looked at various aspects of land registration, both operational and procedural, to improve the service and reduce operating pressures placed on the system by an expanding economy and rapid land development.

In 1971 the Law Reform Commission Report on Land Registration was tabled, and, while not heralded as the social-political event of the decade by the general public, it suggested profound ramifications applicable to

the conveyancing and surveying profession in Ontario. The Ministry of Consumer and Commercial Relations, fully aware of the social implications of that report, established the Land Registration Management Committee (L.R.M.C.) and charged it with the responsibility to develop a Ministry position in response to that Law Reform Commission Report.

The L.R.M.C. marshalled the resources within the Property Rights Division and created three Project Teams: the Legal Project Team; the Operational (or Systems) Project Team; and the Survey Project Team. (See Figure 1) Each Team was directed to research land registration in relation to its own specialty and prepare a policy paper (conceptual design) which could be merged into the preliminary design of a new total system.

In February 1974, a System Consultant, Mr. E. Talvila was hired by the Ministry to direct the project. His primary function is to marry the three policy papers together into a conceptual design report for a total land registration information system. (Mr. Talvila, a non-surveyor, conceived the name POLARIS). The target date set for the tabling of the POLARIS design is early 1976.

Project Dimensions

To give you some feel for the size and shape of POLARIS it is appropriate to look at a few main recommendations of the Law Reform Commission. The following list is not intended to represent any hierarchy of recommendations, nor is it intended to be all inclusive.

The Law Reform Commission recommended:

1. One system for land registration in Ontario, which will be a Torrens type title system. (This presupposes assurance of title.)
2. The land registration system should be computerized. (Modern thinking concurrent with the 20th century.)
3. A parcel index derived from geographical co-ordinates developed in conjunction with other users. (This has a double implication.)

A parcel index with spacial quality and easy interchangeability of information.

4. A co-ordinate control system for location and identification and for affirming boundaries. (In other words, a real-world framework to relate boundaries and parcels to each other.)

To the surveying-mapping community, this is probably the most important recommendation.

5. All liens, writs of execution, by-laws, etc., must be registered to be effective against the present owner. (No more 'off the register' claims against real property holdings.)
6. A township index. (This constitutes a graphic index of all registered properties.)

A review of these six recommendations reveals both the size of POLARIS, (all encompassing in terms of land registration) and the shape of POLARIS, (a modern operating system utilizing computer technology and founded on a framework of real co-ordinates supported by a graphic index.)

Purpose of POLARIS

What then is the purpose and what are the objectives of POLARIS?

In general terms the purpose of POLARIS is:

