

# **SURVEYORS (PRACTICE) REGULATION 2001**

under the  
**SURVEYORS ACT 1929**

Updated 5 September 2001

**NO AMENDMENTS (SINCE GAZETTAL OF 31.8.2001)**

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[STATE ARMS]

New South Wales

## **Surveyors (Practice) Regulation 2001**

under the

Surveyors Act 1929

Her Excellency the Governor, with the advice of the Executive Council, has made the following Regulation under the *Surveyors Act 1929*.

KIM YEADON, M.P.,  
Minister for Information Technology

### **Explanatory note**

The object of this Regulation is to replace, without substantial alteration, the provisions of the *Surveyors (Practice) Regulation 1996*. That Regulation will be repealed on 1 September 2001 under section 10 (2) of the *Subordinate Legislation Act 1989*.

This Regulation deals with the following matters:

- (a) duties of surveyors,
- (b) procedures and standards in relation to different types of surveys,
- (c) adoption of a datum line,
- (d) survey marks,
- (e) field notes,
- (f) special procedures when water is a boundary.

This Regulation is made under the *Surveyors Act 1929* and, in particular, under section 23 (the general regulation-making power) and various other provisions of the Act referred to in the Regulation.

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# Surveyors (Practice) Regulation 2001

## Part 1 Preliminary

### 1 Name of Regulation

This Regulation is the *Surveyors (Practice) Regulation 2001*.

### 2 Commencement

This Regulation commences on 1 September 2001.

**Note.** This Regulation replaces the *Surveyors (Practice) Regulation 1996* which is repealed on 1 September 2001 under section 10 (2) of the *Subordinate Legislation Act 1989*.

### 3 Application of Regulation

This Regulation applies to every survey made after the commencement of this Regulation, whether or not the survey was started before that commencement.

### 4 Interpretation

(1) In this Regulation:

**AHD** means Australian Height Datum, that is, a system of control points for height based on a network of levelling measurements that covered the whole of Australia and that was fitted to mean sea level, as measured at tide gauges distributed around the Australian coast, over the period 1968–1970.

**appropriate accuracy** means such accuracy as is reasonably practicable to attain in any particular survey.

**approved** means approved by the Surveyor-General.

**chisel mark** means a wing or pair of wings cut in solid rock, concrete or fixed timber 80mm long and 20mm wide and not less than 10mm deep.

**established permanent mark** means a permanent mark the horizontal position of which is precisely determined as approved by the Surveyor-General.

**level or undulating terrain** means terrain with slopes that are generally 10 degrees or less.

**MGA** means Map Grid of Australia, that is, a rectangular co-ordinate system using a Transverse Mercator projection with zones 6 degrees wide and based on the Geocentric Datum of Australia (within the meaning of the *Survey (Geocentric Datum of Australia) Act 1999*).

**monument** means a natural or artificial object, or a point on it, or a mark, used for the purpose of locating or relocating a boundary or a point in a survey.

**permanent mark** means a permanent mark placed in accordance with the provisions of the *Survey Co-ordination Act 1949* and connected by measurement to a survey mark.

**plan of survey** means a representation or drawing of land surveyed, prepared from particulars recorded in the field book of the survey and carried out for delivery to or lodgment with any government department or public authority or person as evidence of a survey, but does not include plans compiled from previous surveys or sketches in illustration of any report or similar document prepared in explanation of or arising from any survey.

**ppm** means parts per million.

**reference mark** means a survey mark of a durable nature placed or situated within 30 metres of, and connected by measurement to, only one corner, angle, line mark or tangent point of any survey.

**road** includes any road, street, laneway, pathway or parcel of land used for access in a community scheme, either existing or being created by the subject survey.

**rural survey** means a survey that is not an urban survey.

**State Control Survey** means a comprehensive set of points marked, under the supervision of the Surveyor-General, by monuments of standard form, being points of known horizontal position or height (or both) throughout the State.

**steep or mountainous terrain** means terrain with slopes that are generally greater than 10 degrees.

**survey mark** means a permanent mark, reference mark, or corner mark, as referred to in Part 5.

**the Act** means the *Surveyors Act 1929*.

**urban survey** means a survey of land:

- (a) that is within a zone identified in an environmental planning instrument, within the meaning of the *Environmental Planning and Assessment Act 1979*, as being residential, rural residential, commercial or industrial, or
  - (b) on which development for residential, rural residential, commercial or industrial purposes is permitted by or under that Act to be carried out.
- (2) In this Regulation a reference to a Form is a reference to a Form set out in Schedule 1.
- (3) The explanatory note, table of contents and notes in the text of this Regulation do not form part of this Regulation.

## **Part 2 General duties of surveyor**

### **5 Surveys under supervision of surveyor**

Nothing in this Regulation prevents a survey being made under the supervision of a surveyor.

### **6 Nature of supervision**

When a survey is made under the supervision of a surveyor, the surveyor must:

- (a) personally attend on the ground for such time during the making of the survey, and
- (b) exercise such immediate oversight and personal direction of the work,

as will ensure that the surveyor has a comprehensive knowledge of all aspects of the survey and that the survey has been carried out in accordance with sound professional practice and this Regulation.

### **7 General principles of survey**

When carrying out a survey, a surveyor must, in accordance with this Regulation:

- (a) ascertain the positions of monuments relevant to the survey, and
- (b) locate or relocate the boundaries of the land surveyed, and
- (c) mark the survey as required by this Regulation, and
- (d) make complete field notes of the survey, and
- (e) if the purpose of the survey so requires, prepare a plan of survey of the land.

### **8 Surveyor to indicate type of survey**

A surveyor must indicate on each plan of survey whether the survey is an urban or rural survey.

