# REGULATIONS FOR THE GUIDANCEOF LICENSED SURVEYORS 

CONNECTED WIRE

## THE SURVEY DEPARTMENT OF NEW SOUTH WALES

## DATED 9TH MAY 1864.




## REGYiations.for the guidarcer of licexced surnexors.

## THE SURYEY DEPARTMENT OF NAN SOUTH WALES:

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GENERAL DIRECTIONS.

1. In every care in which a portion of the Colony may be specifically assigned to a Licensed Surieyor, it will be with the understanding that he will supply. himself with the surveying instruments, mentioned in the list hereto appended, marked A, and of good quality; with necessary equipment and labor, whetracings or copies of general plans and of original plans of lantds in the vicinity of which he may be called on to measure; and with all information necessary to the carrying out of tructions with which he may be furnished.

48 will be paid for all services which he may be instructed or anthorized to perforimfor. Goxernment, according to a Scale of Fees, of which a copy is also appended, mest the payment to be made after the surveys shall have been examined ah Ma, but a per-centage will be advanced, as may be arranged with each Officer whad weceipt of the surveys. For special services, to which the scale of fees is not hepleable, special payments may be allowed, ordinarily at the rate of $£ 33 \mathrm{~s}$. per diem for field service, and $£ 22$ s. per diem for office work.
3. While the Surveyor prevents the accumulation of arrears of instructions, no other Surveyor will, unlesss under peculiar urgency, be employed by the Government within his District; but, should arrears be permitted to accumulate, or even should solitary instructions be allowed to remain unacted on for Iong periods, with out satisfactory explanation, the District will either be reduced in size, or handed, wholly and permanently, to another Surveyor. He will, however, be at liberty to propose modifications of the boundaries of his District, with a siew to enable him to keep up the required Surveys; but such modifications can obviously be made only in cases in which they would not render adjacent Districta inconvenient.
4. The employment of an Assistant or Deputy will not be allowed except with permission obtained from the Surveyor General, a permission which will be accorded only to Officers of long standing and integrity, or in cases of illness or accident. There will hovever be no objection to the emplyment of pupils and others as chainmen. Any infringement of this rule will lead to the withdrawal of the license of any Surveyor who may be detected in its commission; as will also the taking of a fee for the survey of Crown Land, the cost of measurement of which is to be prid by the Department.
5. Instruments which may be sent to Fead Quarters by an Officer of the Department, with a detailed statement of the faults to be corrected, or repairs to be effected, will be repaired by a fully competent workman, with the least possible delay, and at as low a price as would be charged by any other; and the Instruments will be returned by the earliest opportunity, or by such means as the Offiengeny request, the cost of repairs and of carriage being, of course, charged to the Offigh
Le.6.tMtiondard needle has’been adopted in this Office, with which it is desirable
 beepormap supplied with instruments adjusted to the standard, by which the instranentwof other Surveyors may be adjusted.
7. The Surveyor will transmit monthly by the earliest opportunity after the expiration of the month, to the District Surveyor under whom he may be placed, a Return in the forys appended hereto, marked C, shewing the worls performed dufing the month, aus the unacted on instructions in hand, \&c.
8. He will adso Pransmit to Head ${ }^{\bullet}$ Quarters, or to the District Survey Office, the Field-notes of his surveys, when requested to do so ; and in keeping his Field Books, he will be, careful to date each at its commencement and end, and at the commendement of each fresh survey; he will also keep his books in such a manner as to be intelligible to any Surveyor or qualified Draftsman who may require to plot from them.

With the object of early transmission of the information, which the Field Book may contain, it is desirable that the Books used should not contain a large namber of leaves.
9. The Surveyor who may have occasion to visit Head Quarters, will upon his arrival in Sydney, forthwith intimate the circumstance to the Surveyor General, with his place of address while in Town, and on his return to his District, he will at once report also to that effect.

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10. The Surveyor will be at liberty to purchase a homestead from the Crown, but his position precludes his availing himself of his right to purchase Crown Lands (beyond such homestead), in a District in which he may be employed, and any departure from this rule may render him liable to be removed from the Public Service.

