

1925

THE NEW ZEALAND GAZETTE.

1849

Amending the Regulations under the Surveyors' Institute and Board of Examiners Act, 1908; and the Surveyors' Institute and Board of Examiners Amendment Act, 1922.

IN pursuance and exercise of the powers and authorities conferred by section seventeen of the Surveyors' Institute and Board of Examiners Act, 1908, and section four of the Surveyors' Institute and Board of Examiners Amendment Act, 1922, and of every other power and authority in anywise enabling it in that behalf, the Surveyors' Board doth hereby amend the regulations for survey dated the twentieth day of March, one thousand nine hundred and twenty-three, and published in the *New Zealand Gazette* of twenty-eighth June, one thousand nine hundred and twenty-three, as follows:—

Regulation No. 1 is amended, and shall read—

1. In these regulations, if not inconsistent with the context,—
 - "Surveyor-General" and "Chief Surveyor" mean the persons holding such official positions respectively, or the persons for the time being acting for either of these officers, in the Department of Lands and Survey;
 - "Surveyor" means a person holding a license from the Surveyors' Board to execute surveys within the Dominion of New Zealand, and, in respect of Land Transfer surveys, licensed also by the Surveyor-General in that behalf;
 - "Board" means the Surveyors' Board constituted under the Surveyors' Institute and Board of Examiners Act, 1908;
 - "Survey" means any survey required under any Act relating to or affecting surveys of land, except surveys carried out by or under the direction of the Surveyor-General;
 - "Plan" includes all plans in connection with any survey;
 - "Regulations" includes the above-mentioned regulations dated the 20th day of March, 1923, and their amendments. Where these regulations relate to plans and surveys required under the Public Works Act, 1908, and its amendments, the Land Transfer Act, 1915, the Land Act, 1924, or any other Act relating to or affecting surveys of land, the expressions used in these regulations shall have the same meanings as in the Act under which such plans and surveys are required.

Regulation No. 3 is amended, and shall read—

3. A surveyor effecting any survey under the regulations shall comply with all departmental rules and directions issued by the Surveyor-General supplementary to these regulations, and not contrary thereto.

Regulation No. 15 is amended, and shall read—

15. Field-books shall contain a statement by the surveyor that the tapes used on the survey have been compared with one of the authorized standard bands, and that they are correct under a (specified) tension and temperature.

Regulation No. 25 is amended, and shall read—

25. Field measurements shall be made with a steel or invar band or tape, tested at frequent intervals with the surveyor's standard band. Tension shall be applied by means of a spring balance, carefully tested for index error, and the measurements corrected for the difference of temperature above or below the temperature at which the band is standard length.

Regulation No. 37 is amended, and shall read—

37. Rural surveys: 2 links per mile in level and undulating country; 4 links per mile in rough and hilly country, provided that one extra link of error per mile shall be allowed on adopted work.
City and town surveys: 1 link per mile in level and undulating country; 2 links per mile in rough and hilly country.

Should the work of a surveyor exceed the above-mentioned limits such survey must be revised. As accurate surveys and a high standard of work should be the first object of surveyors, they will be expected to obtain as nearly as possible a true closure, and the accumulated error shall not exceed 10 links.

Regulation 44 is amended, and shall read—

44. Areas of portions or subdivisions shall be accurately computed. The form. Appendix F. is recommended for areas by double longitudes.

Regulation 46 is amended, and shall read—

46. The areas of figures bounded by watercourses, or irregular curved lines fixed by offsets from the traverse-lines should be obtained by computing the portion of the area within the closed traverse-lines by double longitudes and using a planimeter to determine the portion of the area between the traverse-lines and the boundary; and in rural surveys where the boundary-lines exceed twenty in number, the use of the planimeter will be permitted to determine a portion of the area of which the greater portion is computed mathematically.

Regulation 47 is amended, and shall read—

47. All plans shall be drawn on mounted drawing-paper of the best quality and according to regulation size. (See Appendix G.)