### **9 Surveyor to record nature of boundaries**

(1) A surveyor must show on a plan of survey:

- (a) the nature of the boundaries at the time of the survey, whether defined by survey marks, lockspits, lines, fences, roads, natural or artificial features or buildings or walls, and
- (b) the width of all walls used in common and the position of the boundaries in those walls, and
- (c) the description (including the age, nature, construction material and relationship to the boundary) of any substantial structure within 1 metre of the boundary or otherwise relevant to the boundary definition.

(2) If a boundary is the face of a wall, the boundary must be described in the plan of survey as "face of wall".

(3) A wall must not be described with the expression "party wall" unless:

- (a) it is the subject of such easements as are referred to in relation to party walls in the *Conveyancing Act 1919*, or
- (b) the plan of survey is intended to create such easements in respect of the wall.

### **10 Surveyor to furnish certificate**

(1) When a surveyor furnishes a plan of survey, the surveyor must:

- (a) endorse a certificate in Form 1 on the plan of survey, or

- (b) provide a certificate in Form 1 with the plan of survey.
- (2) The certificate may be incorporated in any other certificate that must be endorsed or provided in accordance with any other Act or instrument made under an Act.

#### **11 Notice of entry**

- (1) The prescribed notice for the purposes of section 13 of the Act is Form 2.
- (2) The notice must be given prior to entry:
  - (a) by delivering the notice to a person apparently in occupation of the land to be entered, or
  - (b) if the land to be entered is apparently unoccupied, by attaching the notice to a place of residence, or some conspicuous object, on the land.

#### **12 Surveyor to meet requisitions**

A surveyor must promptly answer, or comply with, requisitions from the Surveyor-General or Registrar-General.

### **Part 3 Measurement and calculations**

#### **13 Surveyor to obtain information**

A surveyor must obtain all relevant information on public record with government departments and public authorities necessary to locate or relocate the boundaries of any land to be surveyed.

#### **14 Equipment for measurement of surveys**

- (1) A surveyor must make every survey with appropriate equipment.
- (2) A surveyor must not use any equipment in making a survey unless the surveyor knows the accuracy obtained by its use. That accuracy must be determined in relation to:
  - (a) the Australian primary standard of measurement of length, within the meaning of the *National Measurement Act 1960 of the Commonwealth*, or
  - (b) the State primary standard of measurement of length, within the meaning of that Act, that is under the control of the Surveyor-General.
- (3) A surveyor must not use any steel or invar band in making a survey unless it is verified at least once every 2 years and immediately after repair.
- (4) A surveyor must not use any electronic distance measuring equipment in making a survey unless it is verified against the State primary standard of measurement of length (as referred to above), by using pillared testlines, at least once each year and immediately after service or repair.
- (5) The accuracy and method of verification must be as approved.

#### **15 Measurement of boundaries and lines**

A surveyor must measure boundaries and lines by the most direct method that is reasonable and practicable.

#### **16 Measurement by remote-sensing methods**

- (1) A surveyor may use measurements derived from photogrammetry or approved remote-sensing methods.
- (2) If any methods referred to in subclause (1) are used, the surveyor must indicate the methods on the plan of survey.

#### **17 Partial surveys**

If a survey embraces only part of the land in a document of title, the surveyor must connect the terminals of the survey to monuments or points having a known relation to the corners of the land in the document so as to confirm the position of each terminal.

#### **18 Surveys for easement purposes only**

- (1) If a survey is carried out for the purpose of defining an easement, the surveyor must connect the site of the easement by measurement to relevant monuments.
- (2) Wherever the easement intersects a boundary of land held in different ownership or terminates on any current parcel boundary, the surveyor must redefine the existing parcel boundary and show connections on the plan of survey from the easement to the nearest parcel corner.
- (3) The surveyor need not mark easement corners in the manner specified by clauses 34 and 42.
- (4) The surveyor must:
  - (a) ensure that the survey has one reference mark:
    - (i) for easements less than or equal to 200 metres in length—at one terminal of the easement, or
    - (ii) for easements greater than 200 metres in length—at each terminal of the easement, and

- (b) show on the plan of survey by bearing and distance the essential dimensions of the site and note the site on the plan as "easement" or "proposed easement" (as applicable) , and
  - (c) adopt a datum line in accordance with clause 30.
- (5) In addition, the survey must have:
- (a) for an urban survey—reference marks at intervals not exceeding 500 metres, or
  - (b) for a rural survey—reference marks at intervals not exceeding 1,000 metres.
- (6) If an easement is to be created over existing pipes and conduits that are underground or within a building and the precise location of those pipes and conduits cannot reasonably be determined, subclauses (3) and (4) do not apply, but the approximate positions must be shown on the plan of survey together with appropriate notations.

## **19 Re-survey of property boundaries**

- (1) If a surveyor makes a re-survey, the surveyor must adopt the boundaries as originally marked on the ground as the true boundaries unless there is sufficient evidence to show that the marks were incorrectly placed or have been disturbed.
- (2) The surveyor must disclose on the plan of survey:
  - (a) the extent of any discrepancy in the marking of boundaries, and
  - (b) if the marks are shown on an original Crown survey plan, the surveyor must advise the Surveyor-General of the discrepancy in writing within two months of the completion of the survey.

## **20 Surveys involving boundaries that include natural features**

- (1) For the purpose of determining a boundary that is or includes a natural feature, the traverse lines of the survey must be positioned so that each change of course or direction of the boundary can be determined with appropriate accuracy.
- (2) Despite subclause (1) , a surveyor may use remote sensing methods for the purpose of determining such a boundary and may use discretion as to the distance that the ground control of the survey is from the boundary.
- (3) If physical or environmental circumstances prevent compliance with the methods referred to in subclause (1) or (2) for determining such a boundary, a surveyor may use such other approved methods as will permit the survey determining the boundary to be of appropriate accuracy.
- (4) If any of the methods specified in subclause (2) or (3) are used, the surveyor must indicate the methods on the plan of survey.