## MEASUREMENTS, \&c.

1. In the survey for a town, the first duty of the Surveyor will be the selection of the precise spot which may seem to him to be the best adapted for the town site. He will then proceed with a preliminary survey, which should embrace every physical feature having elevation or depression sufficient to form an obstructior to carrying out a street, and also all existing tracks and improvements (if any) within the site.
2. He will also ascertain (with the theodolite) the levels of one or more of the proposed streets on the design hereafter alluded to, and plot a section on any suitable space on the plan.
3. He will plot his plan to a scale of 8 chains to one inch, and will represent the features thereon with the greatest practicable accuracy, carefully preserving the relative heights in the hill shading; and he will note fully on the plan the character of the land throughout, and shew on it the altitudes of the levels alluded to in the previous paragraph.
4. He will then prepare a design for the town, in which, so far as the ground will admit of the arrangement, streets 150 links in width should be provided, at distances of 5 chains and 30 links apart, in the direction of the principal traffic, and crose stroets, at right angles, at distances of 10 chains apart. These distances may be modified to suit the natural features within extremes of 400 and 600 links, and 6 and 12 chains respectively. The building allotments within the sections formed by the streets will be, where the regulated distances are preserved, of 2 chains frontage by 250 links depth, and with a back lane entrance, parallel to the longitudinal streets, of 30 links in width; and where the streets may be placed at other distances than the above, the allotments will be as nearly of that area and form as may be practicable.
5. The design should be drawn on a separate skeleton tracing, which may be applied to the plan, and on which may be shewn the sites which the Surveyor would recommend for public buildings, such as Court House, Markets, Churches and Schools, \&c.; and also open squares, reservations for public recreation, access to water, \&e,
6. Beyond the proposed building allotmenta, the main road shouid be surveyed for a distance on either side of one or two miles, and portions should be designed fronting, or having access to it, increasing in area with their distance from the town; and the design for allotments fronting the main road should be such, that, by the reservation in places where the natural surface is not calculated to resist the action of traffic, of those upon one side, until such period as the road may be constructed; a sufficient space will be left for divergence from the track in use, as it may from time to time become much impaired.
7. The Surveyor will transmit properly prepared descriptions of the land to be set apart for the Town, and for the Suburban lands to be attached-thereto, for proclanation in the Government Gazette, as required by the 4th section of the Crown Lands Alienation Act. His report will embrace full information as to the character of the land and its suitability to building and agricultural purposes, the supply of water and reservations essential to the preservation of its purity and sufficiency; the liability of any portion of the reserve to inundation; and a suggestion of suitable sites for a General Cemetery, and a town pasturage reserve.
8. In surveys in towns, in the designs for which back entrances bave not been provided, a lane 30 links in width will be preserved, extending across all sections of building allotments from street to street.
9. For convenience of marking and describing, these lanes will be deducted entirely from one half of the section. The allotments on that half abutting on a street in front, and the lane at the rear, will therefore be 470 links in depth, with an area of 1 rood and 35 perches; while those in the other half of the section will retain the depth of 5 chains, and an area of 2 roods.
10. There are cases in which the allotments in one moiety of a section are made to front on a principal street, while those in the remainder of the section have frontage on the streets leading into, and at right angles to that street; and in these cases, a second lane leading from that parallel to the principal street, and affording back entrances to the allotments fronting the side streets, will, of course, be necessary.
11. Whenever the Surveyor, in the course of his duty, may have his attention directed to any lands which it may appear desirable to withhold from sale for town or village sites, or any other of the special purposes provided by the Crow Lands Alienation Act of 1861, he will at once bring the matter under notice, with such recommendation as he may consider it proper to make.
12. Land intended to be appropriated to Church purposes, and which generally comprises two acres, will be subdivided into three allotments, one acre for the Church, and half an acre each for the School and Minister's residence; and land intended
to be set apart for a General Cemetery will, as a rule, be subdivided in the proportions, and in accordance with one of the designs shewn on the memorands attached hereto, marked D and E.
13. Very serious interruption to traffic in the interior of the Colony has resulted from the fencing in of lands by proprietors on either side of projected or reserved roads, previously to the construction and drainage of such roads, and as it is considered expedient to provide in the future subdivison of Crown Lands against such public inconvenience and loss, the first duty of the Surveyor in designing Crown Lands for subdivison will be the selection of the best lines of road passing through or affording access to those lands, and which may be of a width varying from half a chain to one chain and a half, according to the traffic.
14. Portions to be measured will then be designed with frontages to such roads, and having boundaries directed to the cardinal points, only so far as such boundaries would ensure a fair subdivision and distribution of available land, and convenient size and shape of the portions; and with the view of preserving sufficient space for deviations from time to time from the existing tracks as these may become cut up and unsuitable for traffic, and, more especially, in places where traffic is likely to be considerable, and where, from the character of the soil, its low or level position or other cause, it may be unsuited in its natural state to resist the action of traffic, a series of portions upon one side of the projected road will be merely designed and not measured.
15. These allotments or portions will be specially reserved to admit of divergence from the existing tracks as occasion may require, and, as it is probable that, by the time these portions may be brought to sale, the extension of population and settlement may have considerably increased their value, they may properly be of a smaller area than the portions in the same vicinity, which may be measured for present sale.
16. The depth of such portions from the projected road, will depend, in a great measure, upon the breadth which may be sufficient to reeerve for the purpose specified, and their frontage will, of course, bear a fair proportion to their depth.
17. They may be designed on either side of a projected road, or alternately on cach, and, as a rule, they will occupy that side on which the soil is best calculated in its natural state to form a roadway.
18. These portions will be shown on the plan in dots only, and will be marked as " reserved temporarily to prevent interruption of trafie."
19. A report as to the present and probable trafic on roads where such reservations are nade, as well as on the character of the soil and preeent state of the track, will appear in the letter of transmission of any plan in which such reservation may be made.
20. The above will apply more particularly in the cases of surburban and country lands, in the vicinity of towns in the Squatting Districts, and on leading thoroughfares, but will not be at all applicable in many of the measurements in the Old Settled Districts.
21. In the measurement of Crown Lands adjacent to the main roads from Morpeth to Armidale, from Sydney to Wellington, and from the Parramatta, road to Albury, it is desirable that a width of 150 links should be preserved throughout. In surveys which he may have to make on any of these roads, the Surveyor will therefore adhere to the above rule, which will not of course influence in any way the application of the principle laid down in the foregoing instructions. .
22. In any ease where the reservation of a road through a measured portion maty be unavoidable, the Surveyor will sursey it and mark its centre line on the ground, as well as its intersections with the boundaries of the portion; and he will shew on his plan the distance from the intersections to the nearest corners on the plan.