Regulation 55 is amended, and shall read—

55. All boundaries shall be ruled in firm lines. Measured lines are to be drawn in red, calculated lines in black, with figures in red and black respectively. Bush-lines cut but not chained are to be drawn in red, the linkages in black. Ranged lines not chained are to be drawn in blue. Observed bearings to be written in blue, and those calculated in black.

Regulation 57 is amended, and shall read—

57. Traverse stations shall be numbered and shown as follows:—

- (a.) New pegs shall be shown by small red circles.
- (b.) Old pegs, when adopted but not found, by small black circles.
- (c.) Old pegs, when found, by small black circles filled solid.
- (d.) Old pegs renewed, by a red circle enclosing a black circle filled solid.
- (e.) Iron tubes, by two small concentric blue circles.
- (f.) Iron spikes, by small blue circles.
- (g.) Peg and spike together, by a red circle enclosing a blue circle.
- (h.) Posts by solid black squares.
- (i.) Concrete pegs, by a small yellow circle.
- (j.) Old iron tube adopted, by two concentric black circles.
- (k.) Old tube when found, by two blue circles, inner one filled solid.

(See Appendix H.)

When it is impossible to insert a peg or spike on account of some obstruction of a permanent nature, the station shall be shown by a small red circle with particulars of the ground-marking.

Regulation 70 is amended, and shall read—

70. As surveys are completed, the plans thereof and all other documents relative thereto, if for deposit by the surveyor, either with the Chief Surveyor or the District Land Registrar, are to be forwarded promptly. The forwarding letter should be sent under separate cover, so that inquiry may be made for mislaid or delayed plan packets.

Regulation 71 is amended, and shall read—

71. Plans must not be folded. They should be transmitted to the place of lodgment on stout wooden rollers, or within plan cases, securely fastened and legibly addressed. It is preferable that they be sent by "Fragile" post.

Regulation 74 is amended, and shall read—

74. Surveys pertaining to title shall be executed by a licensed surveyor, and plans shall bear his signature.

Regulation 81 is amended, and shall read—

81. Pegs shall be placed on all section-lines at the point of intersection with road, railway, stream, or watercourse traverses, or as close as possible thereto.

In the case of any such pegs placed not actually at the point of intersection, such pegs shall be properly connected to adjacent traverse pegs.

In the case of section-lines intersecting a road, the measured or calculated distance to the adjacent angle pegs on the same side shall be given, and the boundary of a section intersecting a road shall in all cases be pegged on the traverse-line as well as on both sides of the road.

Such traverse intersection-pegs, however, shall be driven flush to avoid confusion.

Regulation 95 is amended, and shall read—

95. The positions of the terminals of all chained lines, excepting range pegs, all corners of blocks of sections or of isolated sections, whether

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chained to or not, and all intersections of section boundaries with traverses, shall be calculated and tabulated.

Regulation 136 is amended, and shall read—

136. Any plan purporting to be a survey, resurvey, or subdivision of any land shall bear a statutory declaration made by the surveyor who actually made the measurements in the field, in the form given in Appendix N hereof.

Regulation 137 is amended, and shall read—

137. Such plan may be lodged with the District Land Registrar, and sent by him to the Chief Surveyor for approval, and only when so approved shall be deemed to be accurate for all purposes of the Land Transfer Act.

Regulation 138 is amended, and shall read—

138. Surveys within an area covered by a standard traverse shall be connected to the stations of the standard survey. The surveyor shall use the standard blocks as his initial for bearing, and in all cases he shall start his work from one standard block, continue to a second, and also check the bearing on a third block.

Regulation 139 is amended, and shall read—

139. In districts where there is no standard survey, but a triangulation is available, all surveys of sections or allotments shall provide at least two permanent marks which shall be connected with a trig. station or other reliable mark.

Regulation 141 is amended by the addition of the words "(See Appendix R)" at the end thereof.