## **21 Procedure if crooked fence defines boundary**

- (1) If a crooked fence is used to define a boundary in a survey, the surveyor must survey the crooked fence and place the angle points of the boundary in such a way that the boundary line does not leave the material of the fence at the surface of the ground.
- (2) The surveyor must mark the angle points and show the nature of the points on the plan of survey. The surveyor must indicate on the plan of survey the age, type and condition of the fence at the date of the survey.

## **22 Calculation of areas of land**

Areas of land must be computed by a method that provides appropriate accuracy and is recognised by surveyors as good practice.

## **23 Surveys using global positioning system (GPS)**

When making a survey using global positioning system equipment, a surveyor must use an approved global positioning system surveying technique that will achieve an accuracy of Class "B" or better as specified in the *Standards & Practices for Control Surveys (SPI) — Version 1.4* published in November 2000 by the Inter-Governmental Advisory Committee on Surveying and Mapping.

## **24 Surveyor to check angular work**

- (1) A surveyor who makes a survey in which the total length of surveyed boundaries exceeds 10,000 metres on level or undulating terrain or 6,000 metres on steep or mountainous terrain must check the angular work in the survey by astronomical observation or by a complete angular close or by a comparison with the State Control Survey.
- (2) Any such comparison must be shown on the plan of survey.
- (3) A surveyor must not, for the purposes of this clause, interpolate any angular measurement by another surveyor.

## **25 Determination of angular close**

- (1) Whenever practicable, a complete angular close must be obtained.
- (2) The observed angular misclose must not exceed 20 seconds plus  $10\sqrt{n}$  seconds or 2 minutes (whichever is the lesser) :

- (a) for the whole surround, and
  - (b) between stations at which astronomical observations for azimuth have been made, and
  - (c) between pairs of established permanent marks.
- (3) In subclause (2), "n" is the number of traverse angular stations.

## **26 Checking and accuracy of all measurements**

- (1) A surveyor must, if the nature of a survey permits, check all measurements made in a survey by closure of the eastings and northings of the lines in all surrounds in the survey computed in metres to 3 decimal places.
- (2) The internal closure of any survey must be such that the length of the misclose vector must not exceed:
  - (a) 15mm + 100ppm of the perimeter, for boundaries crossing level or undulating terrain, or
  - (b) 15mm + 150ppm of the perimeter, for boundaries crossing steep or mountainous terrain.
- (3) The misclose vector must be determined as  $\sqrt{a^2 + b^2}$ , where "a" is the misclose in eastings and "b" is the misclose in northings.

## **27 Accuracy of length measurements**

When making a survey, a surveyor must measure all lengths to an accuracy of 6mm + 30ppm or better at a confidence level of 95%.

## **28 Identification or re-marking surveys**

- (1) A surveyor may make a survey of a parcel of land for the purpose of redefining the boundaries of the parcel, or of locating the parcel in relation to adjoining lands, in such manner as may be required by the nature of the survey.
- (2) A surveyor may make a survey requiring the re-marking of a parcel of land in such manner and with such marks in such positions as may be specially required by the relevant client, but such a survey must not be used for the purpose of any disposition of land or any interest in land.
- (3) Of this Regulation, only this clause and clauses 1–6, 7 (a), (b) and (d), 11, 13, 14, 23, 27, 31, 39 and 48–53 apply to a survey referred to in this clause.

## **29 Surveys not requiring strict accuracy**

- (1) A surveyor may make a survey for a purpose not requiring strict accuracy under arrangements with a client, and in such a manner and with such marking as are agreed on between the surveyor and the client.
- (2) The plan of such a survey must show monuments as approximately located.
- (3) The surveyor must:
  - (a) endorse a certificate in Form 3 on the plan of the survey, or
  - (b) provide a certificate in Form 3 with the plan of the survey.
- (4) Of this Regulation, only this clause and clauses 1–6, 7 (d), 11, 13, 31, 39 and 48–53 apply to a survey referred to in this clause.
- (5) In addition, if the survey is to be lodged on public record and:
  - (a) the survey is of a class specified in the Surveyor-General's published directions to surveyors—the survey must comply with those directions, or
  - (b) the survey is not of a class so specified—the surveyor must obtain the Surveyor-General's approval for the survey and the survey must comply with the conditions of the approval.

## **Part 4 Datum line**

### **30 Procedure for adopting datum line**

- (1) A surveyor must determine, specifically for each survey, the position of the marks defining the datum line for the survey.
- (2) The bearing used for the orientation must be adopted from the grid bearing derived from the MGA co-ordinates of established permanent marks if the survey is within 300 metres of two established permanent marks (for an urban survey) or 1,000 metres of two established permanent marks (for a rural survey).
- (3) That bearing must be verified by angular, and (if practicable) distance, connection to at least one other established permanent mark.

- (4) If a comparison of those connections reveals differences exceeding 20mm + 100ppm, the surveyor must show on the plan of survey all the observed and calculated bearings and distances and:
  - (a) include an additional connection to at least one other established permanent mark, or
  - (b) forward a report of the survey to the Surveyor-General.
- (5) If the survey does not fall within subclause (2) , the bearing used for the orientation must be taken from a survey for which a plan or description is filed or recorded at a government department or public authority, or from astronomical observations or satellite observations, and the surveyor must state the origin of the orientation on the plan of survey.

### **31 Surveyor to record datum line in field notes**

A surveyor must clearly indicate in the field notes the datum line of the survey and the origin of the orientation adopted.

### **32 Method of recording datum line on plan of survey**

- (1) A surveyor must show the datum line of a survey on the plan of survey by distinguishing characters placed at the terminals of the datum line and must also note on that plan the nature of the marks defining the datum line.
- (2) If the orientation of the survey is adopted from the MGA co-ordinates, the co-ordinate values together with the zone, accuracy class and order, date, combined scale factor, and source, of all the established permanent marks used for orientation purposes are to be shown in a schedule on the plan of survey.
- (3) If astronomical or satellite observations are used to determine or confirm the orientation of the survey, the results of the observations are to be shown in a table on the plan of survey under the headings ``Occupied station'', ``Observed station'' and ``Astronomical body'' or ``Satellite system'', together with the derived bearing between the occupied and observed stations.