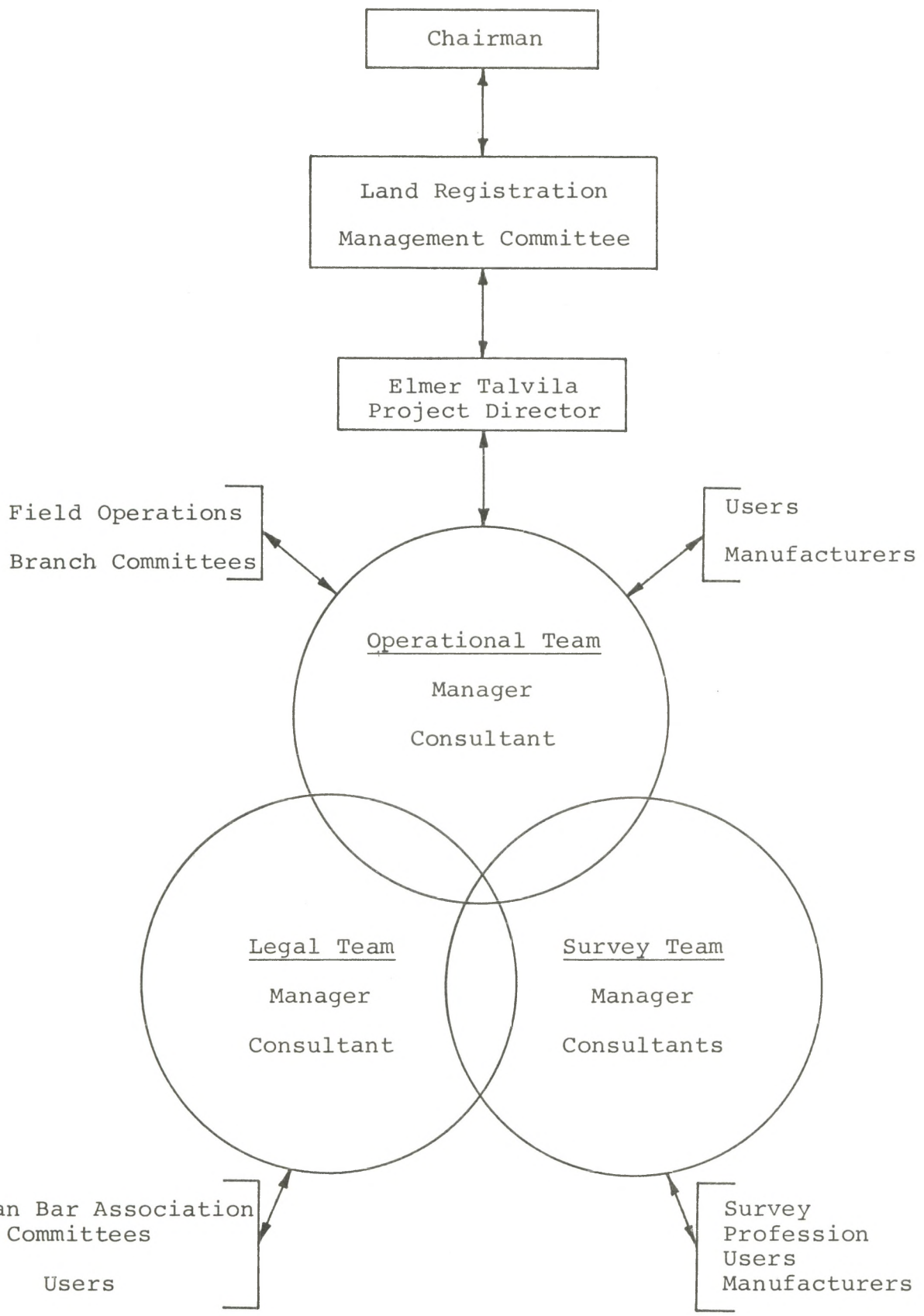
To affirm and protect interests in land, while providing users with current registered information regarding the status of those interests.

In achieving the purpose of POLARIS we must meet the following objectives.

- POLARIS shall be financially self-supporting.
- Identification of land parcels and location of boundaries shall be under the Ontario Co-ordinate System.
- An assurance fund shall compensate anyone whose interests are damaged by the operation of POLARIS.
- Information shall be stored and be retrievable as soon as practicable after registration.
- POLARIS shall produce a written response to an enquiry as soon as practicable after the enquiry is made in a format best suited to the nature of the data and request.

FIGURE 1:

THE POLARIS TEAM



Here and Now

That brings us to the present activities of the Project Teams and the current status of POLARIS.

Let me give you a brief account of the current activities of the Legal and Operational Teams before inundating you with the Survey Team's activity.

The Legal Project Team is working on the legal implications of the concepts proposed by the other teams, and, in addition, considering problems inherent in the existing system and changes implied in the Law Reform Commission Report (1971).

A sampling of the type of problem facing the Legal Project Team includes items, such as:

- the necessity of blanket government liens and execution in the statutes when every property owner's name is readily available;
- the ramifications to government and the public of extending affirmation to charges, easements and boundaries;
- the legal implications of keeping only microfilm on record rather than original documents;

and the real cruncher —

- how to convert the two existing registration systems to one modern title system . . . quickly! efficiently! and at low cost!

This sampling of problems, while by no means all inclusive, indicates the depth and magnitude of the research currently underway in relation to the legal foundation of land registration.