23. From insufficient care in the subdivision of Crown Land for sale, individuals have been able, by the purchase of small proportionate areas, to obtain a control of water sapply, which not only gives to them an undue command over adjacent Crown Lands, but also renders those lands although in other respects eligible for agricultural and pastoral purposes, wholly unsaleable. Special attention is therefore directed to the necessity which exists in an arid climate such as that of this Colony, for the most careful preservation for public use and the beneficial occupation of the Territory, of all permanent supplies of water in localities where any scarcity exists of this first necessary of life.
24. The Surveyor will therefore direct his best attention to this most important subject in the surveys which he may be engaged either for pre-emptive purchase or auction sale, and he will recommend for reservation all waterholes, springs, and portions of river frontage, which may, in any season, be required for the use of present and future occupants of lands, from which such water supplies may be more easily accessible than other permanent supplies.
25. For the convenience of persons who may desire to make use of such reservations, there should be a space of from one acre upwards proportionate to the extent to which the water may probably bo used, surrounding the waterhole or adjoining the river bank, and care will therefore be given to the preservation of sufficientand convenient ways of access to such reservations.
26. In measurements on the banks of rivers and creeke, access to water supply will be preserved at distances wherever practicable of from half a mile to a mile, and where the portions being measured are of small area, a way of access will on an average be preserved between every third portion and that adjoining. The position of these ways will, of course, depend very materially on the positions in which the best supplies of water may exist. However unavailable back country may occaaionally be, it is obvious that a total deprivation of access to water would render it still more so,
27. In any case in which it may not be apparent from the plan, that special reservations not having been made, there are other and abundant supplies of water in the vicinity for adjacent lands, the Surveyor will not fail to explain the circumstance in his letter of transmission,
28. For some time past it has been the practice in the subdivision of lands by Officers of this Department, to establish parishes and number in a consecutive series, according either to position or to the dates of measurement, portions which may be measured for sale within them.
29. This practice is frequently or generally inapplicable to the isolated portions of lands which are now usually measured in the Old Settled Districts, but it is very desirable that, wherever the quality of land being measured for sale is such, that a considerable extent in one locality may with advantage be so measured, and particularly in portions of the Colony where the subdivision for sale is in its commencement, the practice should be followed.
30. The size of parishes should be approximately 25 square miles, but may be allowed to vary from 15 to 35 square miles.
31. The boundaries should, wherever practicable, consist of creeks, ranges, or other natural features, but failing the existence of these in suitable positions, arbitrary lines may be adopted as boundaries, and which should, enless a strong reason to the contrary exist, be directed to the cardinal points.
32. It is not, however, essential that the permanent boundaries should, at the time of the early surveys in a parish, be determined; and indeed their determination at that period might iuvolve an amount of survey and labor, with which the advantage gained would be by no means commensurate.
33. These pari hes are never proclaimed, neither are their boundaries determined beyond the possibility of alteration, save by the proclamation for sale of lands within them, or the publication of plans showing such boundaries as finally adopted.
34. The boundaries are therefore subject to modification, as surveys and knowledge of the features progress, and in this manner creeks, or permanent lines of road, may be made to replace proposed right line boundaries, even after the latter have existed for years on paper.
35. The numbering of portions within a parisi, exclusively of course, of town scetions and allotments within them, should be one continuous series, and it is of course most convenient that the numbers shouid follow each other through adjacent portions thrqughout the parish. Where, however, as is usually the case, portions in different parts of a parish may be measured, while the intervening lands are left numeasured, and not even designed, it is obvious that the series must refer rather to the chronological relation of the measurements, than to the positions of the portions.
36. In cases where portions have been measured and sold without numbers, in a locality in which it may be desirable to establish a parish, it will be best to count the number of such portions, and to commence the new numbering with the next higher number; and this practice may also be applied with advantage when two series of numbers have inadvertently been previously adopted in a parish.
37. Where cuphonious aboriginal names can be ascertained, it is desirable that they should be suggested by the Surveyor for new parishes.
38. It has been usual to call parishes within which towns are laid out by the name of the town ; but this practice may be departed from in cases where localities are known by names which would prove suitable for parishes, while the towns have been called by some name foreign to the locality.
39. This explanation has been given to enable the Surveyor to decide in what cases, in measurements which he may make, it will be desirable to establish parishes and to select boundaries, and carry out complete series of numbers within them ; and he will give to the subject his best consideration in all cases where the practice may be applied, and by so doing, prevent the confusion and inconvenience which necessarily result from the inconsiderate numbering of portions.
40. In recommending temporary or permanent boundaries for parishes, it will be sufficient for the Surveyor to transmit with his surveys of lands (which of course will never fall within two parishes); sketches shewing the proposed boundaries, such sketches being of course alluded to in the letter of transmission.
41. In consequence of certain indefinite rights being conceded by the sale, by the Crown, of land having a frontage to swamps of fresh water, or lands liable to inundation otherwise than by tidal overflow, it is desirable that margin of such swamps, \&c., should not be made to form frontages for portions measured.
42. Right lines should rather be measured for boundaries, and occasionally, when the swamp or inundated land may not be likely to become saleable for any long period, the frontage boundary may consist of two or more lines extending from the extremity of one side line to that of the other, and following as nearly as possible the margin of the swamp. The same rule will apply to portions having frontages to roads, but care must be taken that the roads are not diverted from their proper positions.
43. On the plan of his survey of any land within an exempted gold field in which a race may exist, or to form a race through which permission may have been given, the Surveyor will be careful to shew the existing race, or the course of the intended race, with the necessary reservation of twenty feet in width, the area of which is to be deducted from the total area.
44. On application made to him personally, the Surveyor will be at liberty to measure the land applied for for auction sale, with such adjacent lands as may be suitable to agriculture to an extent not exceeding three times the area applied for, a permission which he may consider to extend to all lands ordered for measurement for auction sale on applications made direct to the Surveyor General. Care must however be taken that local advantages are distributed as far as practicable in such measurements, and that the measurements are made as early as possible after the receipt by him of the application or instruction.
45. The depth of portions measured for auction sale or otherwise, having frontage to a river, creck, or road, should in all cases, where practicable, be in excess of the frontage.
46. Before measuring for auction sale land within a proclaimed gold field, the Surveyor will consult with the Gold Commissioner, for the purpose of ascertaining whether any objection cxists to the alienation of the land to be measured.