## **Part 5 Monuments and reference marks**

### **33 Connection of surveys and marks**

- (1) A survey for any purpose (resulting in a plan of survey lodged on public record with a government department or public authority) must:
  - (a) for an urban survey—connect by measurement to at least 2 existing permanent marks if the marks are within 300 metres of the land surveyed, or
  - (b) for a rural survey—connect by measurement to at least 2 existing permanent marks if the marks are within 1,000 metres of the land surveyed.
- (2) If there are two established permanent marks within the relevant distance specified in subclause (1) (a) or (b) , the connection referred to in that subclause must be made to those established permanent marks in preference to non-established permanent marks even if the latter are closer to the survey.
- (3) A survey that redefines or creates parcels of land must have, within 300 metres (for an urban survey) or 1,000 metres (for a rural survey) , no less than the following number of permanent marks in relation to the following numbers of parcels:
  - (a) 1–10 parcels—2 marks,
  - (b) 11–20 parcels—3 marks,
  - (c) more than 20 parcels—4 marks plus 1 mark for every 20 (or part of 20) by which the number of parcels exceeds 40.
- (4) A maximum of two permanent marks connected in accordance with subclause (1) (a) or (b) may be included in the total number of marks required by subclause (3) .
- (5) A survey that redefines a road frontage or that is conducted for the purposes of creating a road under any Act must have 2 or more permanent marks for each interval of 1,000 metres (for an urban survey) or 2,000 metres (for a rural survey) .
- (6) A survey for the purposes of creating an easement must have 2 or more permanent marks for each interval of 2,000 metres (for an urban survey) or 4,000 metres (for a rural survey) .
- (7) Measurements between all permanent marks found or placed, and connections to the survey, must be proved by closed survey and shown on the plan of survey.
- (8) If two permanent marks connected in accordance with subclause (1) (a) have accurate AHD values, the locality sketch plan of each additional permanent mark placed in accordance with subclause (3) , (5) or (6) must show:
  - (a) the AHD value derived by closed height differences to an accuracy of Class ``LD'' or ``B'' or better (as specified in the *Standards & Practices for Control Surveys*

(SPI) —Version 1.4 published in November 2000 by the Inter-Governmental Advisory Committee on Surveying and Mapping) , and

- (b) the AHD values, and the nature and source, of the 2 connected permanent marks.
- (9) A permanent mark placed in accordance with subclause (3) , (5) or (6) must:
  - (a) be so located as to be suitable for an orientation of the survey and for redefinition of the survey, and
  - (b) be so located at road junctions, road intersections, road angles or crests of hills as to be visible between other permanent marks without obstruction, and to be suitable for subsequent inclusion in the State Control Survey, and
  - (c) be identified in location by a sketch plan that meets approved standards.
- (10) A sketch plan referred to in subclause (9) must be forwarded to the Surveyor-General within 2 months of the placement of the permanent mark.

### **34 Placement of pegs or marks**

- (1) If a surveyor makes a survey other than a survey of a kind referred to in clause 28 (Identification or re-marking surveys) or clause 29 (Surveys not requiring strict accuracy) , the surveyor must when possible firmly mark each corner (including corners of each parcel of land in a subdivision) with a peg or mark of the type prescribed by clause 42.
- (2) If it is not practicable to place such a peg or mark, a reference mark must be placed and the surveyor must note on the plan of survey that the corner was not marked.
- (3) In a rural survey, if a fence post is on a corner at which a reference mark has been placed and reference is made to that post on the plan of survey, no further marking of the corner is required.

### **35 Urban surveys**

In any urban survey, the survey must:

- (a) if the land abuts a road—have a reference mark at each extremity of the land and at intervals of not more than 100 metres throughout the length of the road frontage of the survey where there are intervening side boundaries, or
- (b) if the land does not abut a road—have at least 2 reference marks at suitable locations in relation to the land being surveyed.

### **36 Rural surveys**

- (1) In a rural survey, a surveyor must mark definitely and durably all lines that form or are to form the boundaries between parcels. The marking is to be done with a peg or mark of the type prescribed by clause 42.
- (2) In addition, if a boundary is unfenced, the lines that form it must also be marked with lockspits cut in the direction of the boundary from each corner and angle or, if an obstacle exists at a corner or angle, with a suitable reference mark near that corner or angle.
- (3) On unfenced boundaries, the pegs and lockspits, or marks and lockspits, must be placed at intervals of not more than 200 metres, except where one peg or mark can be seen from the next. In that case, the distance can be increased to a maximum of 500 metres. The plan of survey must show the type and position of any line mark so placed.
- (4) Unless environmental considerations dictate otherwise, an unfenced boundary must be reasonably cleared and any tree that has a trunk diameter greater than 100mm and is within 500mm of the unfenced boundary must be blazed or, if situated on any boundary, must be double blazed.
- (5) The surveyor must connect or place and connect at least 2 reference marks for each parcel shown on the plan of survey in selected positions suitable for redefinition of the survey.
- (6) If a boundary (other than a road frontage) of the land exceeds 2,400 metres, a surveyor must place additional reference marks along the boundary at intervals of not more than 1,500 metres.
- (7) If a boundary required to be marked is a road frontage, a surveyor must place reference marks in accordance with clause 37 (5) .
- (8) This clause does not apply to a survey referred to in clause 18 (Surveys for easement purposes only) .
- (9) In this clause, to *blaze* and to *double blaze* a tree means to mark the tree with cuts in the approved manner.