Regulation 143 is amended, and shall read—

143. The position of all fences, walls, buildings, eaves, ditches, hedges, streams, or other features on or near the boundary must be clearly shown relatively to the actual boundary-line. Where a wall is claimed as a party wall, it must be noted as "claimed as a party wall." Swamps, terraces, or irregular fences are inadmissible as boundaries, except if so made by the Crown grant, in which case the consent in writing of the adjoining owners should be asked, and these boundaries, with such consent, be reduced to right lines with defined bearings and distances, and the adjoining owners should sign the plan. Any consent in writing so given shall be lodged with the relative survey documents as provided in Regulation 70. Where the reduction to right lines deviates from the title boundary the District Land Registrar should be consulted as to whether he will accept these lines as the original boundary, or will require the alteration to be given effect to by the registration of cross transfers.

Regulation 147 is amended, and shall read—

147. Roads, streets, and public right-of-ways are to be coloured in burnt sienna; railways, red; edge of land to be dealt with green; natural features (when boundaries), sepia; newly created roads or streets, pink. Private right-of-ways, and other differentiations are to be coloured in accord with Plate IV. Where the land forms a part of two or more original sections the boundaries and numbers of such sections shall be shown by a distinguishing colour, and should the boundaries on the ground differ materially from the Crown-grant boundaries, such Crown-grant boundaries shall be shown by dotted black lines.

Regulation 152 is amended, and shall read—

152. In every case where lots of sections or blocks of land outside of a borough or town district are to be sold or advertised for sale as a town, whether public or private, a plan of such town, signed by the owner or his authorized agent, to the sizes and scales given in Appendix G hereto, showing the proposed arrangement of lots and streets, and accompanied by a detailed report, shall be submitted by the surveyor to the Chief Surveyor, and by him referred, with his report, for the approval of the Minister of Lands prior to sale.

Regulation 161 is amended, and shall read—

161. In the case of a subdivision of land as a town by a private owner, present procedure requires that not less than 5 per cent. of the area of the lots shall be reserved for public purposes. On the plan these areas shall have their specific purpose written on each. In cases where the area subdivided is small, the reservation may be wholly or partially dispensed with, with the consent of the Minister of Lands.

Regulation 164 is amended, and shall read—

164. Reserves for public purposes suitable to all towns, such as are enumerated in section 359 of the Land Act, 1924, are to be recommended. On the plans these areas to have their specific purposes written on each either in full or in abbreviated form. The undermentioned reserves shall be laid off as directed hereunder:—

(a.) *Cemetery Reserves.*—The cemetery must be outside the town limits; as a general rule the distance should not exceed two miles from the probable nucleus of town settlement. The position should be remote from the noise and interruption of traffic, but easy of access; the site should be elevated, and not in close proximity to a watercourse; the soil should be friable, and should be tested by digging a pit at least 6 ft. deep, such pit to be shown on plan.

(b.) *Recreation Reserves.*—Open spaces shall be set apart and reserved for recreation-grounds as the Minister of Lands may direct.

(c.) *Municipal Reserves, &c.*—Municipal reserves shall be provided, also one or two school-sites of not less than 2 acres each. There shall also be laid out sufficient land, either outside or inside such towns, for sites for depositing nightsoil, dirt, rubbish; and such sites shall be selected on such side of the said towns as shall be opposite to the quarter from which the prevailing summer wind blows; also sufficient land, either outside or inside such towns, for sites for gravel-pits and stone-quarries, and for depositing gravel, stone, or other materials required for making and repairing roads within such towns: Provided that gravel, stone, or other road materials are obtainable in the locality.

Regulation 170 is amended, and shall read—

170. The forms and appendices hereinafter set forth shall be used for the purpose of the foregoing regulations in the several cases to which they are applicable, and shall be deemed to be part of the said regulations, and may be modified in each case as the circumstances require. In the interpretation of these regulations whenever the plans, plates, or diagrams attached thereto are referred to, the reference shall be construed as being to the originals deposited in the office of the Surveyor-General under No. 2111.

In all or any of these regulations, wherever the word "allotment" occurs, the said regulation is amended by substituting the word "lot" in place thereof.

In each and every one of the Appendices K, L, M, N, to the regulations, wherever the words "or under my personal supervision, inspection, and field check," or like words occur, the said appendix is amended by the deletion of the said words.