## CONDITIONAL PURCHASES

1. Subject to the Regulations under the Crown Lands Alienation Act, portions must be measured as described in the applications, and precisely in the arcas conditionally purchased, and numbered as in ordinary measurements. In any case in which the aren measured may be more than 2 per cent. in excess of the quantity applied for, the plan will be returned for amendment of the survey at the cost of the Suryeyor. This has reference only to lands bounded by rivers or creeks, or from which roads have been excluded and will not be departed from unless under peculiar circumstances which must be explained in the letter transmitting the plan. In those cases in which the portions surveyed are bounded by right lines, the areas in excess of the quantities applied for must be within the margin allowed by the 21 st paragraph of the directions for plan drawing.
2. The mean depth of conditional purchases from the frontage to any river, creek, or road, which, according to the practice of the Department, and with duo regard to the general water supply of the locality, should form a frontage, if in the First Class Settled Districts shoubla be of not less than 20 chains, and if otherwise, not less than 60 chains. This depth, which is the minimum in ordinary circumstances, may be increased at the desire of the conditional purehaser, or in cases in which the disposable frontage is limited; but in the case of a general design, or for other fufficient reason, this depth may, subject to the approval of the Minister for Lands, be modified.
3. The boundaries other than the frontages, or other road or natural feature boundaries which it may be necessary to adopt, can in no instance be directed merely at the desire of the purchaser, otherwise than to the cardinal points by compass, although they may be so where a general subdivision either at the time or afterwards, would unquestionably be improved thereby.
4. Portions having no such frontage as above, must be measured, excepting where forming part of a general design, in square blocks.
5. Roadways and water reserves, with ways of access to the latter, must be rescrved at least as extensively as they would, were the land being measured for auction sale.
6. Where portions may be conditionally purchased in the vieinity of improved lands, unless with the consent of the owner of the improvements, the boundary of the conditional purchase must not be placed nearer to those improvements, than would admit of the measurement, in the form prescribed for conditional purchase, and with the improvements in the centre of the frontage, of such area, as might be purchased under the Act in consideration of such improvements.
7. The locality, if definitely given in the application, should be strictly adhered to, but the form of measurement should not be so, unless in accordance with paragraphs 2 and 5 .
8. Whenever the form of measurement prescribed by the above directions may bo departed from, the reasons for such departure must be explained in the letter transmitting the survey.
9. Each purchasc must, under the Act, be measured within tuelve months of its being applied for, subject to the undesirable contingency of its measurement by any other Licensed Surveyor whom the purchaser may choose to employ, but at the
expense of the Government. It will not however be necessary that the Surveyor should make measurements immediately on receipt of instructions, or where one or two measurements would involve a large amount of travelling, but at the same time it is exceedingly desirable that delays should not take place after the purchase, as the erection of improvements might in the meantime raise difficulties to the proper measurement of the land; and the conditional purchase of adjacent lands might be impeded by such delays.
10. Conditional purchases which may have been abandoned prior to survey, must nevertheless be measured within, twelve months from the dates of selection, as under the law the land may eventually be brought to auction.
11. Should any portion applied for in a gold field, not speeially excluded from conditional purchase, be occupied by gold miners, the conditional purchase cannot be permitted; but the Surveyor will still measure the land, leaving its disposal, by auction or otherwise, for future consideration. He will, however, in such cases, cautiou the occupant against making improvements.
12. Tho Surveyor will in every case of ordinary conditional purchase, report on the occupation of the land by the applicant, and generally on the extent of improvement which has been effected by him; and in reporting as to residence, where the land has been measured prior to the date on which the conditional purchase was made, the form appended hereto, marked F , will be used, but not in other cases.
13. Conditional purchases under sections 38 to 43 of the Regulations, must of course adjoin the freehold or previous conditional purchase on which the applicant resides, or previous conditional purchases, and in the lattor cases the Surveyor will furnish a report in relation to the applicant's residence, and the improvementa, with their approximate value, on the previous conditional purchase or freehold.
14. In the case of country lands, of which class alone conditional purchases can be made, improvements of a less value than $£ 40$ will not be considered improvements under the Act, and will not be a bar to conditional purchase. Improvements of a greater value than $£ 40$ will not be a bar to the conditional purchase of the land by the improver himself.
15. By the titles of his plans, the Surveyor will shew the clause of the Act or Regulations under which the purchases are sought to be made, and he will be particular in giving the date on which the measurement was made, and in returning (as speedily after survey as practicable) the application in each case.
16. No advance will be made for measurements in those cases in which the Surveyor may fail to return the applications in forwarding the surveys.
17. As it is impossible to provide directions for every case which raay arise under the Regulatione, the Surveyor must be guided by the Regulations and his own judgment, with the opportunity of special reference to the Surveyor General, as to the course which he should follow in any cases not specially provided for ; but with the general intimation that where the conditionl purchase may seem to him to be objectionable, and no objection may exist to the sale of the land at auction, or otherwise under the Act, the measurement should be carried out in such form as would best suit the regulation under which the land might be sold.

## IMPROVED LANDS.

1. The areas of the lands to be measured in virtue of improvements will of course never exceed 320 acres, and will be governed rather by the extent of the improvements, and their value, and by the position of neighbouring improvements, if any, than by the area mentioned in the application.
2. The form of measurement where not within a town or village, or its suburbs, and not within gold fields, will be that prescribed by the instructions relating to the measurement of conditional purchase, except that in this case no modification of the dimensions therein stated may be made.
3. Within a town or village, or its suburbs, the measurement must of course, be in accordance with the general design, but may not embrace more than half an acre of town land, or two acres of suburban land, or land within gold fields, for each separate improvement, such as in a town, an inn and stable standing on different allotments; in a gold field, a house and garden; or at a station, a dwelling and woolshed.
4. Within gold fields, the measurement must be subject to the approval of the local Gold Commissioner, and must to a certain extent be arbitrary and irregular, depending for its form, mainly upon what the local Gold Commissioner, whom the Surveyor will consult, may consider it proper that the Government should alienate in the locality in question.
5. In transmitting his measurements, the Surveyor will make a clear report of the character and value of the improvements on the land, with any particulars as to occupation and ovenership which he may be able to obtain, or of any adverse claim of which he may be aware, and he will forward the application with the survey in each case.

ROADS.
Roads to be opened under the Act, 4 Wm. 4, No. 11.

1. The Surveyor will by an examination of the space lying between the points to be connected, make himself thoroughly acquainted with the Country through which the proposed road will pass; he will then proceed to survey the line which he may consider it expedient to open, and furnish the Surveyor General with the usual plan and a Book of Reference in the form attached hereto, marked G.
2. In selecting the line of road, in accordance of course with the provisions of section 2 of the Act, extracts from which as also copies of the 23rd and 26th sections are appended, the first consideration should be the convenience of that portion of the public by which the line will probably be used, and its suitability for traffic ; and the second, the least possible interference with, or injury to private property.
3. In pursuance of the latter consideration, the road should be carried, where practicable, along boundary lines of properties, the area being taken in equal proportions from each, the boundary line, where unfenced, forming the centre of the road, and where substantially fenced, the road being made to cross the boundary, to attain the object in view, without necessitating the removal of the fences.
4. It will be necessary to ascertain in the course of survey, the position of boundary lines of portions through which the road may pass, in order that the survey may be of use in the compilation of general maps; and boundaries, the position of which the Surveyor may not have been able to ascertain, should be shewn on the plan in dotted lines only.
5. The ordinary breadth for parish roads is one chain, but when the lands through which the road may be carried may be improved and of more than ordinary value, the breadth may be reduced to 75 , or even to 50 links ; explanations being afforded in each case of the reasons for adopting any specific width. It is not essential that a parish road should be of equal width throughout.
6. In order that it may be easily followed by persons desiring to examine it, and eventually by any other Surveyor who may be engaged in formally opening it, the road should be defined by the marking of trees, or fences, with the broad arrow, and where it can be done by the letter $\mathbf{R}$, and by stakes or lockspite, by which persons desiring hereafter to fence the roal may be able to place the fences in their proper positions. Stakes not less than 3 inches square should be inserted 18 inches into the ground at each bend of the road, and lockspits should be cut 10 links long on each side in the direction of the road. Where the road passes through Crown Lands, the marking should be in the centre of the road; where through Alienated Lands, the marking should be on one side of the road throughout, with occasional marks on the other side to shew the breadth.
7. The letter of transmission should embrace a report on the public requirement for the line of road, the probable amount of traftic, the natural obstacles to be surmounted, with a statement of the breadths, depths, and extent of watershed of any creeks to be crossed, and such other information as may be necessary in addition to that required by the form appended, marked $\mathbf{H}$.