### **37 Placement of reference marks for roads**

- (1) If a surveyor makes a survey for the purpose of the creation, redefinition or widening of a road under any Act, the surveyor must place reference marks in the positions prescribed by this clause and must show the type and location of the reference marks in the plan of the survey.
- (2) If the survey is an urban survey, reference marks must be placed:

- (a) at the junction or intersection of roads:
    - (i) if a triangle is cut off from the corner formed by the intersection of the road boundaries, so as to refer to either end of the base line of the triangle, or
    - (ii) if the corner is rounded off, so as to refer to either tangent point, or
    - (iii) if the corner is not cut off or rounded off, so as to refer to the point of intersection of the road boundaries, and
  - (b) at the terminals of a road, and
  - (c) as far as is practicable, on the same side of the road, and
  - (d) if placed in a road that is variable in width, with connections made to both sides of the road, and
  - (e) at each angle and each tangent point or terminal of a series of chords of a regular curve in a road.
- (3) The requirement of subclause (2) (e) is subject to the condition that a reference mark need not be placed within 30 metres of another reference mark.

**Note.** Clause 35 (a) provides that in any urban survey, if the land abuts a road, the survey must have a reference mark at each extremity of the land and at intervals of not more than 100 metres throughout the length of the road frontage of the survey where there are intervening side boundaries.

- (4) If a reference mark placed in accordance with this clause is of the type prescribed by clause 43 (1) (e) (ie a drill hole and wing) and is to be placed in a concrete kerb cast in situ, there must be 2 such marks.
- (5) If the survey is a rural survey, reference marks must be placed so as to refer to the terminals of the road surveyed, to each junction or intersection of any roads and in pairs suitable for orientation purposes throughout the whole length of the road in selected positions so that the maximum distance between any 2 successive reference marks does not exceed 1,000 metres.
- (6) If a road being created joins or intersects an existing road and reference marks have already been placed in the existing road in accordance with this clause or with any Act or any instrument made under an Act, those marks must be connected by survey with the reference marks placed in the road being created and the orientation of one series of reference marks must be compared with the orientation of the other series of reference marks and the comparison shown on the plan of survey.

### **38 Procedure on finding existing corner peg and reference mark**

If a corner peg and reference mark are found together, a surveyor must determine the bearing and distance between them, and if a difference from the original reference is disclosed, the surveyor must decide from other evidence which of the monuments to adopt, and must note details of any difference on the plan of survey.

### **39 Procedure if monuments of original survey missing**

To the extent that the relevant monuments of an original survey are missing, a surveyor must determine the boundaries and corners of the land being surveyed by measurement in correct relation to boundaries of adjacent parcels of land and parcels of land on opposite sides of roads, and to fences, and to such other evidence of correct location as may be found after full investigation and inquiry.

### **40 Procedure if differences exist between measured and recorded lengths**

- (1) If a measurement discloses a boundary of land surveyed to be different from that indicated in the document of title to the land, the surveyor must verify the length of the boundary and make appropriate entries in the surveyor's field notes and show in the notes and on any plan of survey the monuments adopted.
- (2) In the absence of monuments defining the land surveyed, the surveyor must indicate on the plan of survey whether there is sufficient land available to permit the adoption of the measurement referred to in subclause (1) without causing any encroachment on any road or on any adjoining or adjacent parcel of land.

### **41 Surveyor to note nature and position of all monuments**

- (1) A surveyor must indicate in the field notes and on the plan of survey:
  - (a) the nature and position of any survey mark, object or monument found by the surveyor, and
  - (b) the nature of any survey mark (other than a peg) placed by the surveyor, and
  - (c) the essential measurements from any reference mark, permanent mark, object or monument to the nearest corner, angle or line mark.
- (2) If reference marks are placed or found at depths of more than 150mm below the existing surface of the ground, the surveyor must indicate the depths on the plan of survey.

- (3) If reference marks are found, the surveyor must note their origin on the plan of survey by reference to the number of the plan on which the marks first occur.
- (4) A monument that is important for the definition of the land must be shown on the plan of survey and in the surveyor's field notes with the annotation "found", "not found", "gone", "disturbed" or "inaccessible" as appropriate.
- (5) A monument must not be recorded as "gone" unless a thorough search for the monument has been made and the measurements of its probable site recorded in the field notes.

## 42 Marking of surveys

- (1) The marking of surveyed boundaries of land must be done so that the boundaries are readily and unambiguously discernible on the ground.
- (2) The marking of points must be done with a peg or drill hole in rock or concrete or other similar material or with a chisel mark or non-corrodible nail in fixed timber.
- (3) If lockspits are used, the lockspits must consist of trenches one metre long, 200mm wide and 150mm deep dug in the direction of the boundary lines and commencing 300mm from each corner or angle, or may consist of stones packed to similar or greater dimensions. However, if the type of soil renders trenches ineffective, direction stakes not less than 50mm by 30mm by 450mm may be placed in the direction of the boundary lines 4 metres distant from the corner or angle instead of trenches.
- (4) If a corner or angle is marked with a drill hole or non-corrodible nail in fixed timber:
  - (a) if practicable—wings must be cut in solid rock or concrete or fixed timber 80mm long, 20mm wide and not less than 10mm deep commencing 50mm from and directed to the corner, or
  - (b) if the surface makes wings impracticable—lines at least 300mm long and 20mm wide may be painted on the surface in the direction of the boundary lines.
- (5) For:
  - (a) rural surveys—pegs must be of sound durable hardwood or white cypress pine at least 450mm long and not less than 75mm by 75mm nominal section at the top end, or
  - (b) urban surveys—pegs must be of sound durable hardwood or white cypress pine at least 350mm long and not less than 75mm by 35mm nominal section at the top end.
- (6) Pegs must be pointed for about two-thirds of their length.
- (7) The centre of the top of a peg must represent the survey point except that, if conditions prevent the correct centring of a peg, the survey point may be represented by a non-corrodible tack or nail driven into the peg.
- (8) Pegs must be placed upright in the ground, point downwards, so that their tops are not more than 80mm above the ground level. The earth surrounding them must be securely compacted.
- (9) If a peg projecting above the surface of the ground could be hazardous or inconvenient to the public the peg may, at the discretion of the surveyor, be placed flush with the surface of the ground. If that is done, the fact must be noted on the plan of survey.
- (10) If the depth of soil is insufficient to permit the conventional placement of a peg, the peg may be driven to the point of refusal and then:
  - (a) if there is sound rock under the peg, a drill hole and wing, a spike and wing or a chisel mark must be placed in the rock beneath the peg, or
  - (b) if there is no sound rock under the peg, a cairn of rocks must be built around the peg above the surface of the soil.
- (11) If drill holes, chisel marks or similar marks are to be placed in an ornamental wall or ornamental path or similar structure, the size of the mark placed may be reduced at the discretion of the surveyor to avoid undue damage to the wall, path or other structure being marked, but only if the marking is durable and readily and unambiguously discernible.
- (12) The Surveyor-General may approve other types of marks for specific terrain.