Appendix A is amended by the deletion of all words in lines 13, 14, and 15 thereof, and the substitution of the following words in place thereof: "The surveyor should take care that the latest enactment in each case is consulted by him."

Appendix O is amended, and shall read—

APPENDIX O.

[Regulation 125.]

LAND PLANS.

In preparing land plans for the Public Works Department, the following instructions must be strictly adhered to:—

1. In the case of railway surveys the uniform scale of 3 chains is to be used, except for necessary enlargements showing details. The work is to be plotted lengthways of paper, irrespective of north point, from left to right, and advancing in accordance with the engineering survey chainage. Each sheet is to commence and end, if possible, at a mile peg, thus containing an even mile.

2. The engineering-survey chainage is to be shown on each sheet in red, each chain-peg to be marked and every tenth peg numbered, the original marks to be adhered to, and any discrepancies to be shown as long or short chains. Where on account of defective original survey or of deviations subsequently decided on the length of the engineering survey is incorrect, there shall also be shown on each sheet, in black or blue, at every 10 chains, the correct through mileage from the commencing-point. The exact relationship between the land-plan survey chainage and the engineering-survey chainage shall be clearly indicated at intervals of not more than half a mile. The surveyor will require, to the extent necessary for the

completion of the land-plan survey, to restore the original centre-line pegs of the railway survey, including the tangent and intersection or tie-line pegs. Where necessary the curves are to be computed in the same manner as for the engineering survey. If iron tubes have not been put in during the engineering survey, or if they have been made inaccessible during construction, the surveyor shall put in iron tubes of standard pattern at intersection pegs at half mile intervals. Where the land-plan survey is carried out before construction is commenced, and iron tubes have not been put in during the engineering survey, the surveyor should not put in tubes where they are likely to be made inaccessible during construction. If necessary, instead of a tube at the intersection peg, two tubes should be put in as extension pegs or tie-line pegs.

3. Lands to be taken are to be coloured in different shades or colours for each adjoining property.

4. Where land is taken from two or more sections or subdivisions belonging to one owner, the area taken from each section or subdivision must be stated and each section coloured distinctively.

5. The name of the survey district and the number of the block in such survey district must be given on each sheet, and the block or survey district boundary must be indicated by the respective conventional dotted lines adopted for that purpose by the Lands and Survey Department, and marked "Block" or "Survey district boundary," as the case may be. The name of the local body in whose district the land lies is also to be stated, and the boundaries of such districts are to be shown if coming within the plan.

6. When Crown land is taken for a railway or a ballast-pit, &c., such land should be described as "Crown land" and not "Railway reserve," "Ballast reserve," &c., unless it has been actually reserved for such purpose by *Gazette* notice.

7. All existing roads that are to be left open for the use of the public, whether crossed by railway or not, must be coloured burnt sienna.

8. If any part of a road crossed by a railway is to be closed to the use of the public and occupied exclusively by the railway, the portion to be closed must be coloured green and the area must be stated.

9. Land required to be taken for new roads, such as approach roads to railway-stations or road-deviations rendered necessary by existing roads being closed by railway-works, are to be coloured sepia or orange, or if portions of such new road or deviation are taken from adjoining sections then such area so taken from each section shall be coloured alternately sepia or orange.

10. The use of burnt sienna, sepia, orange, and green must be restricted to the cases mentioned above.

11. No private crossing on railways to be distinctively coloured or shown in any way.

12. Plans to be in duplicate, one copy to be prepared on mounted drawing-paper, and one copy to be on mounted tracing-cloth.

13. The regulations of the Lands and Survey Department to be observed except where herein varied.

14. Land plans, or portions thereof, with all necessary explanatory data when completed, should be forwarded to the Head Office, through the local office of the Department, before being submitted to the Chief Surveyor for approval. On receipt of the plans, or any portion of same at this office, a progress payment of 50 per cent. of the value of the work done will be made; and after the whole of the plans have been approved by the Department and the Chief Surveyor, the final payment will be made.

APPENDIX R.

DETERMINATION OF MEAN HIGH-WATER MARK AND MEAN SEA-LEVEL.

