

1890

QUEENSLAND.

SURVEYOR-GENERAL'S DEPARTMENT.

DIRECTIONS FOR THE GUIDANCE OF
SURVEYORS.

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1890.

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DIRECTIONS FOR THE GUIDANCE OF SURVEYORS.

Surveyor-General's Department,
Brisbane, 15th October, 1889.

The following Rules and Directions for the Guidance of Surveyors employed by the Government, having been approved by the Secretary for Public Lands, are published for general information.

W. ALCOCK TULLY,
Surveyor-General.

DISTRICT SURVEYORS.

General Duties.

1. The duties of District Surveyors shall be—to issue instructions for surveys required within their respective districts; to supervise and control licensed surveyors operating under their instructions; to keep the Surveyor-General informed as to the survey requirements of their districts; to see, by occasional inspections on the ground, that all surveys are effected in accordance with the Acts and Regulations in force for the time being and with the rules and practice of the Department; and generally to secure the prompt and efficient performance of all survey work within their districts.

Should acquire knowledge of District.

2. District Surveyors should embrace every opportunity of obtaining a personal knowledge of the districts under their charge, and should acquaint themselves with the probable requirements of all parts thereof. Special attention should be paid to the reservation of permanent water or of sites for the storage thereof; to the reservation of lands suitable for State Forests; to ample provision being made for present and future roads and stock routes; and to the reservation of sites for future townships. They should also avail themselves of every opportunity to examine surveys effected by licensed surveyors under their control, and report results thereof from time to time to the Surveyor-General.

District Maps.

3. Complete district maps should be kept at each district office; these maps should be charted to date and exhibit all the latest information.

Copies of Plans to be kept.

4. Copies of all plans of surveys made in the district are to be kept at each district office, and it shall be the duty of the district surveyor to communicate any deficiency in this respect to the Surveyor-General. A catalogue of these plans should be prepared.

Standard Chain.

5. A standard of sixty-six feet in length is to be laid down at each district office, and at other convenient places, with which surveyors can compare their own standard occasionally. A referring mark is also to be established on the true meridian, with which needle bearings of theodolites may be compared.

GENERAL DIRECTIONS.

Equipment.

6. Every surveyor employed by the Surveyor-General shall supply himself with, and maintain in good order and condition (subject to inspection and approval), the following surveying instruments, viz.:—1 theodolite not less than 4½ inches in diameter; 1 steel band for standard; and 1 steel band for general use, corrected to standard. If a band 500 links in length is used an allowance of .00318 link is to be made for each

degree of Fahrenheit over or under the temperature at which the tape was standardised, a fixed strain or tension, by means of a spring balance, being applied. He must also supply himself with all necessary equipment and labour, with copies of plans of land adjacent to that which he may have to measure, with the Acts and Regulations relating to the occupation of Crown lands, and generally with all information necessary for carrying his instructions into effect.

Surveyors may be appointed to Special Districts.

7. In cases where such an arrangement is convenient a specified district may be assigned to a surveyor, who will generally be intrusted with the survey operations required therein; but such assignment shall not confer on him an exclusive claim to all or any work within the district. Any other surveyor may be employed at the convenience or discretion of the Surveyor-General.

Personal survey necessary.

8. All surveys shall be carried out personally by the surveyor to whom they are intrusted. Survey by deputy is strictly prohibited, unless with the sanction of the Surveyor-General.

Instructions to be given effect to within six months.

9. All instructions shall be given effect to within six months of the date of issue. Neglect in this particular will prejudice surveyors' claims to employment. Should, however, exceptional difficulties arise to prevent the carrying out of any instruction within the specified time, a report shall be forwarded to the Surveyor-General who will decide upon the merits of the case.

Replies to memoranda to be made at once.

10. Memoranda relating to omissions in surveys or to other matters requiring explanation must meet with immediate attention. Should the matter be neglected for a period of three months, the survey may without further notice be cancelled or amended at the risk and cost of the surveyor. Neglect of this rule will involve the stoppage of the fees for the items in question and the withholding of further instructions.

Lands which should be reserved not to be operated upon—Surveyor to report at once.

11. In the event of instructions for the survey of any land for alienation or selection covering land which in the public interest should not be alienated, a report thereon should be forwarded, if possible, before the survey is proceeded with; or otherwise should accompany the plan. And whenever a surveyor may become aware of any land which it appears desirable to withhold from selection or alienation for water supply, town sites, recreation, or other public purpose, he should at once communicate the fact to the Surveyor-General.

Certain surveys may be carried out under instructions from Land Commissioner.

12. Surveys of portions mapped out under the 44th and 13th Sections of "The Crown Lands Acts 1884 to 1886," or of farms selected before survey under the provisions of "The Crown Lands Act of 1884 Amendment Act of 1885," may be carried out under instructions from the Land Commissioner for the District.

Survey may be effected in certain cases under instructions from Selector.

13. Surveys of farms selected before survey may be carried out in certain cases under instructions from the selector in accordance with the provisions of Sub-section 4 of Section 2 of "The Crown Lands Act of 1884 Amendment Act of 1885," which is as follows:—

"If any selection of unsurveyed lands is not surveyed by the Minister within three months from the date of the approval of the application by the Commissioner, the selector may apply to the Minister for a refundment of the survey fee, and, if the survey is not made within two months from the date of such application, may employ a licensed surveyor to effect the survey at the cost of such selector, and on such survey being made and approved by the Board the survey fee shall be refunded to the selector."

In any such case the plans (in duplicate), field book, and the selector's written authority for carrying out the survey, are to be forwarded direct to the Surveyor-General in the usual way.

Small areas or narrow strips of Crown Land not to be left.

14. Farms applied for before survey are to be laid out, as nearly as may be, in accordance with the description and area in the application, care being taken, however, not to leave small vacant areas of Crown land less than 40 acres in extent, or narrow strips less than 10 chains in width between portions. The boundaries described may be modified to the extent necessary to avoid this.

Surveys of portions mapped out under 44th Section.

15. In the case of portions mapped out under the 44th Section the boundaries indicated on the sketch map should be adhered to as closely as is compatible with the features of the country. Any additional roads found necessary are to be provided, and such modifications of the boundaries may be made as are absolutely necessary; but if any very considerable alterations appear desirable, it would be well to report the matter before proceeding to carry them into effect. In the event of an application including more than one portion, only the external boundaries of the group are to be marked, and the number of the new portion will be the lowest number of those selected—for example: if portions 2v, 8v, and 9v as mapped out are selected as one farm, only the *outside boundary* of the entire group will be surveyed, and the number of the surveyed portion will be 2v.

Valuations and Reports.

16. All plans of unselected or unalienated lands shall be accompanied by valuations and reports on the prescribed form (supplied by the office), containing a detailed description of each portion or allotment, its soil, natural herbage, water supply, &c., and the price or rent per acre recommended; also the extent and value of all improvements. In cases where special inspections involving loss of time are required, a fee—the amount of which will be fixed by the Surveyor-General—will be allowed. (Appendix A.)

Progress Journals.

17. Every surveyor employed by the Surveyor-General shall prepare for each month a "Monthly Progress Journal" in the prescribed form; and shall forward the same (through the District Surveyor, if any) before the seventh day of the following month. (Appendix B.)

Knowledge of Acts and Regulations necessary.

18. In order that surveyors may efficiently perform their duties, they should acquaint themselves with all Acts and Regulations relating to the occupation and alienation of Crown Lands, opening roads, &c., and generally inform themselves of the rules and practice of the Department.

Surveyors to supply Address.

19. Should a surveyor, to whom a specified district has been assigned, absent himself therefrom he should communicate the fact, together with his address, to the Surveyor-General and to the District Surveyor (if any), and shall also report his return thereto. All changes of address should be communicated to the office.

CONDUCT OF SURVEYS.

Instrument.

20. Except as otherwise directed the theodolite is to be used in all surveys, which must be conducted by means of angular measurement; every boundary line is to be laid out instrumentally and actually measured.

High-water mark how dealt with.

21. Lands having frontage to the sea or tidal waters are to be bounded by high-water mark; sandy beaches, mangroves, and bare mud flats, are to be deemed to be below high-water mark, but ground bearing tea-trees, swamp oak, or on which there is any description of grass or reeds, is to be dealt with as above high-water mark, and included in the computation of area. Small patches of mangrove and mud flats which are nearly isolated and included within the general limits of a portion should be included in the computation of area, as they are of a character to admit of reclamation.

Marshes, Swamps, &c., how dealt with.

22. The edges of swamps, salt-water marshes, and mangrove or mud flats are not under any circumstances to be adopted as boundaries, but are to be dealt with as follows:—In the case of fresh-water swamps, the portions are to be laid out as far as practicable in rectangular form, the entire surface within the boundaries being included in the computation of area: in the case of salt marshes, &c., the boundaries of portions are to be adjusted as nearly as possible to the edges thereof by equalising straight lines, which are to be surveyed and marked in the same manner as the other boundaries.

Frontage.

23. The rules as to frontage prescribed in the Acts and Regulations should be carefully observed. Section 50 of "The Crown Lands Act of 1884" is as follows:—

"Subject to such general regulations concerning surveys, roads, or the prevention of a monopoly of permanent water, or otherwise as may be made under this Act, land having frontage to a main watercourse, or in the case of land in an Agricultural Area, to a main road, shall not have a greater breadth of frontage thereto than two-thirds of the depth."

Clauses 16 and 17 of the Regulations dated 3rd March, 1885, provide that—

"16. If an applicant applies for a selection comprising more than one surveyed lot,* the whole area selected shall not have a greater breadth of frontage to a main road or to a main watercourse than two-thirds of the depth.

"17. If the holder of a selection applies for an adjoining lot, or lots, the whole of the selections taken together shall not have a greater proportion of frontage than would be allowed in the case of a single selection."

The frontage allowed to agricultural farms selected before survey is governed by the Regulation dated 18th September, 1889, which is as follows:—

"Lands selected before survey in any Agricultural Area, under the provisions of "The Crown Lands Act of 1884 Amendment Act of 1885," and having a frontage to a main watercourse or a main road, shall not have a greater breadth of frontage thereto than one-half of the depth."

Frontage is to be measured at right angles to the side lines.

Boundaries to be at right angles.

24. Boundaries not being frontages to roads or natural features should, as a rule, be at right angles, and directed to the cardinal points, unless some other general bearing has been adopted for that part of the district, or a more convenient and suitable arrangement for specific areas necessitates a departure therefrom.

Length not to exceed three times the breadth.

25. The length of any portion should not exceed three times the mean breadth, and the boundaries should be rectangular and quadrilateral: re-entering angles or diagonal lines are to be avoided except when following the boundaries of portions previously surveyed, or roads.

When boundary is inaccessible.