## BRIDGES

## General Directions to be observed in the Selection of Sites for

 Bridges.1. Having proceeded to the apot at which, or in the neighbourhood of which it is considered desirable that a bridge should be erected, the first duty of the Surveyor will be the examination of the stream in the vicinity of the point where it is crossed by the road, the traffic on which renders the bridge necessary, for the purpose of ascertaining what apparently would be the best site for the proposed structure.
2. He will then make surveys and sections of the more eligible sites, and on the latter, he will shew the usual level of the water, and the height of ordinary and extraordinary floods, so far as he may be able to learn them from reliable sources.
3. In transmitting his plans and sections, the Surveyor will furnish a report embracing the following information, besides such other information as he may consider of value for the proper consideration of the matter :-
(1.) The nature of the bed and banks of the stream at the several sites of which sections may have been taken, and of the approaches thereto.
(2.) The ordinary character, rate of rising, and direction of the floods, whether they bring down much driftwood; if so, at what height of flood, it begins to come down in any considerable quantity.
(3.) Whether there are any indications of a scour, or denudation of the banks by the current in floods.
(4.) What is the available timber in the vicinity-of what size and what would be the probable cost of delivery at the site for round, hewn, and sawn stuff.
(5.) The nature and extent of the traffic.

## MARKING.

## Directions to be obberved in marking Building and Sububban Allotnents within Town Boundaries.

1. The building lines of streets, and the side lines of back entrances, are, where the land is not naturally clear, to be cleared to a width of not less than 3 feet, by the removal of all scrub and trees of a less diameter than 10 inches.
2. Should large trees stand in a building line, the usual horseshoe Surveyor's mark is to be cut upon the opposite sides of the tree, in the direction of the building line, and the precise position of that line is to be indicated by a cut not less than 9 inches long in each horseshoe mark. (See Diagram A)
3. Should a tree stand at the intersection of two building lines, the horseshoe marks, instead of being opposite, will, of course, be at right angles with each other, or in any other angle which the building lines may form, and the number of the section is to be cut or branded in the horseshoe, as hereafter directed with reference to marks on stakes. (Diafram B.)
4. The corners of sections are to be lockspitted to adepth of 9 inches, and a length of $G$ links, commencing at 2 links from the corner, and should rocks occupy the position of corners, lines of equal depth with the lockspits, and numbers as hereafter directed, are to be cut (where practicable) with a pick. The corners of allotments are to be lockspitted in a similiar manner, but for 4 , links only in length and 6 inches in depth. (Diagram C.)
5. At each section corner, excepting, of course, those that are marked by trees, $a$ stake is to be driven 18 inches into the ground (where practicable), and on a flat surface of the stake, the number of the section is to be cut or branded in Roman figures of 3 to 4 inches in height, or painted or marked by perforated tin or zinein ordinary figures. (Diagram D.)
6. At each allotment corner a stake is to be drivea 15 inches into the ground (where practicable), and on those on the street frontages, the numbers of allotments are to be marked as above, in figures of 2 inches in height. (Diagram E.)
7. The branding of both section and sllotment stakes may be done with a single branding iron, haring a face 2 inches in length by one quarter of an inch wide. The cutting may be done with a triangular gouge having a bent handle, and should not be less than a depth of $\frac{1}{5}$ of an inch into the wood of the tree, (Diagram F.)
8. In making the first surreys in any new town, in addition to the above marking which will obriously disappear with the occupation of the allotments, sound blocks of wood 2 feet in length and 6 inches square or in diameter, are to be sunk in the ground, 3 inches below the surface, in the kerb line ( 12 feet from the building line) of a principal street of the town, and at a distance of not less than 10 ohains apart, and so placed that blunt points to which they may be cat, or large nails which may be driven into them, will be precisely in the lerb lines of that street, and off two intersecting streets. These marks are intended to form a basis with which future surreys in the town may be connected. (Dimgram G.)

Directions to bi obseryed in marking Bothdaries of tand, measubed beyond the limits of Towas.
9. All boundary lines, where the country is not naturally clear, are to be cleared to a width of not less than 3 fect, by the remoral of all scrub and trees of a less diameter than 3 inches.
10. All trees upon boundary lines, or within 2 paces in thickly wooded country, and 4 paces in open forest country, are to be marked with the horseshoe mark which is to be cut into the wood of the tree on the opposite sides (but not directly opposite should the tree be small or weak), in the direction of the boundary line; and those trees which are actually in the line are to be marked, in addition, with smaller horseshoe marks above the others. (Diagram H.)
11. The corners of portions are, where a tree may stand on the corner, to be marked by four horseshoe marks, in the lines of the boundaries and their continuations; and broad arrows, not less than 4 inches long, are to be cut deep in the marks, on two sides where the boundaries of one portion only may meet the tree, on three sides where the boundaries of two portions may meet the tree, and on four sides where the boundaries of three or four portions may meet the tree. The horseshoe marks are invariably to face the directions in which the boundary lines run. (Diagram I.)
12. Should there be no tree at a corner, or on a line, the nearest large tree is to be marked by removing a portion of the bark from nearly half of the circumference of the tree on the side facing the stake, and cutting at least 1 inch deep into the wood of the tree the broad arrow and the parish number of all the portions joining at the stake. At the corner trenches are to be cut with a spade or pick, not less than 10 links in length and 8 inches in depth and width, but not approaching nearer than 1 foot to the corner stake which must be not less than 2 feet 6 inches long, and must be driven 18 inches into the ground, the general direction of the boundary will be as indicated. (Diagram J.)