Land abutting on tidal waters is bounded by the line of ordinary high-water mark, or, more precisely, the line of mean high water taken over a period of 370 days. On the open seashore mean high-water mark is a contour-line which can be easily determined by a series of tidal observations extending over the above-mentioned period. In the case of tidal estuaries and rivers mean high-water mark usually departs from a level line, and usually requires for its exact determination that similar tidal observations at the extremities and at suitably placed intermediate stations of the boundary to be fixed are available.

Mean sea-level is now used exclusively as the datum for all surveys on land by the Lands and Survey Department. It may be established within a small fraction of a foot by continuous tidal observations for a period of 370 days, and is that surface which the water of the ocean would form if it were not disturbed by the attraction of the sun and moon and the force of the wind. Information regarding the bench-marks connected with the automatic tide-gauges from which the mean sea-level was determined at

Auckland, Wellington, Lyttelton, Port Chalmers, Nelson, and Westport, is published in the annual report on the survey operations, 1908-9, by T. Humphries, Surveyor-General.

PRACTICAL DETERMINATION OF MEAN HIGH-WATER MARK.

Where a standard tidal station has been in operation so long that the reading of the mean high tide on the tide-gauge is accurately known, the height of the mean high tide at other places in the vicinity can be deduced sufficiently accurately for the practical determination of high-water mark by reference to the standard station.

On any day if high water of a particular tide agrees with the mean high tide at the standard station, then high water of that tide indicates mean high-water mark along the foreshore at all other localities in the vicinity.

As, however, the above agreement is a rare occurrence the high water of a tide at the standard station falls above or below the gauge reading of mean high tide by an amount which can be ascertained by observation. At any other place of observation the difference between high water of the above tide and mean high-water mark can be obtained by the following rule: As the range of the tide at the standard station is to the range of the same tide at place of observation, so is the difference between high water and mean high tide at the standard station to the local difference between observed and mean high tide.

Let R and D represent the range of the tide and the difference between high water and mean high tide respectively at the standard station on certain day; R^1 and D^1 the corresponding quantities of the same tide at the place of observation; then by the above-stated rule

$$R : R^1 = D : D^1$$

$$\text{therefore } D^1 = D \frac{R^1}{R}$$

The quantity thus found applied to the local reading of high tide gives the height of mean high-water mark. The signs of D and D^1 will be positive or negative according as the observations are taken about the time of spring or neap tide, respectively.

Having thus ascertained mean high-water mark, an easy mode of defining it on the foreshore of the area to be surveyed is to wait until the level of the water reaches the reading of mean high tide on the tide pole, and then have assistants placed to insert stakes along the contour of the water-line on the edge of the foreshore, which may afterwards be connected to the traverse.

The above method of defining mean high-water mark is only applicable to sheltered harbours and inlets during favourable weather conditions when there is no swell bearing along the coast-line.

In most cases, after determining the height of mean high tide at a station, it will be necessary to use the theodolite or level to run the line of mean high-water mark along the edge of the foreshore. When the survey is extensive the line of mean high tide is not on a horizontal surface; then several suitably placed stations may be required at which the tidal observations to determine the mean high tide are made and the work done in sections.

At the following standard tidal stations the mean high tide has been determined from tide-gauge records and connected to bench-marks; Auckland 9.73 ft.; Wellington, 4.64 ft.; Bluff, 8.27 ft.; Westport, 8.60 ft. The above figures are the readings on the tide-pole corresponding to mean high-water mark.

And the Surveyors' Board doth hereby declare that such amendments shall come into force as from the date of gazetting hereof.

Made at Wellington this 8th day of April, 1925, at a meeting of the Surveyors' Board at which the Surveyor-General was present.

W. T. NEILL,
Surveyor-General and Chairman of Surveyors' Board.

M. CROMPTON-SMITH,
Secretary of Surveyors' Board.

Approved in Council, this 1st day of June, 1925.

CHARLES FERGUSSON, Governor-General.

F. D. THOMSON,
Clerk of the Executive Council.