The Operational Team, fully activated in February 1974, is working towards a system design which will utilize **current** technology applicable to land registration operations, while ensuring the capability to absorb new technology as it becomes available. No mean task when one considers some of the options, such as:

- Computer output microfilm (COM)
- Microfiche with a visual index
- Microfilm in cartridge with keying for automated retrieval
- TV cameras and video files
- Main frame and mini computers
- Interactive terminals and graphic equipment
- Etc.

These hardware options must then be considered in combination with a variety of routines, such as:

- Computerized parcel and abstract indices
- Automated reporting of system statistics
- Automated reporting of information to other agencies
- Automated accounting for office and users
- Interactive graphic output via CRT display
- Etc.

To further complicate matters, everything must be tempered by the overriding objective to ensure that technology is obtained to complement the system rather than the system being designed to complement technology.

And now the Survey Project Team. . .

The Survey Team moved into full stride in 1972 and developed a schedule of eight projects, leading, in Project Seven, to the design paper for the survey component. We have called it the Land Index and Display Sub-system (LIDS) of POLARIS. The final edit copy of our LIDS report was tabled before the L.R.M.C. earlier this year, and is presently under Committee review. Accordingly, I am not at liberty to detail the contents of that report and I must again caution you that the concepts and opinions expressed herein are not finalized.

A Digression

There is currently ongoing, as a project of the Foreign and Commonwealth Office of Great Britain, an effort to update and replace DOWSON and SHEPPARD'S handbook on "Land Registration". The following quote is from the preface to Chapter 6 of the new book.

"No aspect of registration of title has caused more controversy than the relationship of boundaries on the ground to the maps, plans, diagrams and verbal descriptions which are used to define the units of property recorded in the register."

Coupled to this, I quote from the Law Reform Commission Report.

"The topic of descriptions and boundaries is one of the most difficult in this report."

After 18 months work with the Survey Project Team, I wholeheartedly

support these two quotations. The concepts to be tackled by the Team were indeed "controversial" and "difficult".

The Solution Dawns

Looking back at the recommendations of the Law Reform Commission Report, and at the risk of over simplification, the controversy and difficulty of boundaries and descriptions appear tied up in the need to:

- identify and index parcels, clearly illustrating the relationships one to the other;
- accurately define boundaries and provide stability for the defined position; and
- display all properties, referenced to a special framework which has ground reality.

Eureka!

After much gnashing of teeth and burning of midnight oil, the Survey Team resolved that what is needed are:

- an organized series of accurate real property maps;
- confirmed, co-ordinated boundaries, supported by related records of surveys;
- assignment of a geographical identifier to each land parcel, together with a series of cross-referenced identifiers related to local addressing systems;
- and an effective information dissemination system to make the above readily available to the user public.

Research showed that not only were these unavailable in Ontario in a comprehensive form, but that most of the survey records were locked into the existing registration files, surveyors' files and various other private files.

Opening the Locked Files

Our deliberations, research projects, international studies of other operating systems and a probing look at both present Ontario systems led us to consider the possibility of consolidating all land boundary related activity into a comprehensive program. The program would operate within the Land Registration system in concert with land rights related activities, but, for all intents and purposes, must be independent of those activities.

The Program

While not at liberty to detail the actual program conceived in our report, I can give you an idea of its extent and completeness by looking at the criteria against which the proposed program was measured.

1. Identification of Parcels

A parcel of land, which may be one of millions, must have a unique identifier which makes it recognizable from all others. This identifier must be capable of being translated into something which is meaningful to the layman, for example, a municipal address.

2. Display of Parcels and Boundaries

Once the parcel has been identified it must be displayed on some medium in a form which is recognizable to anyone having interest in that land. A 'bird's eye view', which may take the form of a paper map, a photograph, or a series of light spots on a cathode ray tube.

3. Relationships

Following identification and display comes the need for relating the land parcel to neighbouring or distant parcels, or to other points on the earth's surface. The concept of distance and direction is required in this characteristic.

4. Location and Extent

The interested party, once having identified the parcel, seen its shape displayed and found out how it is situated in relationship to its neighbouring ones, must be able to visit the site on the earth's surface, and physically locate where the parcel is and its extent.