## 43 Requirements relating to reference marks

- (1) Reference marks required to be placed by this Regulation must consist of:
  - (a) a permanent mark, or
  - (b) a reinforced concrete block in the form of a truncated pyramid 400mm long, 150mm square at the lower end and 100mm square at the upper end with a non-corrodible metal nail, peg or plug not less than 80mm long inserted at least 75mm into the block, or
  - (c) a galvanised iron pipe not less than 300mm long and 20mm internal diameter with a rim wall thickness of not less than 3mm, or
  - (d) a galvanised iron spike 100mm long driven completely into fixed timber with a wing 80mm long cut into the timber and directed to the spike, or

- (e) a drill hole cut into a kerb or other substantial structure not less than 6mm in diameter and not less than 10mm deep with a wing 80mm long and directed to the drill hole, or
  - (f) if bedrock exists within 300mm of the natural surface of the ground, a drill hole not less than 10mm in diameter and 30mm deep cut into bedrock with a wing 80mm long directed to the drill hole, or
  - (g) a wing 80mm long cut into the sound wood of a suitable tree, facing directly towards the relevant corner and at a convenient height above ground level, the point of the wing or arrow being the reference point, or
  - (h) an approved mark of a durable character, or a specific point, on a permanent or substantial structure.
- (2) The marks referred to in subclause (1) (b) and (c) must be placed vertically with the tops of the marks at least 80mm below the existing surface of the ground or, if placed on a boundary on which fencing is likely to be erected, sufficiently deep to permit the erection of the fence without disturbance of the mark.

#### **44 Placement of reference marks**

A reference mark that this Regulation requires to be placed must be located in such a position as to preserve the mark from disturbance.

#### **45 Use of broad arrows**

In any case in which the use of a broad arrow is authorised under the *Survey Marks Act 1902*, the marking may be used instead of a wing in the placement of a corner mark or reference mark (or both) in connection with the marking of a survey.

#### **46 Datum used for levelling**

- (1) All levels shown on a plan of survey must be related to AHD or such other datum as is approved.
- (2) AHD must be verified by closed height difference between 2 bench marks the heights of which have an approved accuracy.
- (3) All height differences verified or derived for a survey must attain an accuracy of Class "LD" or "B" or better as specified in the *Standards & Practices for Control Surveys (SP1) —Version 1.4* published in November 2000 by the Inter-Governmental Advisory Committee on Surveying and Mapping.
- (4) The plan of survey must specify the datum of the levels and the value, nature, accuracy class and order of the bench marks used to establish and verify that datum.

#### **47 Bench marks**

- (1) In a survey for the purpose of a limitation in height or depth (or both), the surveyor must relate the survey to 2 or more bench marks of which one or more must be external to the relevant parcel.
- (2) The value, nature, origin, accuracy class and position of the bench marks must be stated on the plan of survey.
- (3) The external bench mark, or any one of the external bench marks, must be:
  - (a) an existing permanent mark within 300 metres of the parcel, or
  - (b) if it is impracticable to use an existing permanent mark, a mark placed by the surveyor in accordance with the requirements of clause 33 (9) for permanent marks within 300 metres of the parcel.
- (4) If a surveyor is required to place a bench mark in accordance with this Regulation, the bench mark must be a permanent mark or a mark of durable nature as approved.

### **Part 6 Field notes**

#### **48 Surveyor to make field notes**

- (1) A surveyor must make field notes and record in them any facts, readings and observations immediately after they are ascertained.
- (2) Field notes must be neat, precise, complete and readily intelligible in accordance with the usage of surveyors.
- (3) A surveyor must keep an archive of:
  - (a) all field notes made by the surveyor with indices and cross references set out in a manner that facilitates the preparation of a complete and accurate plan of survey, and
  - (b) all other information and documentation relevant to those field notes.

#### **49 Electronic records**

If a survey has been recorded in whole or in part by electronic methods, an electronic copy (in the same form as the recording) and a paper copy of the reduced and formatted data must be retained in a manner that facilitates the preparation of a complete and accurate plan of survey.

**50 Surveyor to record astronomical observations**

If a surveyor makes an astronomical observation in the course of a survey, the surveyor must enter in the field notes the time and date and the latitude of the relevant station together with full particulars of all observations.

**51 Method of recording bearings**

A surveyor must observe and record all angles or, if appropriate, bearings in the field notes in degrees, minutes and seconds of arc, and all bearings must be reckoned and expressed clockwise from zero to 360 degrees.

**52 Surveyor to record landmarks**

A surveyor must enter in the field notes the names of estates, houses, roads, rivers, creeks, lakes and the like, and house numbers, as far as material to the survey and ascertainable by the surveyor.