## K



L

## M

Tree near Corner of Isolated Portion

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N
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13. In very open forest country or plain the boundaries are to be marked by lockspits of 20 links in length, at distances of 10 chains apart, and with a picket or short stake in the centre of each; and the corners by trenches, as above directed, but with a larger stake, cut flat on the top, and having a broad arrow cut on it.
14. Rocks which may be upon a boundary line are, wherever the character of the rock will admit of it, to be marked with a pick line; and where at a corner of a portion, with a broad arrow. (Diagram K.)
15. Where portions being measured form part of any regular series, for which numbers can be used as portions of a parish, the numbers of the portion or portions on or near the corners of which a tree may stand, are to be cut in the wood of the tree, after the bark has been removed, from a space at least one-third of the circumference, in a position facing the corner stake. In high series of numbers, where Roman figures would occupy an inconvenient space, ordinary figures may be used. Where Roman numbers extend above 100 , a horizontal line over the units and tens may be substituted for the C. (Diagram L.)
16. Where measurements are made in isolated localities, where no parish boundaries have been proposed, and no perfect series of numbers can be adopted, or used in descriptions for deeds, it is still necessary to the identification of the lands by purchasers, or by intending purchasers, that the boundary marks of different portions should be distinguished by numbers which may be introduced in the Sale Proclamations of the lands. With this object, the corners of portions in each. separate locality, or on any particular creek on which surveys may be made, are to be numbered in a series, which will extend to all measurements made in that locality in each year; and to these numbers the unit number of each year is to be prefixed, as per diagram, the numbers appearing, of course, at all the corners of the portions which they represent. It is of the greatest importance that no confusion should occur in this numbering, and the Surveyor will therefore exercise the greatest care and discretion in determining the boundaries for each seriea. (Diagram M.)

The following Directions will be acted on in carbiting out Surteys other than those of Lands for Sate.
17. Permanent marks, somewhat similiar in character to those used in the marking of corners in country portions, are to be made at points distant not more than one mile apart, and their positions, which are to be determined principally by the passing or intersection of prominent natural features, or by the probable junction of future surveys following those features, are to be shewn on the plan.
18. The marks are to be cut one inch deep in the wood of a tree from which the bark has been removed for about one-half of its circumference, cara being taken that the sap vessels are cut in order to prevent the bark again covering the tree, and in any case in which it may be necessary to use $n$ stake also, the marking (which is to face the stake), is to be made as per diagram marked N, the letter being the next in alphabetical order, and the figures representing the last two for the year. In the-absence of timber or rocks, the marks are to be cut in posts, to be placed in the centre of mounds.
19. In surveys of roads, where the miles are marked on trees whose exact positions are shewn on the map, this system need not be fully carried out, inasmuch as the mile trees will be considered sufficient data wherewith to conneet, when within 20 chains of any important feature;-but the terminations of all surveys, branch surveys, or plain traverses, are to be fully marked in the manner explained, to facilitate their identification, or to admit of the work being taken up in carrying on future surveys.
20. Where possible, surveys for the connection of isolated measurements are to follow leading features, and a departure from this instruction will, in the absence of a satisfactory explanation, lead to the return of the plan for amendment, at the cost of the Surveyor.
21. In selecting features to be followed in connection or feature surveys, preference is to be given, firstly, to creeks or rivers, secondly ; to divisions of waters or ranges ; and lastly, to roads or tracts, which, not being of a permanent character, add less to the geography of the Country.

NoTE:-In the event of any instances of the destruction of Surveyor's marks coming under his olservation, the Surveyor will furnish the Chief Coustable of the Police District in which the land may be situated, with such information as will enable bim to prosecute the offenders under the Act of Council, 16 Vietoris, No. 15.

## DRAWING AND CORRESPONDENCE.

General Directions to be onserved in Drawing Plans of Lands mbabured for Sale, \&c.
Paper on which Plans are to be drawn.

1. For convenience in transmission and record, plans should not be drawn on larger paper than is necessary to contain the work, and foolscap paper (mounted on linen when necessary,) should invariably be used when the work can conveniently be placed within it. Plans exceeding 8 inches in width, should not be folded for
convenience in transmitting them through the post, but should be rolled on straight rollers or otherwise protected. The Surveyor will be required to furnish a duplicate in any case in which a plan may be damaged through want of proper care in forwarding it.

## Position of Plans.

2. Unless there be a sufficient reason for a contrary course, plans should be plotted, and made to read with the north upwards.
North point.
3. The magnetic north should be carefully placed on every plan, and where the survey represented is of any considerable extent, the variation of the magnetic from the true meridian, should be stated.

> Scale.
4. On plans of any extent the scale should be drawn at the time when the plan is plotted, as it will thus be affected equally with the remainder of the plan, by expansion or contraction of the paper; the scale of the plan should, of course, in every instance, be stated.

## Scales of Plans. <br> Of Town Allotments.

5. Plans of town allotments are usually to be plotted on a scale of 4 chains to 1 inch, but in cases where the allotments may be so small as to render representation on that scale indistinct, larger scales may be used at discretion, such as 2 chains or 1 chain to 1 inch. Where the allotments are to be sold by the foot frontage, the scale should be in feet.

Of Suburban Allotments.
6. Plans of suburban allotments are usually to be plotted on a scale of 8 chains to 1 inch, but the scale may be varied to 4 chains to 1 inch, with the size of the allotments, and at the discretion of the Surveyor.

> Of Country Portions.
7. Plans of country portions are usually to be plotted on a acale of 20 chains to 1 inch, but the scale may be varied to 18 chains to 1 inch, where the size of the portions may seem to render that scale necessary.

## Traverse lines.

8. Traverse lines of survey are to be shewn in pink or blue lines, and the bearings, or angles, and lengths, are either to be introduced in pink or blue on the lines, or stated in a tabular form on the plan, with reference, by numbers, to the lines. Surveys by theodilite are to be shewn in pink, and by circumferentor in blue.
9. Vermilion is not to be used by Surveyors on their plans, as red of this description is used in the OfGee for corrections and additions.

## Bearings, \&c., and connecting lines.

10. Bearings to, and angles formed by distant or remarkable points, opposite sides of rivers, \&c., and connecting lines for commencing points of descriptions, are to be shewn in pink or blue dotted lines; with the bearings or angles, and lengths (when ascertained), stated.