26. Should any part of the boundary of a portion be inaccessible, such part is to be delineated upon the plan by a broken line, and the means of ascertaining the bearing and distance indicated. The boundary is to be surveyed and marked as far as practicable, and a post and marked tree established at the termination of the line—a connecting traverse being made, if necessary, between the points. Cliffs and precipices may be adopted as boundaries and should be traversed and marked accordingly.

Portions how numbered.

27. Portions are to be numbered in arithmetical order, each parish or run resumption having a separate series of numbers. Unless otherwise directed, country portions are to have the letter "v" following the number—thus: 1v, 2v, &c.; and the corner trees are to be marked thus,—broad-arrow over number over V.

* "Surveyed lot" includes portions mapped out under the 44th Section.

Original marks to be found.

28. The exact position of original boundary marks should be determined if possible, and the corner pegs or trees with the marks thereon noted in the field book. One of the previously surveyed boundary-lines is to be adopted as a datum (which is to be shown on the plan), and all lines referred to it. If the new measurements differ from the old survey, sufficient evidence must be given that the boundary-lines adopted are identical with the original boundaries, even when the original marks cannot be found.

Roads to be made boundaries where practicable.

29. When roads have been previously surveyed or marked, it is desirable that they should be adopted as boundaries, and in cases where the boundary of a portion would nearly coincide with any road which is, or ought to be laid out, such road should be adopted as the boundary. Small severances or irregular spaces between portions and roads are to be avoided.

Access to Crown lands to be maintained.

30. Great care must be taken to maintain access to Crown lands, especially in the case of surveys extending along river or creek frontages, when ample provision should be made for access to the back country and from the back country to permanent water.

Esplanade to be reserved.

31. An esplanade 150 links wide is to be reserved along the sea-coast and all navigable rivers or creeks. This reservation need not be marked upon the ground, but is to be indicated on the plan and reserved from the area of each portion.

Reserve along Railway Lines.

32. A reserve three chains wide is to be made on both sides of existing or proposed railways marked on the ground; this reserve will also provide for a road one chain wide;—should a wider road be necessary a proportionately wider reservation must be made.

Roads to be in continuation of those previously marked.

33. In marking portions of land contiguous to previous surveys, the roads through the new work should be laid out in continuation of those in the previous survey (if any); but in case no suitable road has been provided, the roads through the new survey should be continued through any unenclosed portion, not freehold, of the prior survey as may be necessary to complete the line of communication with the nearest convenient road in the vicinity.

Roads along rivers or creeks.

34. When portions having frontage to a river or watercourse extend back to country which is too steep, or otherwise unsuited for the formation of roads, special care is to be taken to provide a road on each side of the watercourse through the portions, and also cross-roads at convenient intervals, for access to the back country, and to the crossings of the watercourse.

Road access required to every portion.

35. Every portion of land as surveyed, whether held by the same owner or not, is to be dealt with as a separate holding, and road access must be provided to each.

Reservation of area for roads.

36. In cases where it is desirable to make provision for roads, the course of which cannot be determined at the time of survey, a sufficient area should be included in the gross content of each portion and reserved for road purposes. This rule should be specially observed in the case of farms selected before survey, in localities where a complete road system has not been determined. But, wherever it can possibly be done, all roads should be surveyed at the time the portion is surveyed.

Traverse lines to be as long as possible.

37. The traverse lines in the survey of natural features or fences should be as long as practicable, without extending offsets beyond three chains, the bearings being kept to whole degrees, and the lengths to whole chains or tens of links when practicable.

Isolated portions to be connected.

38. Isolated portions or groups of portions should be connected by traverse with the nearest surveyed portion; provided such portion is not more than two miles distant, otherwise a connection should be established with a marked tree on the feature survey (if any). Such traverse should preferably follow some natural feature or a road. The direct bearing and distance is to be reduced by computation, and entered on the plan.

Bearings to be observed to Trig. Stations.

39. Angular bearings should be observed to any Trigonometrical stations visible from any point of a survey, and in the event of a Trig. station being within a mile from any portion of the survey and no other Trig. station being visible, a connection may be made by traverse with such station; the angle which the connecting traverse line makes with one of the sides of the triangle of which the Trig. station forms one of the angles is to be also observed.

Old marks to be obliterated.

40. Whenever surveys are amended or altered on the ground, the previous markings must be obliterated.

Observations for magnetic variation.

41. In order that a record may be kept of the magnetic variation in different localities, a series of not fewer than three observations should be taken—by surveyors constantly employed—half-yearly in January and July; and the results with the computations forwarded. The true bearing of one of the lines of survey being effected at the time should also be given.

True bearings to be determined.

42. In any survey consisting of upwards of twenty portions, or of the value of £100, it will be necessary to determine the true bearing of one of the lines by astronomical observations.

Designs to be furnished.

43. Before any extensive survey is undertaken, a design of the proposed arrangement, based if necessary on a rough preliminary survey, and accompanied by a full report, is to be submitted to the Surveyor-General for approval; permanent marking should not be proceeded with until after approval. The approved design is always to be returned with the plan of survey.

Reserves.

44. It shall be the duty of surveyors to secure and recommend the reservation of suitable areas for water and camping, town sites, State schools, quarries, road metal, timber, or for any other public purpose. The areas and positions of reserves should be as follows—

Camping reserves on main roads should contain not less than 640 acres each at distances of not more than six miles apart—other camping reserves about 250 acres each.

School reserves from 10 to 25 acres each, about five miles apart; they should embrace suitable building sites and contain or be convenient to water if possible.

Water and other reserves may be of such areas as circumstances require.

Boundary lines how marked.

45. * Boundary lines are to be cleared to a width of three feet by the removal of all scrub and trees less than one foot in diameter. Trees left standing within three feet of the line in thickly wooded country and within six feet in open forest are to be marked with the horse-shoe mark (which is to be cut into the wood) on opposite sides in the direction of the boundary line; and those trees which are actually in the line are to be marked, in addition, with smaller horse-shoe marks above the others. (See Diagram A.)

10-chain pegs and lookspits.

46. Boundaries are to be marked at every tenth chain by a lock-spit ten links long and nine inches deep, in the direction of the boundary, and a split hardwood peg two inches by one inch, and fifteen inches long, is to be driven one foot into the ground in the centre of the lookspit, and carefully aligned; in addition to these, similar pegs are to be driven and centred on the crest of ridges; the object being to establish permanent marks visible one from another.

* Read Clause 69, Town Lands.

Corners how marked.

47. * Corners of farms are to be marked as follows: the nearest large tree is to be selected and the bark removed from the side facing the corner; on the cleared space there shall be cut at least half-an-inch into the wood, in ordinary numerals, the numbers of all the portions joining at the corner with a broad-arrow above and the letter "V" below each number. At the principal corners four-inch squared hardwood posts five feet in length are to be sunk two feet into the ground and marked with the number of the portion; trenches ten links long and nine inches deep are to be dug in the direction of each boundary line: these trenches should commence about one foot from the post. If a tree stands at the corner, the bark is to be removed from nearly half the circumference, and the tree marked and trenches dug as above. (See Diagram B.)

NOTE.—A tree growing within the portion should be chosen, if possible, for marking; and when a post represents the corner of more than one portion a tree should be marked in each of the portions. Trees growing in a road are to be avoided for reference purposes as being likely to be cut down.

Corners of auction lands how marked.

48. Corners of country portions surveyed for sale by auction are to be marked as in the preceding clause, with the exception that the corner posts are to be of four-inch squared hardwood three feet in length sunk two feet into the ground.

Corners in stony land or on rocks.

49. If the stony nature of the ground precludes a post being sunk, the lookspits are to be cut to the corner and then packed closely with large stones. Rocks at corners are to be marked with a broad-arrow at the corner and pick lines in the direction of the boundaries.

AGRICULTURAL FARMS.

Areas of agricultural farms.

50. In surveying agricultural farms of 160 acres in area, which have been or are likely to be selected under the provisions of the 15th section of "The Crown Lands Act Amendment Act of 1886," the exact area of 160 acres (after deducting surveyed or reserved roads) should be laid out. The provisions of the 15th section can only be taken advantage of with respect to an agricultural farm, "the area whereof does not exceed 160 acres."

Areas how arranged.

51. Extensive surveys of agricultural farms of different areas should be arranged as far as possible so that selectors desirous of obtaining more than one portion may select areas of 160 acres, 320 acres, 480 acres, 640 acres, &c., in a convenient shape.

Agricultural townships.

52. Agricultural townships and adjoining agricultural farms established under the provisions of the 22nd section of "The Crown Lands Act Amendment Act of 1886" are to be surveyed, as far as practicable, in accordance with the arrangement of farms and village allotments shown on Diagram E. The farms are to be surveyed and marked in the same manner as ordinary agricultural farms, and the village allotments in the same manner as ordinary town allotments; the plans being prepared in accordance with the rules applicable to each respectively. The areas should be as follows:—Village allotments, half-an-acre; farms immediately adjoining, 40 acres; those at a greater distance, 80 acres. No farm may exceed 80 acres, that being the maximum area which can be selected under the provisions of the 22nd section. Great care should be taken to reserve permanent water, and the frontages to main rivers or creeks above the water to be used by the settlement should also be reserved to prevent pollution thereof.

GRAZING FARMS.

Instrument to be used.

53. Except as provided in the following clause, grazing farms may be surveyed with a circumferenter, the needle of which is not to be less than four inches in length, and must be in perfect working order.

Theodolite to be used in certain cases.

54. Grazing farms not exceeding 1,280 acres in area, which adjoin lands already surveyed with the theodolite should be surveyed with that instrument, and will be paid for at the same rates as are applicable to theodolite work.

When ranges form boundaries how marked.

55. When ranges or well-defined watersheds form boundaries of farms, it is not necessary that the boundary lines be marked in the usual way, or that corner posts with marked trees be placed at every angle, but the positions of such boundaries are to be determined by ordinary traverse, and the lines blazed in such a manner as will enable fencers to follow them; a sound hardwood peg, two inches square and fifteen inches long, being driven one foot into the ground at each station, an ordinary corner post and marked tree being established at points on the survey as nearly as possible a mile apart.

Previously surveyed boundaries or rivers.

56. Previously surveyed boundaries and rivers or creeks are not to be re-surveyed without special instructions; connections only, need be made to the nearest corner or marked tree as the case may be; the plan being then completed from tracings of the adjoining portions or of the rivers and creeks, which will be supplied by the office whenever necessary.

Stock routes and roads.

57. Ample provision—especially in the Western Pastoral Districts—is to be made for travelling stock. Main stock routes are to be one mile wide, but this width may, under certain circumstances stated in the succeeding clause, be reduced to half-a-mile. All main roads other than stock routes should not be less than 10 chains wide, with camping reserves about 6 miles apart. Stock-driving roads 10 chains wide, giving access from the back country to the stock routes, should be provided at reasonable distances apart with similar camping reserves. Roads separating farms or roads of access to any particular farm are to be 3 chains wide.