**53 Surveyor to sign and date field notes**

- (1) A surveyor must personally sign and date each page or sheet of the field notes (or, in the case of a survey recorded by electronic means, of the reduced and formatted data) of a survey that has been performed by the surveyor personally or under the surveyor's supervision.
- (2) Before signing each page or sheet, the surveyor must be satisfied that the notes on it are accurate and that the date when the work recorded on it was performed appears on it.

**54 Report by surveyor**

A surveyor must disclose any doubt, discrepancy, difficulty or difference suggested by or encountered in a survey on the plan of survey or in an accompanying comprehensive report.

## **Part 7 Water as a boundary**

**55 Location and relocation of mean high-water mark boundary**

- (1) If, since the date of a previous survey, there has been a change in the position of a high-water mark forming a boundary of land to be surveyed and that change has been caused otherwise than by natural, gradual and imperceptible accretion or erosion, in any subsequent survey the position of the mean high-water mark as it was immediately before the change must be adopted.
- (2) For the purposes of preparing a plan of survey containing a high-water mark that forms a boundary of land, a reference in any previous plan of survey or description of land to a high-water mark is, unless a contrary intention appears, to be taken to be a reference to a mean high-water mark (that is, the line of mean high tide between the ordinary high-water spring and ordinary high-water neap tides) .
- (3) For the purposes of preparing a plan of survey containing a high-water mark that forms a boundary of land, a reference to, or description of, a boundary of land that abuts tidal water in any previous plan of survey or description of land is, unless a contrary intention appears, to be taken to be a reference to, or a description of, the mean high-water mark.
- (4) The mean high-water mark must be determined with appropriate accuracy by a surveyor.
- (5) A surveyor must show on a plan of survey the description and relationship of any sea wall and reclaimed land adjacent to the mean high-water mark boundary.
- (6) If a surveyor determines a location of mean high-water mark in relation to land, approval of the determination must be obtained from:
  - (a) if the adjoining land below the mean high-water mark is Crown land—the Minister administering the *Crown Lands Act 1989* (or a person authorised by that Minister) , or
  - (b) in any other case—the owner of that adjoining land,unless a prior determination of that location of that mean high-water mark has been approved in accordance with this clause or a corresponding provision of a previous regulation under the Act.

**56 Location and relocation of banks of non-tidal streams or lakes**

- (1) If, since the date of a previous survey, there has been a change in the position of a bank of any non-tidal stream forming a boundary of land to be surveyed and that change has been caused otherwise than by natural, gradual and imperceptible accretion or erosion, in any subsequent survey the position of the bank as it was immediately before the change must be adopted.

- (2) The position of the boundary between adjoining land and any non-tidal lake is not subject to change by the doctrine of accretion or erosion.
- (3) For the purposes of this clause, the bed of a lake or stream includes that portion:
  - (a) that is alternately covered and left bare with an increase or diminution in the supply of water, and
  - (b) that is adequate to contain the lake or stream at its average or mean stage without reference to extraordinary freshets in time of flood or to extreme droughts.
- (4) For the purposes of this clause, a lake includes a permanent or temporary lagoon or similar collection of water not contained in an artificial work.
- (5) For the purposes of preparing a plan of survey containing a bank of a non-tidal lake or stream that forms a boundary of land, in any previous plan of survey or description relating to that land a reference to, or description of, a bank is, unless a contrary intention appears, to be taken to be a reference to, or description of, the limit of the bed of a non-tidal lake or stream.
- (6) The middle line of a stream need not be marked unless the purpose for which the survey is made so requires.
- (7) The natural feature boundary must be surveyed so that each change of course or direction of the boundary is determined with appropriate accuracy.
- (8) A surveyor must provide a comprehensive report to the Minister administering the *Crown Lands Act 1989* (or a person authorised by that Minister) regarding a determination of a boundary, and obtain the approval of that Minister (or that person) to the determination, if:
  - (a) the location of the boundary is the bank of a non-tidal lake or stream,
  - (b) the bed of the lake or stream is Crown land, and
  - (c) a prior determination of the boundary has not been approved in accordance with this clause or a corresponding provision of a previous regulation under the Act.
- (9) A surveyor must provide a comprehensive report regarding a determination of a boundary to the Surveyor-General if:
  - (a) the location of the boundary is the bank of a non-tidal stream, and
  - (b) that boundary has been previously determined by survey, and
  - (c) the bank of the non-tidal stream has moved since that determination.

The comprehensive report must include the reason for the change and the process by which that change took place.
- (10) A comprehensive report referred to in subclauses (8) and (9) must include:
  - (a) the basis and method of determining the location of the bank of the non-tidal lake or stream, and
  - (b) photographs, documentation, evidence, and any other information, relevant to the location of the boundary, as is reasonably required by the person to whom the report is to be provided.

## **57 Determination of landward boundary of reservation or Crown road fronting a natural feature**

- (1) If the landward boundary of an existing reservation of stipulated width fronting tidal waters has not been defined by survey, on redefinition or subdivision of the adjoining land by a survey, the boundary must be defined by right lines approximately parallel to the position of the mean high-water mark as originally defined.
- (2) If the landward boundary between a parcel of land and an existing reservation or Crown road of stipulated width along a non-tidal stream or lake or other natural feature has not been defined by survey, on redefinition or subdivision of the adjoining land by a survey:
  - (a) the boundary must be defined by right lines approximately parallel to the position of that feature as originally defined, and
  - (b) the location of the natural feature as it existed at the time of the survey must be determined and shown on the plan of survey, and
  - (c) the boundary need not be marked in accordance with clauses 34 and 42, but reference marks must be placed at the terminals of the boundary and at intervals of not more than 1,000 metres along the boundary.
- (3) If a surveyor determines a landward boundary of a reservation or Crown road and there has not been a prior determination of that boundary approved in accordance with this clause or a corresponding provision of a previous regulation under the Act, the approval of the Minister administering the *Crown Lands Act 1989* (or a person authorised by that Minister) to the determination must be obtained.