## Physical features.

11. Lines of coast, rivers, and creeks, \&c., are to be shewn, where the position is determined with precision, by black lines, and where otherwise by broken black lines; both sides of rivers are to be shewn, and an arrow inserted to shew the direction in which the waters flow.
12. Hills and undulations of the ground are to be carefully represented either with the brush or the pen, and if with the latter, either in the vertical or horizontal style; they are not to be confined to the lands measured, but to be represented on either side of the lines of survey, so far as they can be sketched in with any degree of accuracy.
13. The boundaries of swamps, forests, plains, lands liable to inundations, \&c., are also to be represented, and the position and extent of any artificial improvements, such as buildings, fences, cultivation, \&ce., which may exist on, or adjacent to lands being measured, are to be clearly shewn, and their character and approximate value stated in a note.

## Roads.

14. Existing roads and tracks are to be represented by brown lines, and where reserved, are to have reserved road 1 chain (or $\frac{1}{3}$ chain) wide, written along their course.

## Old boundaries.

15. Bourdaries of previously measured or alienated lands and allotments, and opposite sides of streets (in towns), are to be shewn as they exist, either as Surveyor's marked lines, and especially corner trees and their species, or walls, Pences, \&e.; discrepancies from the new survey, being clearly shewn, and, where considerable, explained so far as practicable in a note on the plan. The names of the purchasers of adjoining portions with their areas are to be shewn in black ink.

Names

## Names of features and localities.

16. All known names of rivers, creeks, hills, lakes, localities, \&c.; should be shewn on plans, care being taken to ascertain and adhere to the correct orthography.

## Character of Lands.

17. The geological and minerological character of lands measured, their suitability, in towns, to building, or cultivation purposes-and in country portions to agricultural or pastoral occupation-the supply of water, and indigenous produce, as timber, grass, \&c., are to be shewn on the plan, either by writing across the portiont, or in a note. Any circumstances such as proximity to towns, or to main thoroughfares, which may give increased value to the lands, should also be stated in the note.

## Access by water carriage.

18. Where lands are situated on or near navigable rivers or creeks, the fact should be stated on the plan, or in the note, as should also the extent to, and the class of vessels by which the stream may be navigated.

## Boundaries of portions.

19. Boundaries of portions and allotments should be shewn by black lines, whether dividing them from previous measurements, from unmeasured lands, or from roads, and the bearings or angles and lengths of all boundary lines should be clearly shewn upon them.
20. The portions represented by a plan are to be edged and tinted, the edging to shew clearly and distinctly the area for computation, and to exclude the beds of creeks, \&c., which it may be necessary to reserve from measurement.

Areas.
21. The area of each portion is to be carefully calculated, and as far as possible, without having recourse to scale measurements, and is to be shown within the portion, but broken quantities are to be omitted in the proportions to the total areas set forth in the subjoined table:-

|  |  |  |
| :---: | :---: | :---: |
| More than 1 rood and not more than 2 More than 2 acres and not more than |  |  |
|  |  |  |
| More than 10 acres and not more than 30 acres.. | (If bounded |  |
|  |  |  |
|  | s | Le |
| More than 30 acres and not more than640 acres | bou |  |
|  | If bounded partially by rivers |  |
|  |  | Less thein 1 acre. |
|  |  |  |

## Numbers.

22. The numbers will represent either numbere of town sections, and allotments, country portions in a parish, or those marked in accordance with the paragraph 16 of the directions for marking.

## Tables of Corners.

28. The reference on plan to the marking of corners will, in the case of town allotments, be merely s. statement that they have been marked in accordance with the directions for marking, excepting where a rock or tree may form a corner, when its existence may be shewn on the plan.

The reference to the marking of country portions is to be strictly in the form of the annexed table, the letter referring to the corner being of course varied as circumstances may require.

| Cornizr. | Bearing, | From | Lines. | Number on Trebe. |
| :---: | :---: | :---: | :---: | :---: |
| A | North | Bloodwood | 60 | $\mathbf{X V}, \mathbf{X V I}$. |
| B | W. $4^{\circ} 30^{\prime} 8$. | Ironbark - |  | XVII. |
| C |  | No tree near |  |  |
| D | E. $18^{\circ} 16^{\prime} \mathrm{N}$. | Swamp oak | 24 | XVII. |
| E* |  | Rock |  | Broad arrow. |

## Title to plan.

24. The titles to plans are to be written without abbreviations, to explain clearly what the plan is intended to represent, indicating the town, parish, and county, if within any or all of these ; the numbers of allotments and portions measured, and their general or particular locality, where not in a town.
25. The word "lot," which is specially applied to lots of sale, is not in any case to be used in the Surveyor's plan; "allotment" is to be applied to town or suburban allotments in sections, and "portion" to other suburban and country portions.
26. The words "applied for by" with the name of the applicant, or " measured for sale," if measured to meet general demand, should be written under the title, and not on the portion itself.
27. Where measurements are made for special purposes; such as pre-emptive purchase, sites for Churches, Schools, \&e., the facts should be clearly stated under the title, thus - "Applied for as a pre-emptive purchase by
"in right of his licensed (or leased) run of
"District." "Applied for as sites for Church of England church, school, and parsonage."

## Notes on plan.

28. A note should be inserted on each plan, stating whether the theodolite or circumferentor, or both, have been used in the survey; also that the portions measured are marked in accordance with regulations; and where the unit number of the year is marked on the trees, the circumstance should be stated.
29. The Surveyor's name and date of transmission should in every case be attached to his plan and to the envelope or cover.
30. The above instructions are to be strictly adhered to, and the omission of any of the particulars required will lead to the return of the plan for amendment.

General Directions for Drawing Plans of Roads surveyed with the object of being opened as Htgh Roads or Partsh Roads, under tiel act of Council, 4 Wm. IV, No. 11.