NOTE.—This clause is not applicable in the case of small grazing farms in the settled districts.

Width of road may be reduced in certain cases.

58. If a stock route one mile wide would injuriously affect the value of any adjoining group of agricultural farms the width may be reduced to half-a-mile, in which case camping and water reserves are to be provided at distances of not more than six or eight miles apart.

Roads in grazing areas how marked.

59. Roads in grazing areas are to be marked as follows—

Main stock routes, on both sides. Roads over 3 chains wide—if forming boundaries of farms, on both sides; if passing through farms, on one side only.

Roads 3 chains wide, on one side only, whether forming boundaries or not. When roads are marked on one side only, the opposite angles at changes of bearing are to be fixed and marked on the ground; and the opposite side of the road is to be offset, pegged, and trenched at such distances apart as will enable fencers to follow the lines; these offsets are to be entered in field books and marked on plans.

Reservations for road purposes.

60. In addition to any surveyed road or stock route which may pass through a grazing farm, there should usually be a further area reserved for road purposes.

Camping and other reserves.

61. Special attention should be paid to the reservation of areas for camping and water for travelling stock, and of sites for dams, tanks, and bores along the various main roads.

External boundaries to be as short as possible.

62. In order to insure economy in fencing, grazing farms should be surveyed so as to make the external boundaries as short as possible; and the importance of having the boundaries in positions where fences can be easily erected must be kept in view; existing fences may be adopted wherever practicable.

General.

63. In all other respects the survey of grazing farms is to be carried out in accordance with the general rules for the conduct of surveys in the field and of agricultural farms.

TOWN AND SUBURBAN LANDS.

Selection of town sites, &c.

64. Great care should be observed in the selection of suitable sites for towns; and, where town reserves have already been established, the most suitable building sites should be selected for subdivision into allotments; swampy land or land liable to inundation is to be avoided. The allotments should—so far as the features of the country will admit—be laid out, unless otherwise directed, in rectangular sections measuring 10 chains x 5 chains, each section containing twenty quarter-acre or ten half-acre allotments. The main street should be two chains wide, and the other streets one chain and a-half wide. The following reserves should be provided for:—

State school, 5 to 10 acres; Post and Telegraph Office, 1 acre; Police Reserve, 1½ acres; reserve for public purposes, 2½ acres; and recreation reserves, of such area as may be required: these reserves need not be marked on the ground.

Allotments not to be within one chain of boundaries of town reserves.

65. Allotments are not to be marked within one chain of boundaries of town reserves; and where town allotments are laid off close to rivers or creeks the frontage thereto should be reserved as a road or esplanade.

Areas.

66. The provisions of the 79th Section of "The Crown Lands Act of 1834" must be carefully observed with respect to the areas of town and suburban allotments. The section is as follows—"All such lands shall be distinguished as town or suburban lots, according to their respective positions, and shall be offered as nearly as may be in areas according to the following scale:—

Town lands, in allotments of from one rood to one acre;
Suburban lands within one mile from town lands, in lots of from one acre to five acres;
Suburban lands over one mile from town lands, in lots of from one acre to ten acres."

Suburban Allotments.

67. Suburban allotments are to be marked off in areas as prescribed in the preceding clause, and should be arranged in sections and allotments, the sizes and shapes of which will vary according to circumstances.

Designs required.

68. A design prepared after inspection of the ground, and based, if necessary, on a preliminary survey, must be submitted for approval before the permanent survey of any town is proceeded with.

Boundary lines how marked.

69. The building lines of streets are to be cleared to a width of four feet, by the removal of all scrub and trees less than one foot in diameter. Trees left standing on the building line are to be marked with the horse-shoe mark (which is to be cut into the wood) on opposite sides; and the precise position of the line indicated by vertical marks six inches in length, cut in the horse-shoe mark. (See Diagram C.)

Corners of sections how marked.

70. Corners of sections are to be marked as follows:—Four-inch squared hardwood posts three feet in length are to be sunk two feet into the ground and marked with the number of the section, cut into the wood (in Roman numerals for town sections, and in ordinary numerals for suburban sections) three inches in height. Trenches three feet long and six inches deep are to be dug in the direction of the boundary lines. If a tree stands at the corner it is to be marked in the same manner as a post. (See Diagram D.)

Corners of allotments how marked.

71. Corners of allotments are to be marked as follows:—Hardwood stakes two inches square and eighteen inches in length are to be inserted fourteen inches into the ground and—on the street frontages—marked with the numbers of the allotments, cut into the wood in Roman numerals two inches in height, trenches being dug as in the preceding clause.

Rocks, &c., at corners.

72. If rocks or other obstructions occur, corners of both sections and allotments are to be marked as prescribed in Clause 49.

Iron rods at intersections of streets.

73. When a new town is being laid out iron rods, one inch in diameter and one foot long are to be driven perpendicularly into the ground and six inches below the surface, at the intersection of the centre line of a principal street and the centre line of a cross street at intervals of about twenty chains or two sections; not less than three should be inserted: similar bench marks should be placed as towns extend, so that in no case will there be more than about half-a-mile between them. All surveys must be connected with one or more of these bench marks, and the position of same shown upon the plan.

ROADS.*Selection of roads.*

74. The greatest care and judgment should be exercised in the selection and laying out of roads, preliminary traverses being made whenever necessary to determine the best practicable routes. Divisional Boards should be consulted on the general road system of the district, and no road used for wheel-traffic is under any circumstances to be closed without the consent, in writing, of the Board. Existing roads and tracks should, as a rule, be maintained; but where a better and more direct road can be found, that in use may be departed from; this, however, should only be done after a careful examination of the country, and, if necessary, consultation with the Board. It is to be clearly understood that all roads surveyed are to be the best and most practicable that can be obtained: great expense has sometimes been entailed by marking roads over difficult ground when a slight divergence would have secured a better road at little or no expense. Care must be taken, when clearing lines of survey, not to leave fallen timber across tracks in use; otherwise serious accidents are liable to occur.

Classification of roads.

75. Roads may be classified as follows:—

- (a) Main roads are those connecting centres of population with each other or with large areas intended as farms, or reserved for that purpose, and roads direct from the ports to the interior of the Colony or western districts. The width of these roads should not be less than 8 chains, and may extend to 10 or 20 chains according to the probable traffic and importance of the road, and whether required for stock-driving purposes, in which case the width should not be less than 10 chains.
- (b) Secondary roads are those affording communication with limited areas or groups of farms and which are not likely to be required for through traffic to large tracts of country beyond. These roads should be not less than 2 chains in width.
- (c) Roads of access are those required for access to particular farms or small groups of farms; they should be 1 chain or $1\frac{1}{2}$ chain wide.

NOTE.—Stock routes and roads in the western pastoral districts generally are dealt with (as pertaining more to that class of survey) under instructions relating to grazing farms.

Road to be widened in certain cases.

76. When a number of short sharp bends occur in a road through broken country, the road should be widened so as to avoid unnecessary angles; and whenever it may appear that a road might with advantage be diverted by cuttings or other improvements being effected thereon, a sufficient width should be provided to include any probable diversion or improvement.

Widening roads at crossings of creeks.

77. At the crossings of creeks, where it is desirable to increase the breadth of the road, it is preferable to make the approach by divergent lines, instead of marking rectangular reserves on the bank of the watercourse.

Improvements to be kept within the road.

78. All road improvements are to be kept well within the limits of the road as defined by survey, and if possible, lines which have been blazed to indicate the direction of the road should also be kept within its limits.

Special provisions re timber roads.

79. Recognised timber tracks which have been in use for any length of time, or roads which are required for access to timbered country, must be maintained. Some discretion is, however, required, as this rule is not intended to apply to disused timber tracks. It is also desirable at times to reserve these timber roads of a greater width than would be required for an ordinary road in the same position. This is necessary in order to afford ample room for the passage of bullock teams, and for the special traffic in connection with the haulage of timber.

Bearings and distances along roads.

80. The bearings of roads should be kept to whole degrees, and the lengths on the side first measured to whole chains and tens of links.

Road lines how marked.

81. The lines forming the sides of roads are to be marked in the same manner as the boundaries of portions, and, in addition, with horse-shoe marks on the sides of the trees facing the road; angles being indicated by a broad-arrow over the letter R cut in the centre of a shield, facing the road, and the usual references given to the tree.

Certain roads to be surveyed on one side only.

82. Secondary roads and roads of access which pass through portions are to be surveyed on one side only, the opposite sides being marked at the angles with a post and ordinary marked tree, and trenches cut in the direction of the lines, in the same manner as the corners on the surveyed side.

Roads surveyed through leasehold or freehold lands.

83. The following rules are to be observed in the survey of roads to be opened through leasehold or freehold lands—

- (a) In the case of confirmed selections or farms the width must not exceed that allowed by the Act under which the land is held, unless the owner consents thereto in writing.
- (b) Connections are to be made to the nearest corners intersected by the road.
- (c) The prescribed form (Appendix C) is to be carefully filled in and forwarded with the plan of survey.
- (d) In the case of leasehold land one side of the road only is to be surveyed.
- (e) In the case of freehold land both sides of the road are to be surveyed and marked. Notice must be given to the owner of intention to enter upon the land for the purpose of survey as provided in the 64th section of "The Public Works Lands Resumption Act of 1878." The notice should not be less than three days prior to entry, and must be served on the owner of the land or his agent. Forms of notice are supplied by the Department. (Appendix D.)

RE-SURVEYS OF PORTIONS, AND RE-ESTABLISHMENT OF OLD BOUNDARY MARKS.*Great care to be observed.*

84. Surveys connected with the correction of descriptions in Deeds of Grant must be conducted with great care, special attention being paid to the search for old marks on the ground. The exact course and direction of the old boundary lines must be followed with the closest accuracy.

Verification of corners.

85. The position of each corner must be verified by reference to the original corner trees or stumps, if in existence, and the plan of re-survey should have noted thereon the description of tree, marks thereon, and distance and bearing to corner.

Where corner peg and lockspit have disappeared.

86. In cases where the corner peg and lockspit have disappeared the plan should show that the corner has been reinstated in position by means of the reference tree—if such should exist—recorded on plan of original survey. In the absence of the reference tree the plan should show that the reconstructed corner stands at the intersection of the original boundaries.

Reconstruction of opposite sides of roads.

87. The opposite sides of roads should be reconstructed by the adoption of the original survey marks, and the width of the road determined by actual measurement. Should, however, the portions adjoining the road have their full depth without encroaching on the road as originally designed, a note thereof should appear on the plan.

