

# **Administration and Organizational Structures**

**By A. Douglas Ford, OLS, P.Eng., MIPC, City Surveyor, City of Toronto**

## **The British North America Act**

The British North America Act, passed in 1867, sets out in detail the distribution of the legislative powers to be exercised by the Dominion and the various Provinces and allocates exclusive powers to the Provincial Legislatures over:

5. Management and Sales of Public Lands belonging to the Province and of the Timber and Wood thereon.
8. Municipal Institutions in the Province.
13. Property and Civil Rights in the Province.
16. Generally All Matters of a merely local or private Nature in the Province.

## **Municipal Corporations**

A Municipal Corporation, which is created by Provincial Legislation, has been defined as a "body corporate constituted by the incorporation of the inhabitants, residing within a defined area upon whom the Provincial Legislature has, either directly or through some intermediate agency, conferred corporate status, rights and liabilities, including the right to administer through the agency of an elected council or other governing body such matters of local concern as are either expressly specified or as are necessarily implied from the nature and extent of the authority conferred."

The Municipal Corporation is a corporate body separate and distinct from the individual members composing it.

## **Municipal Powers**

The powers which the Council of a Municipal Corporation may exercise are determined by the Municipal Acts and other legislation of the Provincial Legislature and the Council may not legally exercise any powers other than those specifically conferred by Legislation.

One major function of Municipal Councils is to perform duties which the Legislature imposes upon them. Councils have no choice but to carry out such mandatory duties, although they may determine the manner in which they are carried out. Public streets must be maintained but such maintenance may be

limited to the extent that the Corporation will not be held liable for damages as a result of negligence.

The second group of powers are those which Council may or may not exercise as it sees fit. Some of these optional powers may only be exercised in accordance with regulations laid down by Provincial Authorities.

The exercise of discretionary powers and the performance of mandatory duties by Councils of Municipalities, involves the public ownership and use of land for the provision of services and amenities such as streets, parks, municipal offices and buildings for Police and Fire protection. It is estimated that already between 25% and 35% of the gross area of Municipalities is set aside for local municipal use. As the demand for services and amenities increases, more and more land must be set aside for the public use.

In order to secure the health, safety, convenience or welfare of the local inhabitants, urban municipalities are empowered to adopt Official Plans, programmes and policies for controlling the development of urban areas. Such plans are implemented by the construction of Municipal Facilities and by regulating the use of privately-owned land and the erection, bulk, height and spacing of buildings and structures and by prohibiting certain uses.

Once the basic sociological objectives have been recognized, planning is to a large degree, the suitably modified projection of existing conditions and trends into the future. The Official Plan is a compilation of all the design elements into a single document which becomes the model of how the area is to be developed. Objectives are often expressed in terms of optimum spatial relationships between different land uses and the siting of buildings.

The effective employment of the four basic natural resources — Man, Water, Air and Land — for the optimum development of urban areas is dependent on complete and extensive knowledge of urban and regional development, environ-

mental information about the topography and the physical characteristics of Land and cadastral information about the ownership, value, use and boundaries of individual parcels of land and the improvements constructed thereon.

## **Surveying and Mapping**

As a result of the continuing trend to urbanization and resulting competition for a limited supply of prime land in urban areas, the requirements for information about all aspects of land have reached such proportions that the present Surveying and Mapping activities as now undertaken by a multiplicity of government and private agencies are unable to provide Municipal Administrators and associated Boards and Commissions with all the required information. Because Property and Civil Rights are under the exclusive jurisdiction of the Provincial Legislatures, enabling Legislation, Regulations, Policies and Guidelines must be initiated in each of the Provinces for the establishment of Urban Surveying and Mapping Systems.

## **Organizational Structures**

The organization of Urban Surveying and Mapping activities must be carried out in the following order:

1. Establishment of objectives.
2. Formulation of policies and programs for their accomplishment.
3. Determination of the activities necessary to execute these policies and programs.
4. Enumeration and classification of the activities.
5. Grouping of activities for greatest effectiveness in terms of the objectives.
6. Assignment to each group, through its head, of the authority necessary to perform its activities.
7. Establishment of horizontal, vertical and functional relationships.

## **Objectives**

Before establishing the objectives of the Urban Surveying and Mapping organization, overall National and Provincial objectives must be recognized and enumerated. The next step is the con-

**(continued on page 11)**

# Second National Conference

(continued from page 10)

sideration of Regional objectives, followed by a review of the detailed objectives of the Urban Municipality in which the Urban Surveying and Mapping organization is to function.

The principle of unity of objectives must be maintained at all costs. The objectives of the local Urban Surveying and Mapping organization must be designed to contribute to and harmonize with the achievement of the National, Provincial, Regional and, particularly the Urban Municipality's objectives.

In the final analysis the Urban Surveying and Mapping organization's achievements will be judged in the light of how well it contributes to the attainment of its own objectives and the overall objectives of the society in which it operates. Provincial Legislation and Regulations may eventually establish certain mandatory objectives for the organization. The objectives of the individual Urban Surveying and Mapping organization will vary in detail from community to community but the basic objective will be the collection, measurement, organization, correlation and graphical presentation of physical and cadastral information about all aspects of land in the local urban community, and the co-ordination of such similar activities as may be carried out by associated Boards and Commissions.