1. The drawing should be placed on the paper longitudinally in the direction of the road, so as to be confined to the smallest necessary space, and the plan be made to read, as far as practicable, with the north upwards.
2. Where the road is under 12 miles in length, measured from one extreme point to the other, in a direct line, the plan is to be plotted on a scale of 20 chains, and when of greater length, on a scale of 40 chains to 1 inch, but in the latter case, and possibly occasionally in the former, diagram plottings on a scale of 10 chains to 1 inch are to be added, on the plan, of any portions of the road of which the minute bends, or crossings of streams, or the fences, buildings, de., in the vicinity, cannot be clearly represented on the smaller scale.
3. The conformations of the ground are to be carefully and clearly represented.
4. The traverse line is to be shown in pink or blue on the plan, and the bearings and lengths inserted either on the lines, or in a table, in black ink. All fencee, buildings, dmains, \&c., in the vicinity of the line, are to be shown on the plan, together with all the information mecessary to the completion of a Book of Reference of the prescribed form.
5. Existing roads and tracks are to be shown by brown lines. and the line proposed to be opened, by a pink band the width of the road, according to scale, with the additions on the large scale plans and diagrams of black lines on either side; and the proposed breadth or breadths, when that of different portions may vary, are to be stated in a note, with comnecting reference, to the plan in the latter case.
6. Faint blue lines directed to the cardinal points, and crossing each other at intervals of about six inches throughout the plan, or a line forming a stated angle with the north, and extending the entire length of the paper, together with the scales should be laid down on the paper at the time of plotting the survey, and in extensive surveys, where the magnetic variation has been ascertained, it should be stated.
7. The Title of the Plan should simply be, Plan of the Road from
with the words underneath in small printing, "proposed to be opened as a Parish (or High) Road, under the Act of Council, 4 Wm. IV, No. 11. ."
8. The Surveyor's name, with date of transmission, \&c., should, of course, be shewn on the plan.
9. The plan being for exhibition to the Governor-in-Chief and Executive Council, must be neatly and clearly drawn.

## DIRECTIONS FOR CORRESPONDENCE.

1. All letters to be written on whole sheets of foolscap paper, with a third margin, in a distinct hand, and with black ink.
2. Each letter to be confined to one subject, and all letters to be numbered consecutively from 1 upwards.
3. The suibject to be written briefly at the head of each letter thus,-

Mr. Licensed Surveyor
$\begin{aligned} & \text { plan of portion of land at } \\ & \text { on road from }\end{aligned} \quad \begin{gathered}\text { to the Surveyor General, transmitting } \\ \text { applied for by } \\ \text {; or reporting }\end{gathered}$
as mas be)
a clear space of one inch being left above it, for the record numbers and date of receipt.
4. The number and date of the letter beplied to, with the marginal numBER, to be invariably given.
5. All letters to be forwarded under envelope, in order that they may not be damaged in opening.
6. All original papers forwarded with instructions, to be returned with survey or report, as the case may be.

## ACCOUNTS, \&c.

1. All moneys will be paid into the Banks of the City to the credit of the Surveyor to whom they may be due by the Government, without the recognition of any private monetary arrangements.
2. Great care must be exercised in the preparation of accounts, which are to be furnished in duplicate. and which, under a Regulation published in 1849, cannot be received by the Auditor General if vitiated by erasures or interlineations. It will therefore be necessary when inaccuracies are detected to return the Accounts, in order that they may be prepared anew, and as this will lead to considerable delay in the payment of the money which may be due, the Surveyor will be at liberty, in any case in which he may be in doubt, to write in pencil the information required in the columns headed "Conterminous or Separate," and "Amount," and leave the completion of the Account to be effected in the Office.
3. To prevent delays in payment of accounts and balances, in cases in which advances have been made, the Surveyor, who may not be unde the supervision of a District Surveyor, will render his accounts monthly, unless the amount may be less than $£ 20$, in which case the accounts may be deferred until the termination of a second month.
4. In every case in which he may forward a plan of a survey through a District Surveyor he will also forward through him the account of charge made for such survey, in order that an opinion may be expressed by the District Surveyor as to the reasonableness of the charge; and also that he may without delay notify to me the receipt of the surveys, and thus enable me at once to pay the usual advance.
5. In all accounts for ordinary surveys the area of each portion should be stated as also the nurabers and dates of letters of instruction, also the dates of transmission.
6. Accounts for surveys of a special character, which will be prepared in the form appended marked $K$, the Surveyor will furnish separately and with the surveys, and he will transmit at the same time the customary form of Advance Account properly flled up and signed; he will also forward separately his accounts for road surveys.
7. When rendering an account for a special survey, the Surveyor will state definitely and explicitly the description of duty performed, shewing clearly the number of days occupied in the examination, survey, \&c., for the field portion-and in the Office, in plotting, drawing, \&c. ; this may also be noted on the plan itself. The extent of linear measurement, when of that character, must in every case be stated.
8. The undermentioned fees will be paid for reporting as to residence by a conditional purchaser, on the land which may have been selected by him at a period subsequent to the survey, viz. :-

Twenty shillings for each report made within six months of date of instructions in cases of isolated portions, and
Ten shillings for each report in cases not isolated-that is within two miles of any other case reported on or on which the Surveyor has been instructed to report-or within that distance of any measurement made by him, while he shall have been so instructed.
9. It will be the duty of the Surveyor to bring under notice all cases of remote purchases, which he cannot report on in due time; and special instructions will be issued, and a reasonable special remuneration allowed.
10. In making a charge for reporting as to residence by conditional purchasers on lands selected by them, it will be necessary for the Surveyor to shew in the account which he will transmit with the reports, the distance between each selection when isolated, and the duty performed under the conditions stated in the foregoing instructions.
11. The reports will be written in full, without abbreviations.

[^0]
## APPENDIX.

A.
 to be subject to the approval of Subyeyor Gererad.

1 Theodolite, not less than 4 inches in diameter.
1 Circumferentor, " $\quad$ "
1 Chain, to be kept as a standard, and never used in survey.
2 or more chains for general use.

## B.

Scade of Fees Patd by the Government to Licensed' Subveyors for there Subvey of Portions of Land and for Liniear Measuremgent.


Nors.-All linear measurements to be paid for at the rate of $\boldsymbol{£ 2} 2$ per mile. Where there are more portions than one and conterminous, the first portion is to be charged for as if it were a single portion.

Portions separated by roads or by rivers, gullies, or creeks, of such a width as to render a traverse of each side necessary, will not be considered as conterminous.
c.

186 , of Instructions unacted on, in the with Statements of with statements of


To
District Surveyor.
D.
D.

The following proportions of Area are to be preserved, in the allotting of space in a Cemetery to the various Denominations.

E.

DESIGNS FOR GENERAL CEMETERY.


Notz.-One of the above Designs may in general be adopted in laying out Cemeteries, but should be modified when required by the formation of the ground or peculiarities of access.


[^0]:    Note.-For convenience in recording future circulars, blank leaves have been left to which they can be attached.

    Printed forms in use will be supplied on application, and the want of forms will not be accepted as an excuse for not furnishing any return or imformation which may be required.