Survey to extend sufficiently to adjoining portions.

88. The survey of boundaries reconstructed in the manner specified in the preceding clauses should extend sufficiently to show how they stand in relation to adjoining portions, so that there may be satisfactory evidence that any excess in measurements is not an encroachment on adjoining lands.

FIELD BOOKS.*Mode of keeping.*

89. All field books are to be kept in an uniform manner, in accordance with the specimen attached; entries should be made firmly and clearly with a moderately hard pencil—say Faber's No. 3 or HH—and the notes should be kept in such a manner as would enable a draftsman unacquainted with the locality to plot the plan therefrom. (Appendix E.)

Books supplied by the Office.

90. Prepared field books are supplied to surveyors by the Office at cost price; no others are to be used. These books are in three sizes, but the use of the larger sizes should be avoided except in the case of extensive surveys. Field books are always to accompany the plans to which they apply.

Title, &c., to be entered.

91. The title of each survey is to be entered at its commencement in the field book. The date of instruction for survey, and the dates of commencement and completion thereof, are also to be entered and signed by the surveyor.

Every line to be entered.

92. Every line measured must be entered in the field notes as a separate item, the number of the station at the commencement and end of each line, corresponding with that given on the plan of survey, being entered on the margin of the page. When the length of a line exceeds 10 chains every tenth chain must be noted.

Intersections, &c., to be noted.

93. In running boundaries down to creeks, the intersection of the creek traverse line (if any) must be entered, and also the point where the boundary post is inserted near the bank, and the distance to the bank.

Intersections of lines to be entered.

94. When any line crosses a previously measured line the intersection of that line must be entered, also the distance to the nearest station on the line crossed, and the angle at which the lines cross.

Measurements on the ground to be entered.

95. The actual measurements on the ground are to be recorded in the field book, and the same are to appear upon the plans.

Character of soil, &c., to be entered.

96. The character of the soil, timber, grass, and all natural features are to be entered at the time of survey; and the angle of elevation or depression is always to be noted when the slope of the ground exceeds five degrees. It is of importance that this be carefully observed, as any extra payments allowed will be based to a great extent upon the information supplied.

Diagrams in certain cases.

97. Diagrams of the measurements of either boundary or feature survey lines are in no case to be substituted for the separate entry of the lines as above; but diagrams may be used for further and clearer explanation, or for the purpose of illustrating any small details, such as the meeting and intersection of roads, small allotments, corners, and improvements.

Computations, &c.

98. The measured lines which form the external limits of surveys are to be computed, and the result entered in a traverse table. (See Appendix E.) Where the survey is very extensive the work is to be divided into convenient subdivisions, each of which must be separately computed so as to check errors. In town allotments which are not rectangular the proper length of all boundaries must be computed as well as measured on the ground. All bearings are to be given in degrees and minutes, numbering from North, round by East, to 360 degrees. Closing angles are in all cases to be noted in the field book and shown on the plan.

PLANS.*General conditions.*

99. All plans are to be prepared either by the surveyor himself or under his personal supervision, in accordance with the specimens attached for each particular class of survey. These specimen plans are to be considered as standards of the quality of drawing required, and the styles of delineation and writing adopted to indicate each particular must be carefully followed. No carmine or crimson lake is to be used. The word "lot," which is specially applied to lots for sale, is not to appear on surveyors' plans; "allotment" is to be applied to town or suburban allotments, and "portion" to country portions. All lines should be clearly and firmly drawn, and great care taken that the ink used is well mixed and thoroughly black. Any alterations or additions to the printed matter on the plan sheets must be made with as much care and neatness as is observed in drawing the plan itself. The particulars of transmission, instructions, &c., are to be filled in; the title, in the lower right corner, is to be completed; and the following certificate signed by the surveyor—

I hereby certify, on honour, that this survey has been carried out by myself personally, with the theodolite, or the circumferenter [as the case may be], and that the boundaries shown on the plan accord with those marked and defined on the ground, and that this plan has been drawn by myself or under my personal supervision [as the case may be].

Drawing.

100. Prepared plan paper is supplied to surveyors by the office at cost price: all plans are to be drawn on this paper, which is in three sizes; no plan is to be drawn on a sheet of larger size than is necessary. The protractor printed on the paper should be used for plotting, and the north point is always to be upwards.

Plans of the various classes of surveys are to be prepared as follows:—

Town and Suburban.—To be drawn entirely without colour, in a clear open style, for photolithography; hills to be carefully etched in black; the positions of iron pins and traverse lines to be indicated in blue. The numbers of town sections should be written in Roman numerals—thus, X; of suburban sections in ordinary numerals—thus, 10; and of allotments in plain upright block—thus, 2, written along the outer edge of the allotments. No descriptive writing is to appear across the face of these plans, but it should be stated in a note in a convenient position. Proposed names of new towns or streets are not to be written in ink on plans, but merely noted in pencil, or suggested in the forwarding letter. (See specimen plan, No. 1.)

Surveys under the 43rd Section of the Land Act (surveys before selection) and Auction Lands.—To be drawn for photolithography, as above, in plain black, hills being carefully etched and so arranged as not to interfere with any of the lettering on the plan. Traverse lines to be delineated by a fine blue line, with small black circles at the stations, the numbers of which are also to be in black: the lengths and bearings of traverse lines are not to be written along the lines, but should be written in black in tabular form under the reference to corners if possible. (See specimen plan, No. 2.)

Surveys under the 44th Section of the Act, and of Farms applied for before Survey.—These plans are to be supplied in duplicate; drawn plainly in black as before, although, if necessary to clearly define the boundaries of any particular farm, a light edging of blue may be adopted. Traverses to be delineated as above, but hills may be indicated by brush work. The number of the farm and the name of the selector must not be written within the portion, but are to be placed at the top of the sheet thus—Agricultural farm [or grazing farm], 51; selector, John Jones. (See specimen plan, No. 3.)

Surveys of new Roads through Freehold or Leasehold Land.—The surveyed side is to be indicated by a firm black line, and the unsurveyed side (if both sides are not measured) by a broken black line; the lengths and bearings to be written along the surveyed side, and the width of the road written along it—thus, “road 1 chain wide,” the road itself being coloured brown (burnt sienna). All intersections and distances to the corners of portions are to be clearly shown. (See specimen plan, No. 4.)

Scale.

101. Plans are to be drawn to the following scales, viz.:—

Town Allotments.—2 chains to an inch, or, in the case of small lots, 1 chain to an inch.

Suburban Allotments.—Up to 5 acres, 4 chains to an inch; over 5 acres, 8 chains to an inch. In the case of small lots a larger scale may be adopted.

Country Portions.—Up to 1,280 acres, 10 chains to an inch; over 1,280 acres up to 2,560 acres, 20 chains to an inch; over 2,560 acres, 40 chains to an inch.

Road Surveys through Leasehold or Freehold Land.—10 chains to an inch; or if necessary a larger scale may be adopted.

Feature Surveys and Roads through Crown Lands.—20 chains to an inch or 40 chains to an inch as circumstances may render desirable.

Any small details which cannot be distinctly shown on the above scales may be illustrated by enlarged diagrams.

Boundary lines.

102. All boundaries of allotments and portions are to be delineated by firm black lines with the lengths and bearings written along them; in the case of river or creek frontages, the distances to the post, to the intersection of the traverse, and to the river, are to be stated; and if intersected by a reserved road, the distance from the intersection to the nearest corner is also to be stated.

Reserved roads.

103. Reserved roads through portions are to be represented by black lines, the surveyed side being indicated by a firm line; the unsurveyed side (if both sides are not surveyed) by a broken line; the lengths and bearings are to be written along the surveyed side, and the width of the road is to be written along it thus—“Reserved road 1 chain wide”: existing tracks may be shown by light dotted lines.

Areas how calculated.

104. Areas are to be written, within the boundaries of each portion on the plan, in the following manner, viz.:—

	a.	r.	p.
or if roads are reserved—	640	0	0
	675	0	0
	25	0	0 surveyed roads
	10	0	0 reserved for roads
	640	0	0 ex. roads

Fractional quantities shall be omitted according to the areas below specified:—In portions of—

Not more than 2 acres	...	...	...	Less than $\frac{1}{10}$ perch.
More than 2 acres, but not more than 10 acres	...	...	...	{ If bounded by right lines, less than $\frac{1}{10}$ perch; if bounded partially by rivers or creeks, less than $\frac{1}{5}$ perch.
More than 10 acres, but not more than 40 acres	...	...	...	{ If bounded by right lines, less than $\frac{1}{5}$ perch; if bounded partially by rivers or creeks, less than 10 perches.*
More than 40 acres, but not more than 640 acres	...	...	...	{ If bounded by right lines, less than 1 perch; if bounded partially by rivers or creeks, less than 1 rood.
More than 640 acres, but not more than 1,280 acres	...	...	...	{ If bounded by right lines, less than 1 rood; if bounded partially by rivers or creeks, less than 1 acre.

In all portions surveyed by circumferenter—less than 1 acre.

* The perches should be entered as 10, 20, or 30 perches as the case may be; i.e., units are to be omitted.

Coasts, rivers, &c.

105. Lines of coasts, rivers, creeks, &c., are to be delineated, when the position is precisely determined, by firm lines; when doubtful, by broken lines. Both sides of rivers and creeks are to be shown, with an arrow to indicate the direction of the current; no water lines are to be used.

Hills.

106. Hills and undulations of the whole area within the boundaries surveyed, and to a reasonable extent beyond, are to be carefully represented, but in portions of large size the features need only be sketched in on both sides of the boundary lines as far as can be judged with reasonable accuracy.

Swamps, &c.

107. The edges of swamps, forests, plains, and lands liable to inundation are to be represented in the manner indicated on specimen plans. The position and extent of any improvements, such as buildings, fences, cultivation, &c., should also be shown.

Bearings to distant points.

108. Bearings to distant and remarkable points, or to opposite sides of rivers, &c., and calculated bearings and lengths between any two points are to be delineated by blue dotted lines and the particulars written in the same colour.

Connections to opposite sides of roads, &c.

109. Connections with boundaries of previously measured lands, and opposite sides of streets and roads are to be measured and shown on plans in blue; corner trees are to be specially noted; and discrepancies between old and new work exhibited, and, if considerable, explained in a note on the plan.

Correct orthography.

110. All known names of rivers, creeks, hills, lakes, or localities should be written on the plan, care being taken to adhere to the correct orthography; an endeavour should always be made to obtain the native names, especially in the case of new towns or parishes.

Reference to corners.

111. The reference to corners of country and suburban portions shall be in tabular form in accordance with the specimen plans attached—the corners being identified by numbers in numerical order. The bearing and distance from the tree to the corner is to be taken horizontally from the mark on the tree.