5. Updating

Land parcels, being subject to splitting or consolidation, require that the Program must be able to accommodate the updating of these changes, to reflect the new identification, display, relationships and location of the parcel(s).

6. Compatibility

Changing philosophies, legislation and methodology, require that the Program designed to identify, describe and revise, land parcel descriptions to be independent of existing or future constraints which may be placed upon the land registration system, and yet that the overall program be compatible with them. Furthermore the Program cannot be isolated from other provincial Ministries' activities. While providing the index and display base for land registration, the Program might conceivably pro-

vide the real property map base for any provincial multi-purpose cadastre that may develop.

7. Aggregation of Statistics

The Program must provide for the ability to count, perform summations and other analyses of land parcels of different types, for governmental use in planning, research and day to day operations.

8. Feasibility

The feasibility of the Program must be examined in terms of:

- (a) Availability of skilled personnel
- (b) Availability of tools (instruments, computers, etc.)
- (c) Time
- (d) Cost

It is obvious that the Survey Project Team, like the other teams, has been tackling a problem which is indeed "difficult" and "controversial".

Where to Now?

Where does all this lead? The Land Boundaries Program has been officially presented to the Land Registration Management Committee of the Ministry management area. Following the Committee's review and acceptance (we hope!), work will begin to gear-up a components-testing area to verify components and modify (if necessary) the proposed program.

Back to POLARIS

At the same time, the Survey concepts will be married with the Legal and Operational concepts, which are scheduled for review in November, and the design of POLARIS will be tabled early in the new year. The total POLARIS system (if funded) will move from concept to reality via a pilot project operation probably to be developed in the East Whitby — Oshawa area in the 1976-77 fiscal year. The objective of the pilot project is to iron out the technical wrinkles and to verify the feasibility of the POLARIS system from a cost/benefit standpoint.

Why?

A question occasionally voiced at this point is "Why build POLARIS at all?" The simplified answer is "The Law Reform Commission Report stated that reform of the Land Registration is a necessity". When expanded somewhat and analysed in light of current development in the Province, it is clear that to do nothing would jeopardize the very existence of the land registration system and gradually eliminate all effective service by that system to the user community. It was the concerns of the user which prompted this attempt at modern reform of the system and the user has

remained paramount throughout our studies to date.

Benefits! Benefits!

After all the expense and trouble and headaches, what will we get from POLARIS? First and foremost you, as users, will receive improved service. The up-to-date equipment and the cross-reference available will reduce searching time; you will have fast access to accurate property maps, survey data, parcel indices, abstract registers and microfilm of documents. Everything will be up-to-date.

Second, we expect to save a lot of space. Did you know that by using microfilm, all the abstract indices for all the parcels in Ontario could be put on a desk 6 feet long . . . in one line! ! The space 'freed up' should become available for you and our staff to enjoy more pleasant working areas in our offices.

A significant benefit to our staff would be the reduction in clerical work, such as filing and retrieving documents. This could result in an upgrading of our people with more time available for the challenging and essential work in providing a land registration information service.

Lastly, a benefit to users of large quantities of property data. Reports and information would be quickly available, more timely and automatically produced in both printed and map format.

What about You?

You, Ontario Land Surveyors, are the surveying community who daily must deal with the Land Registration system. We want your help in designing POLARIS. It is, after all, really your system and not ours. We would welcome any suggestion from any of you with regards to ideas for improvements.

Accordingly, you are invited to write us at:

Ministry of Consumer and Commercial Relations,
Legal Surveys Branch,
3rd Floor,
400 University Avenue,
Toronto, Ontario.
Attention: R. A. Logan, O.L.S.

Adieu!

The Law Reform Commission in its opening statement on Land Registration said —

"Comprehensive reform of the arrangements for land registration in Ontario is urgently needed."

We believe POLARIS represents the needed **"comprehensive reform"**. Indeed that is why this paper is entitled **"POLARIS: Land Registration of the Future"**.