## **58 Approval of Minister or adjoining owner to water boundary changes**

- (1) A surveyor must, when seeking approval from the Minister administering the *Crown Lands Act 1989* (or a person authorised by that Minister) or an adjoining owner to the determination of:
  - (a) the landward boundary of a reservation or Crown road fronting a water boundary, or
  - (b) a mean high water mark boundary that has changed or does not currently have such approval,
 provide to the person concerned a comprehensive report regarding the determination.
- (2) The comprehensive report must include:
  - (a) the basis and method of determining the location of the bank of the stream or lake or the mean high-water mark, and
  - (b) an opinion, supported by photographs, documentation and evidence, as to the reason for the change and the process by which that change took place, and
  - (c) such other information, relevant to the location of the boundary, as is reasonably required by the person concerned.

## **59 Calculation of areas of land abutting a natural feature**

- (1) The area of land abutting a natural feature, such as a mean high-water mark or a non-tidal stream, must be ascertained by the surveyor with appropriate accuracy and must include all land to the natural feature.
- (2) If a natural feature forms a boundary of land, appropriate details describing the natural feature must be shown on the plan of survey.
- (3) Bearings and distances between the end points of the radiations or offsets used to determine the location and the area of land abutting the natural feature must be shown on the plan of survey.

## **Part 8 Miscellaneous**

### **60 Deferment of placement of survey marks**

- (1) If it is likely that construction or development will disturb any survey marks placed on land that is the subject of a survey, a surveyor may defer the placement of the survey marks required by this Regulation on that land.
- (2) In such a case, the surveyor must:
  - (a) notify the Surveyor-General of the deferment, and
  - (b) deposit with the Surveyor-General an amount equivalent to 2 penalty units for each survey mark deferred (but not less than 5 penalty units for each survey) , and
  - (c) comply with any requirement of the Surveyor-General, notice of which is served on the surveyor within 30 days of the date on which the surveyor notified the Surveyor-General of the deferment.
- (3) On completion of the construction or development, the surveyor must:
  - (a) place the deferred survey marks, and
  - (b) have their nature and position noted on the plan of survey in the manner approved by the Registrar-General, and
  - (c) inform the Surveyor-General that the survey has been carried out in compliance with this Regulation.
- (4) If the Surveyor-General is satisfied that the survey has been satisfactorily completed, the deposit must be returned to the surveyor less an administrative charge not exceeding 15 per cent of the amount deposited.
- (5) If the placement of survey marks has been deferred under this clause, the marks must be placed no later than the earlier of the following days:
  - (a) the day that falls 6 months after the completion of the survey, or
  - (b) the day that falls 28 days after the completion of the construction or development.

### **61 Exemption by Surveyor-General**

- (1) If the Surveyor-General is of the opinion that it is not practicable or necessary to comply with a requirement under this Regulation in relation to a survey, the Surveyor-General may in writing exempt the surveyor conducting the survey from complying with the requirement.
- (2) A surveyor who obtains an exemption under this clause must record the exemption number or type, and the clause or clauses that the exemption relates to, on the plan of survey.

### **62 Effect of contravention**

If a survey or surveyor fails to comply with a provision of this Regulation, that failure does not constitute an offence, but, subject to section 14 of the Act (Power of board to deal with

offences) , constitutes a ground for action by the board under that section against the relevant surveyor.

### **63 Savings provision**

Any act, matter or thing that had effect under the *Survey (Practice) Regulation 1996* immediately before the repeal of that Regulation by the *Subordinate Legislation Act 1989* is taken to have effect under this Regulation.

## **Schedule 1 Forms**

(Clause 4 (2) )

### **Form 1 Survey certificate**

(Surveyors (Practice) Regulation 2001—Clause 10)

I, [Insert Name] of [Insert Address], a surveyor registered under the *Surveyors Act 1929*, certify that the survey represented in this plan is accurate, has been made in accordance with the *Surveyors (Practice) Regulation 2001* and was completed on: [Insert date of completion of survey].

The survey relates to: [Specify the land actually surveyed, or specify any land shown in the plan that is not the subject of the survey]

Dated:

(Signature)

Surveyor registered under  
the *Surveyors Act 1929*

### **Form 2 Notice of entry**

(Surveyors (Practice) Regulation 2001—Clause 11)

To the occupier of: [Insert reference to land proposed to be entered]

I, [Insert Name] of [Insert Address], a surveyor registered under the *Surveyors Act 1929*, give notice under section 13 of the *Surveyors Act 1929* that I intend to enter the land referred to above on: [Insert dates of proposed entry] together with my assistants for purposes relating to the making of a survey.

Dated:

(Signature)

Surveyor registered under  
the *Surveyors Act 1929*

### **Form 3 Certificate as to survey not requiring strict accuracy**

(Surveyors (Practice) Regulation 2001—Clause 29)

I, [Insert Name] of [Insert Address], a surveyor registered under the *Surveyors Act 1929*, certify that the survey represented in this plan (or sketch) was made in accordance with clause 29 of the *Surveyors (Practice) Regulation 2001* and [is/is not]\* a survey to be lodged on public record as referred to in that clause.

(Signature)

Surveyor registered under  
the *Surveyors Act 1929*

\* Strike out inappropriate words.

## Notes

The following abbreviations are used in the tables of amending instruments and amendments:

Am	amended	No	number	Schs	Schedules
Cl	clause	p	page	Sec	section
Cll	clauses	pp	pages	Secs	sections
Div	Division	Reg	Regulation	Subdiv	Subdivision
Divs	Divisions	Regs	Regulations	Subdivs	Subdivisions
GG	Government Gazette	Rep	repealed	Subst	substituted
Ins	inserted	Sch	Schedule		

## Table of amending instruments

Surveyors (Practice) Regulation 2001 published in Gazette No 132 of 31.8.2001, p 7213.