Character of lands to be noted.

112. The geological and mineralogical character of lands measured, their suitability in towns for building purposes, and in country portions for agricultural or pastoral occupation, the supply of water and indigenous produce, such as timber, grass, &c., are to be entered on the plan—in the case of country portions either by writing across the portions or in a note, but in the case of town or suburban allotments always in a note.

CORRESPONDENCE.

Great care necessary.

113. Great care should be taken in forwarding plans through the post; they must not be folded, but should be rolled on rollers and well protected from damage.

Plans to be complete.

114. All plans must be forwarded in a complete state accompanied by—

- Field books;
- Letter of advice (Appendix F);
- Reports and valuations (Appendix A);
- Instructions for survey;
- Approved design (if any) upon which the survey is based;
- Accounts (unless forwarded through an agent or bank) in triplicate—two of which must be stamped. (Appendix G.)

NOTE.—All instructions for surveys, whether issued by the Surveyor-General, a District Surveyor, or a Land Commissioner must invariably accompany the plans thereof.

Letters generally.

115. All letters (other than the forwarding letters with plans) should be written upon whole sheets of foolscap, with a brief heading describing the subject matter of the letter; the number, initial letters, and date of any previous correspondence in reference to the matter under consideration must always be stated in the margin; and in correspondence relative to instructions received through a district office or a Land Commissioner, in addition to the above, the particulars of the Surveyor-General's original instructions (if any) are to be stated.

Each letter to be on one subject only.

116. Each letter is to be restricted to one subject; and in forwarding plans of roads, reserves or cases of a similar nature, surveyed under separate instructions, each distinct case is to be complete in itself accompanied by a separate letter of advice.

PAYMENT.117.—*Scale of fees for portions and allotments.*

Area.	First Portion.	Additional Portions.
	Separate.	Conterminous.
Under 1 acre	£ s. d. 0 14 0	£ s. d. 0 9 0
" 5 acres	1 0 0	0 17 0
" 10 "	1 16 0	1 7 0
" 15 "	2 2 0	1 13 0
" 20 "	2 9 0	1 17 0
" 30 "	2 18 0	2 2 0
" 40 "	3 4 0	2 8 0
" 60 "	3 15 0	2 15 0
" 80 "	4 4 0	3 3 0
" 120 "	5 2 0	3 16 0
" 160 "	5 15 0	4 6 0
" 240 "	6 8 0	4 15 0
" 320 "	6 17 0	5 3 0
" 480 "	7 14 0	5 16 0
" 700 "	8 14 0	6 8 0

NOTE.—Portions will be deemed conterminous if not less than one-fourth part of the entire surround has been marked under a previous survey by the same surveyor.

Scale of fees for lineal measurement per mile.

118. Marked boundary lines	£ s. d. 2 0 0
Marked road lines	2 0 0
Traverse and preliminary surveys	1 15 0
*Road secants	1 15 0
Traverse of improvements, fencing, &c.	1 0 0
Preliminary compass and time traverse	10s. to £1.

Portions of 700 acres and upwards will be paid for at lineal rates.

Corners.

119. Principal corner posts of Agricultural or Grazing Farms ... each	s. d. 5 0
Ordinary corner posts of Agricultural or Grazing Farms	2 6
Corner posts of portions surveyed for auction	2 6
Road corners	2 6

Provided that no payment will be allowed for the corners of any portion or allotment the area whereof does not exceed five acres. No additional or district allowances apply to corners.

* Payment will not be allowed for secants where the road is of less width than two chains.

Additional payment may be allowed.

120. Where it can be shown to the satisfaction of the Surveyor-General that the scale rate is not reasonably remunerative for the services performed, an additional payment may be allowed as follows:—

For lines in thickly timbered country	20 per cent.
For lines in dense scrub and extremely rugged country	50 " "

In all cases where extra payment as above is claimed the plans and field books must clearly indicate that such claim is warranted by the nature of the country; otherwise the amount may be omitted from the voucher, and no subsequent claim for its payment will be entertained.

Extra percentage in certain districts.

121. In addition to the scale rate (Clauses 117 and 118) an extra payment, as under, will be made for surveys in the following Districts:—

Brisbane, Ipswich, Beenleigh, Mackay	15 per cent.
Western Pastoral Districts	25 " "
Bowen, Townsville	30 " "
Ingham, Mourilyan, Herberton, Cairns, Port Douglas, Cooktown, Normanton, Burketown, Cloncurry	100 " "

Provided that payments as above shall not exceed 2½ times the ordinary scale rate.

Dense tropical jungle in the Ingham and coast districts north therefrom will be paid for at £10 per mile lineal.

Fees proclaimed for special districts.

122. When scales of fees have been proclaimed for special districts in the case of agricultural farms selected before survey, the amounts set forth in such scales are deemed to be the cost of survey for each specified area, and an equal amount will be paid to the surveyor for marking off the selection. This sum will cover the entire cost of survey, including corners,* &c., but exclusive of roads, measured connections, and travelling allowance. In cases where the boundaries of adjoining farms have been defined previously by the surveyor who is carrying out the survey of an agricultural farm, and the new lines to be marked do not exceed one-fourth of the whole surround, the Surveyor-General reserves the right of reducing the survey fee to be paid to the surveyor if there be grounds to warrant it. This clause applies only to land opened to selection before survey, under the provisions of "The Crown Lands Act of 1884 Amendment Act of 1885."

Grazing farms.

123. Payment for the survey of grazing farms will be as follows:—

Per lineal mile	£1 10 0
Lines through dense scrub only (ordinary scrub will not be allowed for)	50 per cent. extra
Principal corners	each 0 5 0
Ordinary corners	" 0 2 6

Preliminary inspection and design to be fixed by the Surveyor-General on the basis of the time occupied.

Miscellaneous payments.

124. Re-marking old surveyed lines or obliterating marks—

In forest country	6s. per mile
In dense scrub	12s. " "
In Ingham District, and districts north therefrom according to circumstances and at Surveyor-General's discretion.	

Replacing decayed corner posts—	s. d.
Ordinary corner post with lockspits	1 6
Marking and locating corner-tree to same	1 0
Principal corner post, lockspits, and reference tree	5 0

* Where roads form boundaries, the road corners will be paid for at 2s. 6d. each.—See Clause 119.

Travelling allowance.

125. An allowance not exceeding 2s. per mile to cover travelling expenses will be granted for all distances exceeding ten miles, provided that no allowance will be made for travelling—

20 miles and under, where the value of the work amounts to	£20
40 " " " " "	£30
80 " " " " "	£40
100 " " " " "	£50

Surveyors will be expected to take the shortest practicable route in travelling from one survey to another—for which travelling expenses are charged—and they should indicate the route in their vouchers sufficiently to enable it to be traced on the office maps if required.

Inspections, &c.

126. Surveys or inspections for which no rates are prescribed will be paid for at such rate—not exceeding three guineas a day—as may be fixed by the Surveyor-General.

Incomplete surveys.

127. Should a surveyor be unable to complete the survey or marking of the external boundaries of a portion owing to the country being inaccessible or other cause, a deduction *pro rata* will be made for the uncompleted work.

Proviso with regard to highly remunerative work.

128. The Surveyor-General reserves the right to pay for any survey which, by reason of its extent or other favourable circumstances, may be considered a highly remunerative piece of work, at the ordinary rates, exclusive of District or other extra allowances. An intimation of the decision in respect to such surveys will accompany the instructions when practicable.

Agent may be appointed.

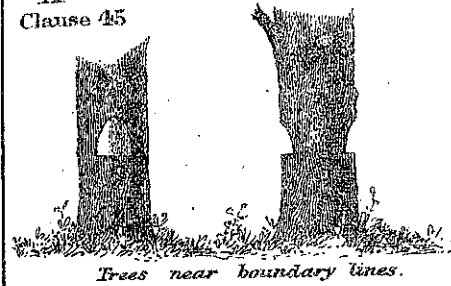
129. A surveyor may appoint an agent or a bank to receive all moneys to which he may become entitled; such appointment must be made in writing, and vouchers shall in all cases be transmitted in triplicate (two being stamped) through such agent or bank, so that each voucher may bear the endorsement or stamp of the agency. No vouchers or copies may in such cases be forwarded direct to the office, or be attached to the plans, as the same are not required, and will not be recognised by the Department; the object desired being that all vouchers submitted for payment should traverse the same channel as the respective payments on account thereof. Written notice of any change of agency should always be furnished through the retiring agent or bank.

Surveys must be in accordance with rules.

130. All surveys must be carried out according to the rules of the Surveyor-General's Office. In the event of a survey being cancelled for any infraction of these rules, the Government reserves the right of surcharging the surveyor to the extent of the payment on account of the cancelled survey out of any moneys that may be subsequently due on account of other surveys.

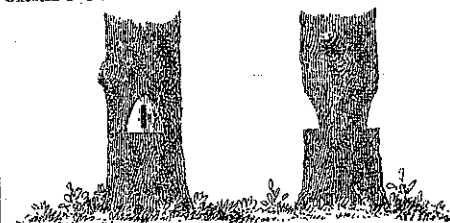
DIAGRAMS

A
Clause 45

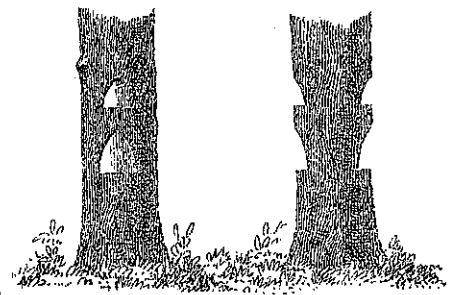


Trees near boundary lines.

