



PRINCE EDWARD ISLAND  
ÎLE-DU-PRINCE-ÉDOUARD

# **LAND SURVEY ACT SPATIAL REFERENCING REGULATIONS**

## PLEASE NOTE

This document, prepared by the *Legislative Counsel Office*, is an office consolidation of this regulation, current to February 4, 2023. It is intended for information and reference purposes only.

This document is *not* the official version of these regulations. The regulations and the amendments printed in the *Royal Gazette* should be consulted on the Prince Edward Island Government web site to determine the authoritative text of these regulations.

For more information concerning the history of these regulations, please see the *Table of Regulations* on the Prince Edward Island Government web site ([www.princeedwardisland.ca](http://www.princeedwardisland.ca)).

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## SPATIAL REFERENCING REGULATIONS

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**LAND SURVEY ACT  
CHAPTER L-2.2**

**SPATIAL REFERENCING REGULATIONS**

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Pursuant to section 15 of the *Land Survey Act* R.S.P.E.I. 1988, Cap. L-2.2, Council made the following regulations:

**1. Definitions**

In these regulations,

- (a) “**NAD83**” means North American Datum of 1983;
- (b) “**CSRS**” means the Canadian Spatial Reference System;
- (c) “**CBN**” means the Canadian Base Network;
- (d) “**CGVD**” means the Canadian Geodetic Vertical Datum. *(EC52/23)*

**2. Schedule adopted**

The Schedule to these regulations is adopted and forms part of these regulations. *(EC52/23)*

**3. PEI Coordinate System**

The Prince Edward Island Coordinate System shall be that set out in Part I of the Schedule. *(EC52/23)*

**4. Vertical Reference System**

The Vertical Reference System for the purposes of the Prince Edward Island Coordinate System shall be that set out in Part II of the Schedule. *(EC52/23)*

## SCHEDULE

### PART I - PRINCE EDWARD ISLAND COORDINATE SYSTEM

#### Coordinate system defined

1. The Prince Edward Island Plane Rectangular Coordinate Projection is a stereographic double projection of the NAD83 (CSRS) geocentric ellipsoid, on a secant plane. The North American Datum of 1983 has been redefined through the Canadian Spatial Reference System (CSRS). It will be identified as NAD83 (CSRS). The dimensions of the NAD83 (CSRS) ellipsoid are as follows:

Semi-major axis (Equatorial Radius) = 6,378,137.0000 metres

Semi-minor axis (Polar Semi-diameter) = 6,356,752.3141 metres

2. The datum in Prince Edward Island is defined in terms of the values of the Canadian Base Network (CBN) stations determined from version 6.0 (2010) of the Canadian adjustment prepared by the Geodetic Survey Division of Natural Resources Canada. The values for the two Prince Edward Island CBN stations are listed as follows:

Monument Name	Number	Geodetic Latitude	Geodetic Longitude
Bloomfield	PE05804	N46°45'04.43056"	W64°11'26.34846"
Carl-Val-Archie	PE05803	N46°22'37.02703"	W62°08'08.76854"

3. The true origin of the Prince Edward Island Coordinate System is a point at

Latitude: 47°15' North                      Longitude: 63°00' West

as defined by the NAD83 (CSRS) ellipsoid. The Y axis (North Axis) is the Geodetic Meridian through the origin, and the X axis (East Axis) is the straight line through the origin perpendicular to the Y axis. The scale factor at the origin is 0.999912 and the Gaussian mean radius of the projection sphere at the origin is 6,379,782.0995 metres. Coordinates are considered positive to the East and to the North. To avoid negative values, the origin has been given the coordinates

Y (North Axis) = 800,000 metres

X (East Axis) = 400,000 metres

4. The position of a point shall be defined by two expressions, each given in metres and decimals of a metre. The first expression, to be known as the X coordinate minus 400,000 metres, shall indicate the perpendicular distance from the Y axis. When the distance is positive, the point is east of the origin; and when the distance is negative, the point is west of the origin. The second expression, to be known as the Y coordinate minus 800,000 metres, shall indicate the perpendicular distance from the X axis. When the distance is positive, the point is north of the origin; and when the distance is negative, the point is south of the origin.

5. The coordinates shall be made to depend upon

- (a) the values of the two Prince Edward Island CBN stations set out in this Part; or
- (b) the values of the densification of the CBN carried out by the Department of Transportation and Infrastructure for the purpose of establishing the Prince Edward Island Active Control Network.

6. The values referred to in clause 5(b) for the active control stations are listed as follows:

Station Name	Location	Geodetic Latitude	Geodetic Longitude
PEAL	Alliston	46°03'39.95752''	62°36'02.84052''
PESO	Souris	46°21'29.04194''	62°15'03.27472''
PEMO	Morell	46°24'42.07632''	62°42'28.85081''
PETI	Charlottetown	46°13'57.85837''	63°08'00.30847''
PEAM	Borden-Carleton	46°15'05.90485''	63°41'08.51465''
PEGS	North Rustico	46°27'26.04582''	63°19'40.92219''
PEEL	Ellerslie	46°36'21.11208''	63°56'03.32053''
PEWI	Rosebank	46°48'24.00787''	64°08'50.96877''

## **PART II - VERTICAL REFERENCE SYSTEM**

### **Canadian Geodetic Vertical Datum of 2013**

1. The Canadian Geodetic Vertical Datum of 2013 (CGVD2013) is the official datum of Prince Edward Island and replaces the Canadian Geodetic Vertical Datum of 1928 (CGVD28).

#### **CGVD2013 defined**

2. CGVD2013 is a gravimetric datum defined by the equipotential surface  $w_0 = 62,636,856.0 \text{ m}^2\text{s}^{-2}$ , representing the average potential of coastal mean sea level at tide gauges across North America. The definition and geopotential value come from an agreement between Canada and USA. Heights in terms of CGVD2013 are in the orthometric height system.

(EC52/23)