## Formulation of Policies and Programs

Once the objectives of Urban Surveying and Mapping organization have been established the next step is the formulation of policies which have been defined as basic guides to thinking and action, furnishing the guiding element that gives direction to plans and programs. A policy may be said to define a field of action. Thus, the whole organization will be guided by overall policies. Each division in turn will be guided by more detailed policies applicable to its specific activities and will develop procedures, with the approval of the administrative head, which will indicate the most efficient method of undertaking repetitive activities. Procedures have been defined by one authority as the "means by which all repetitive activities are initiated, carried forward, controlled and stopped." They specify who shall undertake certain activities and how and when action will be taken.

The development and implementation of Programs to achieve the organization's objectives requires highly developed administrative skills. First, priorities must be assigned to each of the objectives having regard for the economic and technical resources available. In the local

urban municipality the Urban Surveying and Mapping organization will find itself in competition with projects for parks, roads, sewers and other so-called "hard services" for available funds.

Having regard for the present state of Surveying and Mapping activities, Programs for

Horizontal and Vertical Control Survey Networks;  
Co-ordinate Systems;  
Base Mapping;  
Legal Surveys;  
Restoration of the legal survey fabric; would be given high priority.

However, it must be recognized that the local Council may have decided that programs for Road and Sewer construction are to be given the highest priority and the organization will have no option but to undertake the Legal Surveys required, perhaps at the expense of its own high priority objectives.

## Activities

The determination of activities necessary to execute policies and programs, their enumeration, classification and grouping, will be determined by Provincial Legislation and Regulations and by the form of the organization adopted by the local Urban Municipality.

In the City of Toronto, the Surveying and Mapping functions have been organized into four main Divisions:

<b>Administrative</b>	— Horizontal and Vertical Control Networks and Co-ordinate Systems.
<b>Geodetic Surveys</b>	
<b>Legal Surveys</b>	
<b>Base Mapping</b>	— Legal and Topographic Surveys, Plans and Descriptions.

In general, it may be anticipated that the internal organization of Urban Surveying and Mapping activities will follow the basic "line and staff" concept. However, because of its involved relationship with National and Provincial Authorities, other Municipal Departments, Local Boards and Commissions and Professional Surveyors in private practice, special attention must be given to horizontal, vertical and functional relationships.

## Organizational Relationships

The Surveying and Mapping organization within the local Municipal administration performs both Service and Staff functions. It is a Service Department in that it provides surveys, plans and base maps for the use of other Civic Departments, local Boards and Commissions. Legal Surveys define the limits of lands in the public ownership, within

which roadways, bridges and sewers must be constructed. The base map provides the planner with the basic information on which thematic and derivative maps are developed to show ethnic origins, land uses, conditions of buildings and projected zoning, etc. If the concept of the Cadastre or Municipal Land Data Bank is to be fully developed Urban Surveying and Mapping organizations must be delegated Staff authority to exercise functional control over the collection and measurement of information about land by other Civic Departments, local Boards and Commissions and eventually by private surveyors.

The City of Toronto Building By-law requires the submission of a Plan of Survey with each application for a Building Permit. The Building Commissioner may not issue the Permit until the Plan has been approved, both as to its content and form, by the City Surveyor.

The basic principle applicable to all Surveying activities is that of working from the high to lower order.

The First National Conference on Urban Surveying and Mapping unanimously decided to urge the appropriate Federal, Provincial and Municipal Authorities to proceed with the development and establishment of comprehensive and integrated Urban Surveying and Mapping Systems.

It is the author's submission that the situation that now exists throughout Canada with respect to Urban Surveying and Mapping, is analogous to that existing a number of years ago with respect to Building Codes. The Federal authorities should therefore undertake the development of a National Surveying and Mapping Code. The Surveys and Mapping Branch Department of Mines, Energy and Resources has already developed comprehensive specifications for Control Survey Networks.

In many Provinces, Surveying and Mapping activities are carried out by a number of separate Departments and Agencies without any overall control or co-ordination. It is therefore submitted that a single Authority be designated to develop, establish, control and co-ordinate Surveying and Mapping activities in each Province. Consideration should be given to the establishment of the Authority in the form of a Commission.

Such a Commission would of necessity operate on a regional basis and could delegate certain functional authority to the local Urban Surveying and Mapping organization over the manner in which information about land was collected, measured and recorded to ensure that its quality and format was sufficient for introduction into a Land Data Bank. This functional authority would also extend

(continued on page 14)

---

## 2nd National Conference (continued from page 11)

to certain classes of land surveys undertaken by private surveyors.

In summary, it is recommended that: Federal Authorities undertake the development of a National Surveying and Mapping Code.

Working Groups representing all of the disciplines involved be established in each Province to develop the basic concept and guidelines for the development of Integrated Surveying and Mapping Systems, their implementation by Legislation and Regulations and their administration and co-ordination by a single Authority.

(The next issue of the quarterly will carry a paper on Legislation for Urban Surveying and Mapping presented at the Second National Conference on Urban Surveying and Mapping by R. A. Smith, OLS, Chief Surveyor for Metro Toronto's Roads and Traffic Department.)