C
Clause 69

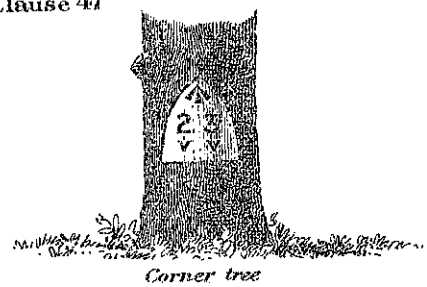


Trees on building lines of town allotments

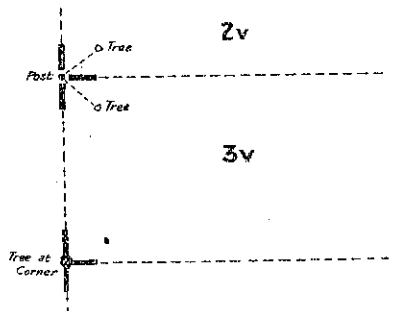


Trees on boundary lines

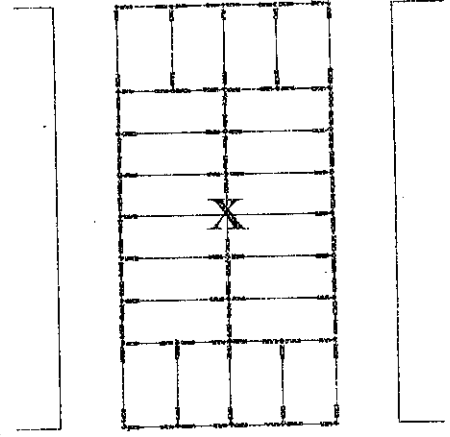
B
Clause 47



Corner tree



D
Clause 70 & 71



Town sections with lockspits

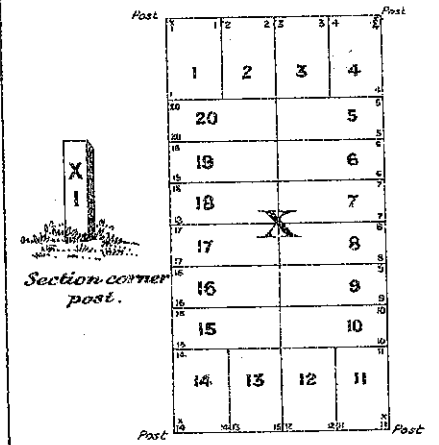
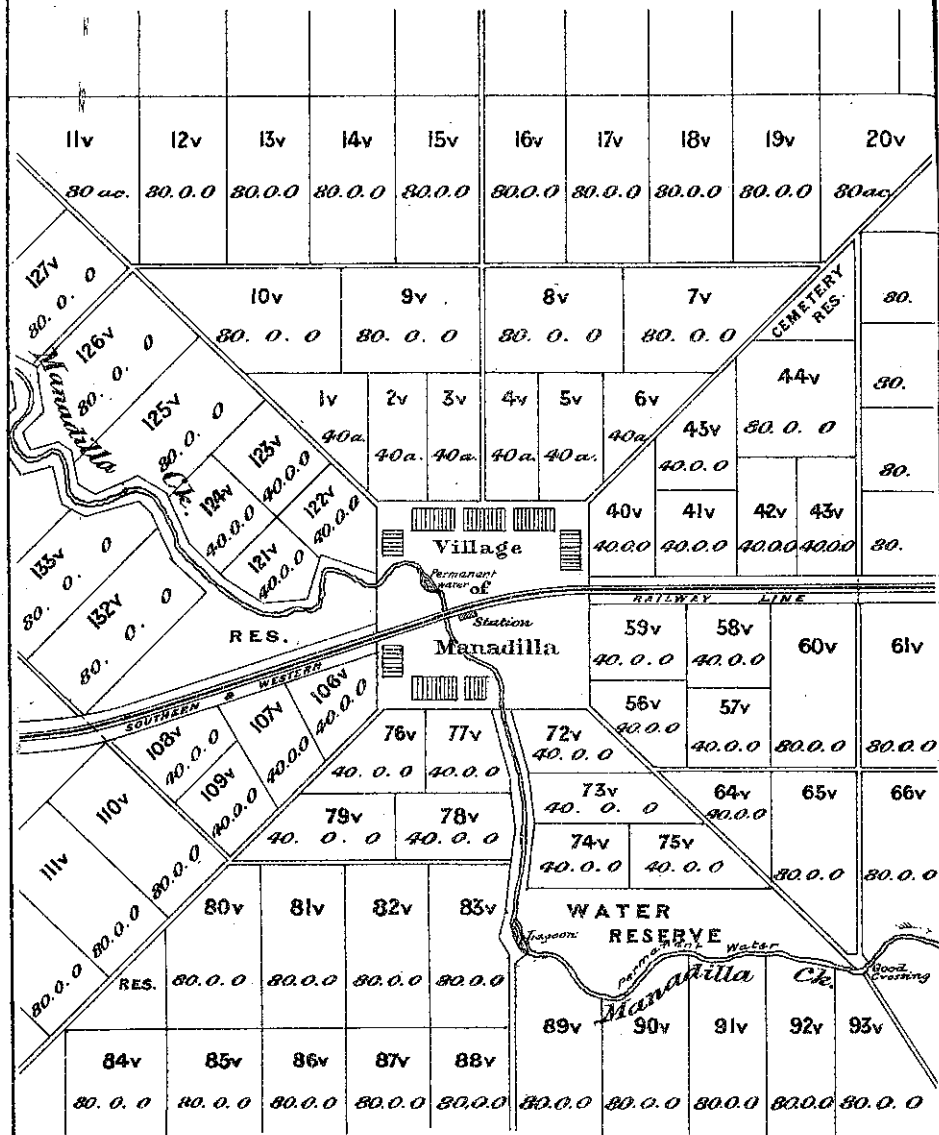


DIAGRAM E

Clause 52

DESIGN FOR AN AGRICULTURAL TOWNSHIP.



Scale 40 Chains to an Inch

Appendix A Clause 16

SURVEYOR'S VALUATION - COUNTRY LANDS.

NO. OF SECTION.	PARISH.	DISTRICT.	VALUE OF IMPROVEMENTS.	RENT.	VALUATION PER ACRE.	DESCRIPTION OF LAND AND NATURE OF IMPROVEMENT, ETC.
11	Mitchell	Brisbane, Sec. 3-3	6°	6°	6°	21 chains of 5 wire fence, value £3 per mile. Sheppard £20. The whole of this portion consists of rich chocolate soil; about half covered with dense vine and brigalow scrub, the remainder with light scrub, interspersed with Gurr.
21	D°	D°	14-13-1/2	4°	4°	3 1/2 chains of 5 wire fence, value £35 per mile; about 10 acres dense vine scrub; the remainder will grow forest; rich chocolate soil.
31	D°	D°	12-13-3	6°	6°	29 chains of 5 wire fence, value £35 per mile; about 25 acres dense vine scrub; about 40 acres extremely rugged country; the remainder will grow open forest; rich chocolate soil.
41	D°	D°	6°	6°	6°	Log fence of no value; about half thickly timbered forest country; the remainder rich alluvial flat; brown soil.
51	D°	D°	3°	3°	3°	About 50 acres of reclaimable tea tree swamp; about 130 acres extremely rugged country; the remainder fair agricultural land; black soil.

M. Jones
Snr. Surveyor.

Appendix B Clause 17

MONTHLY PROGRESS JOURNAL

FOR MONTH ENDING November 1889

BY Mr. LICENSED SURVEYOR M. Jones.

NOTE TO SURVEYOR.—Please state here your present Address, giving Name of Post Office, for Letters.

Survey Camp Maradilla.

WORK PERFORMED.				CANCELLED, WITHDRAWN, TRANSFERRED, OR RETURNED TO LAND COMMISSIONER.				WORK IN HAND.			
DATE OF INSTRUCTIONS.	NO. OF SELECTION.	NO. OF PORTION.	AREA (ACRES).	DATE OF INSTRUCTIONS.	NO. OF SELECTION.	NO. OF PORTION.	AREA (ACRES).	DATE OF INSTRUCTIONS.	NO. OF SELECTION.	NO. OF PORTION.	AREA (ACRES).
14/3/89.	Secs 10 and 2 Town of Ngilil							6/9/89	*1101	13v	320
8/7/89	1456	1085		15/3/89	631	3v	320	12/9/89	*1615	20v	640
5/6/89	1613	65v	160	17/9/89	1311	16v	640	"	*1616	21v	320
12/6/89	1614	66v	30	Withdrawn by wire from L.C. Transferred to L. S. Smith by direction of Surveyor General.				"	*1617	22v	320
6/9/89	Road through 231, 22v & 35v							"	*1618	23v	160
12/10/89	Inspection of Village Settlement Maradilla.							14/10/89	1619	24v	640
								"	1620	25v	320

NOTE.—Selections marked * it is proposed to Survey during the ensuing Month.

DATE Dec. 1st 1889

M. Jones.

Licensed Surveyor.

Appendix C Clause 83(c)

Information to be Supplied by Surveyors when Marking Roads through Freehold or Leasehold Lands.

Portion No. 231 (Freehold)

Parish of Mitchell.

What length of road passes through enclosed land? 18 chains and 85 links

What kind of fence is the land enclosed by, and what is its value per chain? Wire bound, wallaby proof, paling fence, value 15/- per chain.

How much of the land included in the road is cleared or cultivated? Nil.

What is the kind and value of the cultivation? Nil.

State if there are any other improvements, and their nature; also if the land is injuriously affected by severance, and to what extent and value? House and kitchen £150. Well £30. Stables £40. about 6 acres of cultivation (maize) fenced £25. Garden (fenced) with fruit trees, etc. £20. I consider the land is injuriously affected by severance, to the extent of, at least £20.

State the name of the occupier. Jacob Smith.

Have all the improvements been shown on the plan of survey? Yes.

Notice of Entry
under "The Public Works Lands Resumption Act
of 1878"

89.426 L.S.W

To Mr
Occupier of Portion..... Parish of.....

In pursuance of section 64 of
"The Public Works Lands Resumption Act of 1878"
Notice is hereby given that Entry will be made
upon Portion..... Parish of.....
for the purpose of surveying a road after
the expiration of..... days from date hereof.

Date..... 189.....

Licensed Surveyor.

CALCULATIONS									
PORTION No 657 & 667 PARISH OF Mitchell AREA 160 30 A 0 R 0 P									
STATIONS	BEARING	DISTANCE	NORTH	SOUTH	EAST	WEST	MULTIPLIER	NORTH AREA	SOUTH AREA
657	1 To 90° 0'	3250	—	—	5280.0	—	.5250.0	—	94.50000
2	2 180° 0'	900	—	900.0	—	—	10500.0	—	44.17276
3	3 145° 0'	500	—	409.5	286.8	—	10786.8	—	32.67805
4	4 118° 0'	600	—	281.7	529.7	—	12432.4	—	92.19571
5	5 158° 0'	800	—	74.7	299.7	—	13018.0	—	64.47815
6	6 150° 0'	572	—	493.3	286.0	6652.0	6652.0	—	—
7	7 210° 0'	6652	2828.0	—	—	—	000.0	—	—
1	1 360° 0'	2828	2828.0	—	—	6652.0	6652.0	2 328.02067	164.01033
659	15° 48'	3006	—	—	3006.0	—	3006.0	—	—
8	8 193° 0'	710	—	691.8	—	159.7	5832.4	—	40.49861
9	9 204° 0'	587	—	537.8	—	256.7	57456.2	—	29.02698
15	15 270° 0'	1864	—	—	—	1864.0	3355.6	—	—
17	17 347° 0'	762	742.7	—	—	171.4	1320.2	9.79588	—
16-13	16-13 310° 0'	750	482.7	—	—	572.7	574.4	2.76861	—
9 to 10	105°	1100	—	284.7	1062.4	—	—	12.56449	69.52559
10-11	125°	850	—	487.5	696.2	—	—	2 17.56449	28.96170
11-12	145°	1500	—	610.0	1370.2	—	—	28.48055	—
12-13	150°	803.4	—	695.7	401.7	—	—	—	—
15-7	270°	3530.6	2078.0	—	—	3530.6	—	—	—
7-9	360°	2078	2078.0	2077.9	3530.5	3530.6	—	—	—
Closure of Road in 657								1.57000	30.00055
								2 328.02067	164.01033
								164.01033	164.01033
								14.45280	14.45280
								167.1.14 Total	167.1.14 Total
								4.1.14 Survey Fee	4.1.14 Survey Fee
								3.0.0 Rest	3.0.0 Rest
								160.0.0	160.0.0
								104.01033	104.01033
								+ 5.38000 offsets	+ 5.38000 offsets
								167.39033	167.39033
								1.36132	1.36132
								14.45280	14.45280
								167.1.14 Total	167.1.14 Total
								4.1.14 Survey Fee	4.1.14 Survey Fee
								3.0.0 Rest	3.0.0 Rest
								160.0.0	160.0.0
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								+ 5.38000 offsets	+ 5.38000 offsets
								167.39033	167.39033
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								160.0.0	160.0.0
								104.01033	104.01033
								+ 5.38000 offsets	+ 5.38000 offsets
								167.39033	167.39033
								1.36132	1.36132
								14.45280	14.45280
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								4.1.14 Survey Fee	4.1.14 Survey Fee
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								160.0.0	160.0.0
								164.01033	164.01033
								14.45280	14.45280
								167.1.14 Total	167.1.14 Total
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								160.0.0	160.0.0
								104.01033	104.01033
								+ 5.38000 offsets	+ 5.38000 offsets
								167.39033	167.39033
								1.36132	1.36132
								14.45280	14.45280
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								4.1.14 Survey Fee	4.1.14 Survey Fee
								3.0.0 Rest	3.0.0 Rest
								160.0.0	160.0.0
								164.01033	164.01033
								14.45280	14.45280
								167.1.14 Total	167.1.14 Total
								4.1.14 Survey Fee	4.1.14 Survey Fee
								3.0.0 Rest	3.0.0 Rest
								160.0.0	160.0.0
								104.01033	

Appendix F Clause II4

Survey Camp Mitchell.
28th November 1889

SIR,

I have the honour to transmit herewith (*) 1 Plan
 (*) 1 Field Book and Accounts, (in triplicate) of Surveys, noted
 in the margin; and I hereby, on honour, declare that I have personally
 surveyed and marked out on the ground all the boundaries of the
 abovementioned portions, and that the Plan and Field Book are
 correct, and the whole Service performed with care and in strict
 accordance with the regulations and practice of the Department. I
 further declare that, according to my estimate of the character of the
 country, I am entitled to the allowance of the extra percentage noted
 against each portion in the margin.

65x Mitchell.
66x

I have the honour to be,
 Sir,
 Your obedient Servant,

W. Jones
 Licensed Surveyor.

To The Surveyor-General, Brisbane.

REMARKS OR REPORT ON ABOVE SURVEYS.

The survey of these farms has been carried out as nearly as may be, in accordance with the descriptions in the applications.
 The road surveyed through 65x, is in constant use; the track follows the best route, and has consequently been adopted. It was considered expedient to make the road the Western boundary of 66x, instead of causing a small encroachment on the West.

W. Jones
 Licensed Surveyor.

(*) Here state Number of Plans.

(*) Here state Number of Field Books.

MEMO. TO SURVEYOR.—Unless Plans are sent to Surveyor-General in a complete state, accompanied by this Form, Field Books, Instructions, and Vouchers (except where the latter are transmitted through the Bank) payment for Surveys will be delayed. Each Plan should also be noted with the date and by whom the Instruction was issued.

Appendix G Clause II4

Surveyor's No. 89.25 Voucher No. _____
 Oct No. _____
 Survey of _____
 Survey Office Stamp. Stamp of Bank or Agent.

Amount Claimed ...	151.17.6	REASONS FOR DEFERENCE.	
Amount Paid ...			
DIFFERENCE ...			

THE DEPARTMENT OF THE SURVEYOR-GENERAL,

Dr. To MR. LICENSED SURVEYOR *William Jones*

FOR THE UNDERMENTIONED SERVICES—(Particulars as within).

SCHEDULE RATES:—		TOTAL AMOUNT—DISTRICT SCHEDULE	14	10	0
		TOTAL AMOUNT—GENERAL SCHEDULE	51	15	0
LINEAL MEASUREMENT:—					
At 2s per Mile	...	CHAIR	195	91	4
At 26s. "	...	LINES	352	91	7
At 30s. "	...		1331	50	24
DISTRICT ALLOWANCE:—					
15 per cent. on %	...		9	13	1
ADDITIONAL ALLOWANCE:—					
50 per cent. on	...		6	11	9
20 per cent. on	...		5	13	11
CORNERS:—					
23 Principal, at	...	5s. each	5	15	0
56 Ordinary, at	...	2s. 6d. each	7	0	0
7 Old Trees Re-marked at	...	1s. each	7	7	0
DAY WORK:					
Road Deviation, in 29 Mitchell		1 day @ £3.30 per diem	3	3	0
Designs for Village Settlements		2 days @ £2.0 per diem	4	4	0
TRAVELLING:—					
from Springfield to Weyler, 45 miles, thence to 1/4 Mitchell farm; to 65x 1/4 Mitchell, 12 miles; to Road in 2514 Mitchell					
to Road in 29 Mitchell (6 mi) to Village Settlement (7 mi)					
TOTAL: 57 MILES AT 2s. PER MILE			5	14	0
TOTAL			151	17	6
ADVANCE					

I HEREBY, on honour, declare that the Services charged for in this Account have been faithfully and truly performed in strict accordance with the Regulations and practice of the Department, and I authorize the Queensland and National Banks receive payment on my behalf.

(Signature) *W. Jones*
 Licensed Surveyor.

I CERTIFY that the Services charged in this Account were satisfactorily performed, and that under existing Regulations the above-named Licensed Surveyor is entitled to the payment of _____ the above Account.

Surveyor-General.

Stamp. (See Note) RECEIVED on the _____ 18 _____, from the Surveyor-General, the Sum of _____ Pounds, _____ Shillings, and _____ Pence, Sterling, being the _____ the above Account.

WITNESSES TO PAYMENT: _____

Licensed Surveyor or Agent.

NOTE.—Vouchers must be furnished in triplicate, two copies of which must be provided with Duty Stamp.

Explanation of Voucher

*This specimen voucher is for the purpose of illustrating the method to be observed by Surveyors when preparing their vouchers: it represents the charges which would be payable for surveys as per attached plans; several other items marked thus * are also entered in order to illustrate each class of charge. Although various classes of work are included in the specimen (for the purpose of illustration only - the items being separated by a heavy line); Surveyors when preparing accounts for work performed, should, as a general rule, keep each class distinct on a separate voucher.*

The fees proclaimed for special districts (see clause 122) apply only to land opened to selection before survey under the provisions of "The Crown Lands Act of 1884 Amendment Act of 1885" and do not apply to any other class of work; for all other classes of work the payments applicable to the particular district as prescribed in clauses 117 to 121 and 123 to 128 shall be charged.

SPECIMEN PLAN N^o 4. ROAD SURVEY. CLAUSE 100.

REFERENCE TO CORNERS

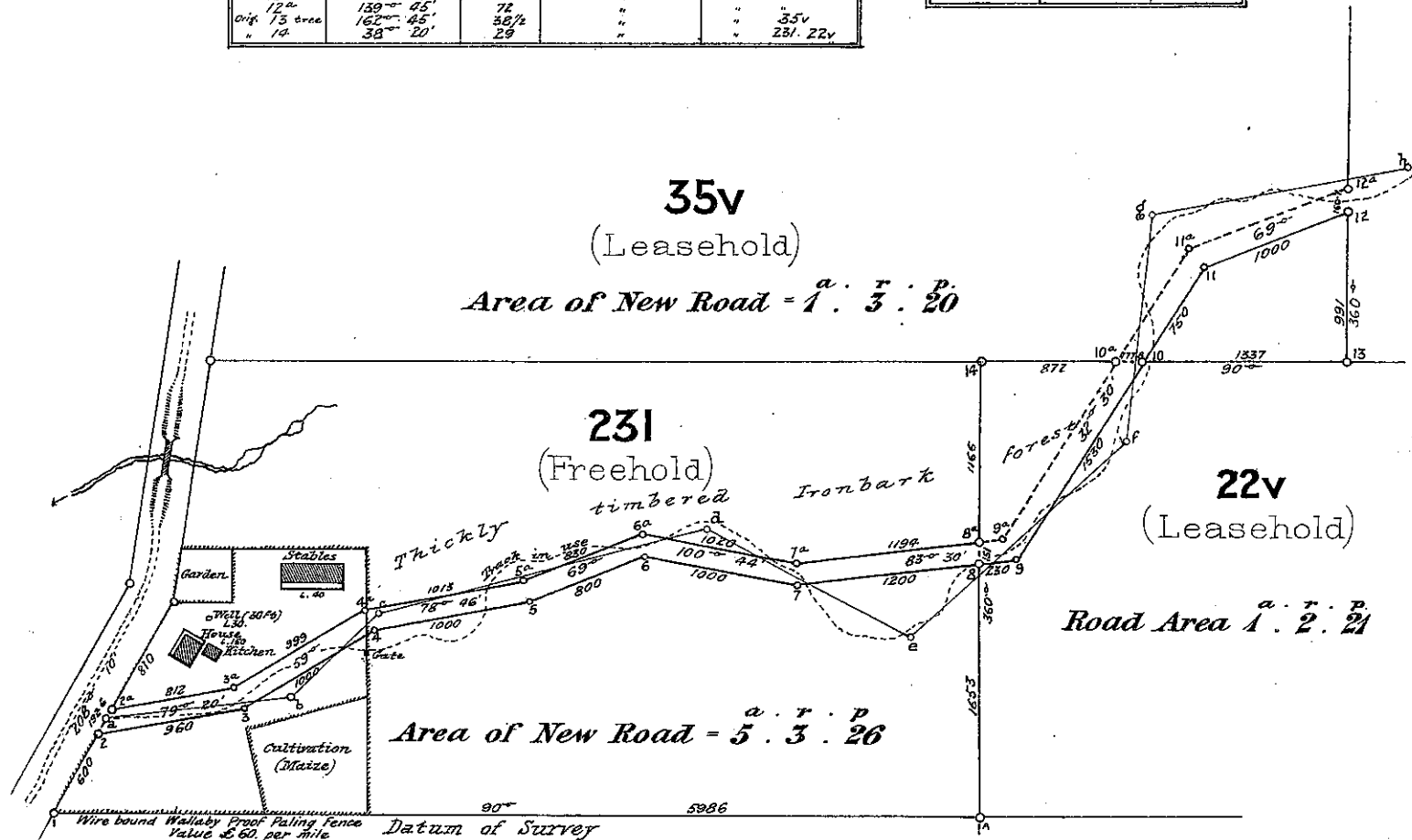
Station	Bearing	Links	From	Marks
Orig tree 1	255° 30'	29	Ironbark	231. R
" 1 ^a	179° 30'	15	"	" 22v
2	"	"	Post	" R
2 ^a	"	"	"	"
3	"	"	"	"
3 ^a	"	"	"	"
4	"	"	"	"
4 ^a	"	"	"	"
5	290° 15'	78	Ironbark	"
5 ^a	211°	12 1/2	Gum	"
6	29° 30'	85 3/4	Bloodwood	"
6 ^a	170°	8 1/2	"	"
7	30°	11	"	"
7 ^a	190° 45'	69 3/4	"	"
8	56° 15'	84	"	"
8 ^a	142° 30'	46	Gum	"
9	60° 20'	47	"	"
9 ^a	174°	9 1/2	Bloodwood	"
10	33 1/2°	95	Ironbark	"
10 ^a	111° 30'	27	"	"
11	289° 40'	32 1/2	"	"
11 ^a	120°	13	"	"
12	52° 10'	116	"	"
12 ^a	139° 45'	72	"	"
Orig. 13 tree	162° 45'	38 1/2	"	35v
" 14	38° 20'	29	"	231. 22v

ROAD SECANTS

From	Bearing	Links
2 to 2 ^a	25° 10'	182.6
3 to 3 ^a	339° 10'	162.4
4 to 4 ^a	338° 53'	162.2
5 to 5 ^a	345° 53'	150.5
6 to 6 ^a	354° 52'	155.9
7 to 7 ^a	2° 07'	151.7
8 to 8 ^a	360°	151.0
9 to 9 ^a	328°	166.2
10 to 10 ^a	270°	177.8
11 to 11 ^a	320° 15'	158.0
12 to 12 ^a	360°	160.7

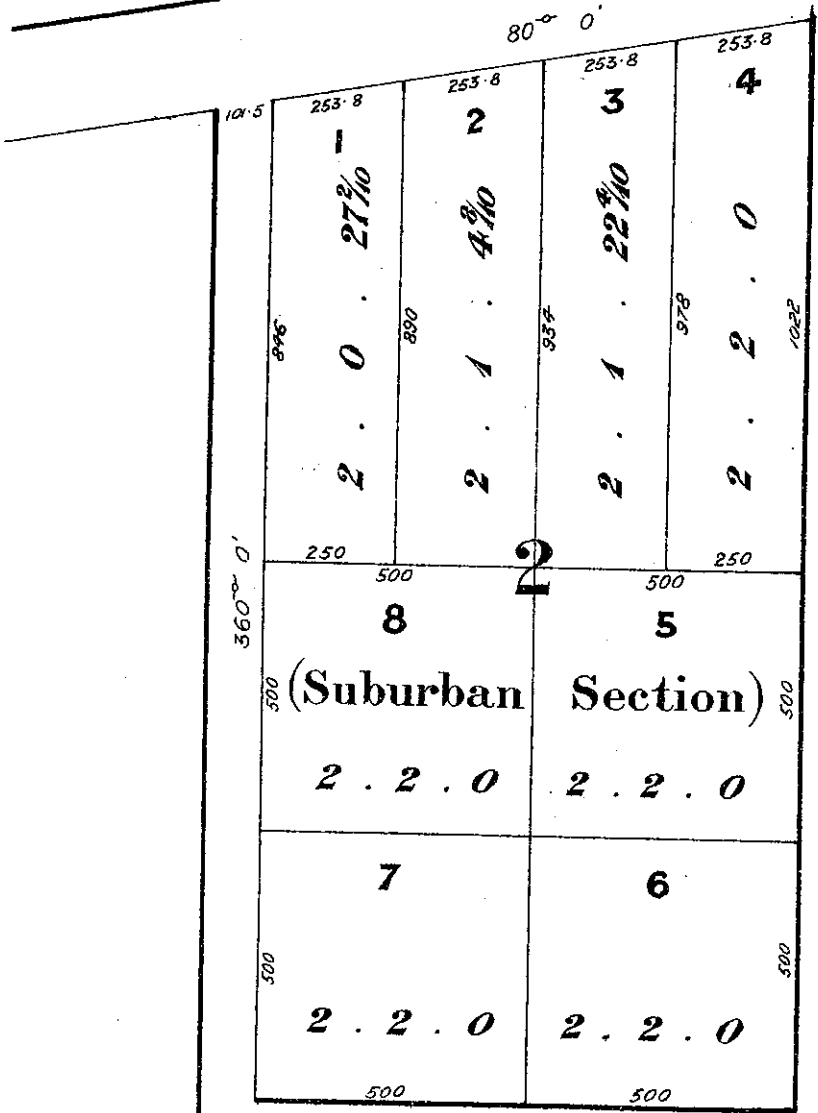
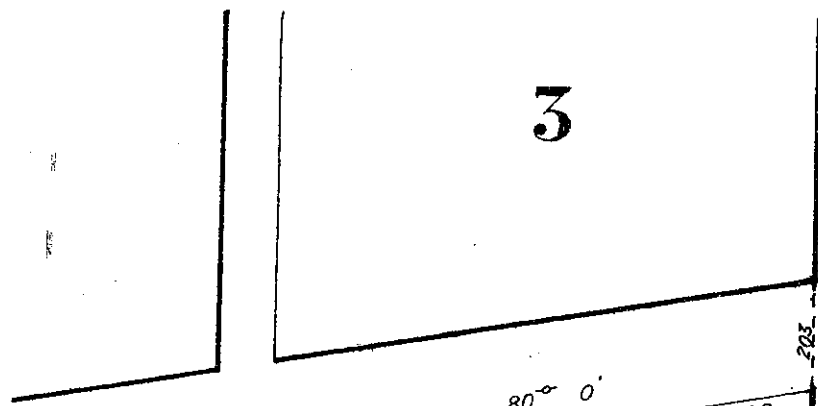
PRELIMINARY TRAVERSE

From	Bearing	Links
a to b	85°	1200
" c	46°	800
" d	75°	2800
" e	118°	1500
" f	42°	1500
" g	6°	1500
" h	79°	1700



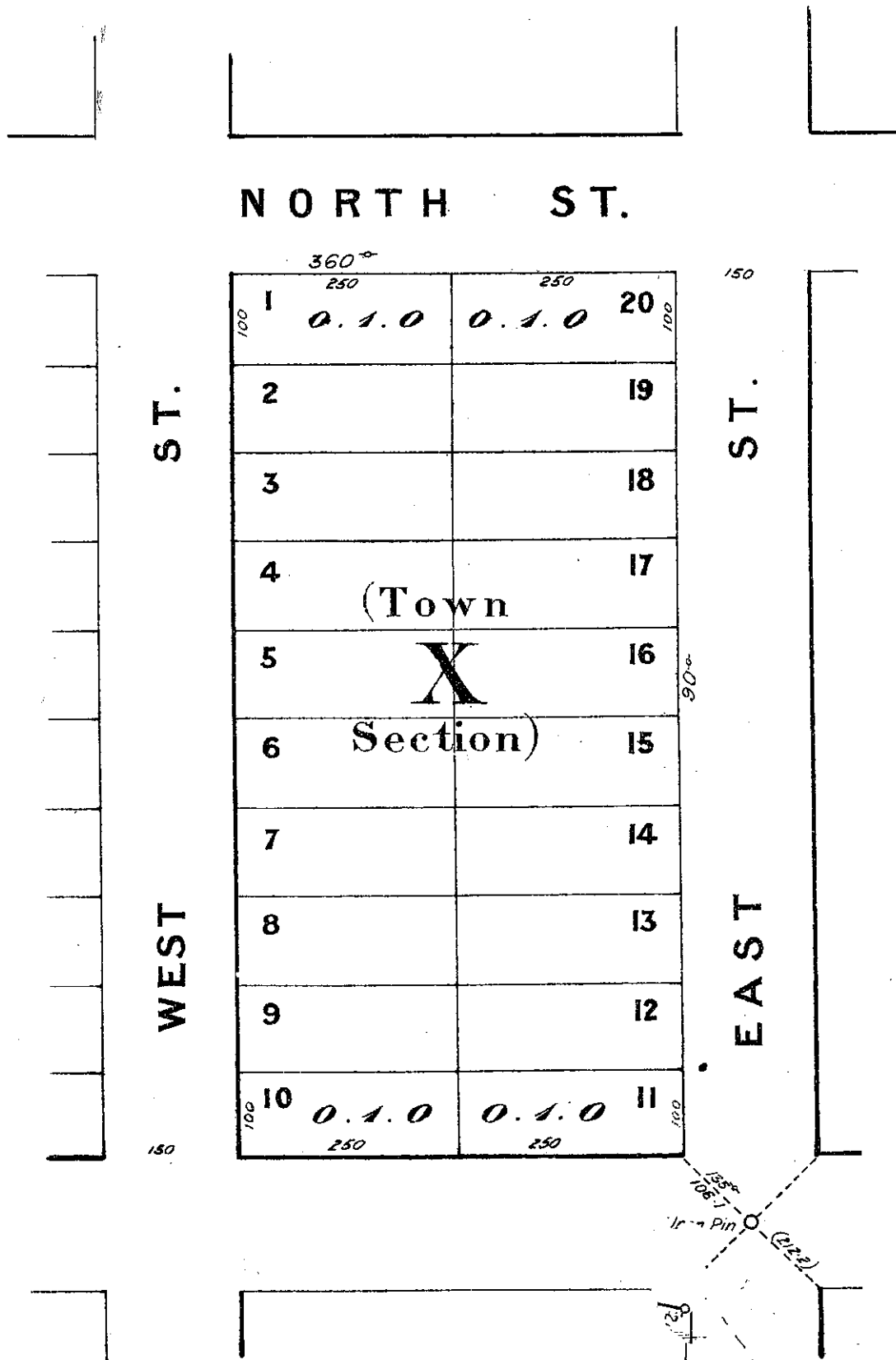
Preliminary traverse to be delineated in blue.

3



Scale 4 Chains to an Inch

**SPECIMEN PLAN N^o1. CLAUSE 100.
TOWN AND SUBURBAN LANDS.**



Scale 2 Chains to an Inch