

Survey Office,
Department of Public Lands,
Brisbane, 14th March, 1907.

MEMORANDUM

To Mr. _____ Surveyor _____

The Hon. the Secretary for Public Lands, having recently approved of certain amendments of and additions to the "Rules and Directions for the Guidance of Surveyors," these and all previous amendments and additions, which are still in force, have been embodied in the Circular forwarded herewith for your information and use. Such of the former alterations as are not reprinted have been cancelled, and are now no longer in force.

Your attention is specially directed to the following :—

- (i.) The table of statutory maximum areas (Clause 76).
- (ii.) The directions, added to Clause 100, as to the location of new roads in accordance with the provisions of Section 24 of "*The Land Acts Amendment Act of 1905.*"
- (iii.) The conditions under which one-half the marked-line rates will be paid for the survey of the opposite sides of roads—now more clearly defined and amended in Clauses 130 and 241.
- (iv.) The substitution of Counties and Parishes for Land Agents' Districts, &c., in the schedule (Clause 236A).
- (v.) The conditions under which payment will be made for intersections with surveyed lines, not being one of the lines of the survey in course of execution—(Clause 247A).
- (vi.) Classification of country based on conformation (Clause 248).
- (vii.) Increases in the amounts payable as additional allowances. The schedule in Clause 248 has been put into a tabulated form, so that the amounts payable for survey work under the varying conditions of conformation and vegetation may be more readily determined.
- (viii.) An amendment in the method of charging additional allowances (Clause 248). Instead of an additional allowance being a percentage on the base rate of a surveyed line, as heretofore, it is now provided that such additional allowance shall be expressed in terms of chains and links as a fractional part of the line or lines surveyed and added to the actual measured chainage, the sum being paid for at the base rate per mile.

New voucher forms will be issued at an early date, but in the meantime the forms now in use can be adapted to the improved method of charging, of which the following example will serve as an illustration :—

The marking out of two portions, parish of Gladfield, involved the survey of 276 chains 59 links and 49 chains opposite side of road payable at half rates, charged for as follows :—

	ADDITIONAL ALLOWANCE.			TOTAL LENGTH, AT 45s. PER MILE.	
	Rate—	On—		Chains.	Links.
		Chains.	Links.		
Total length surveyed	...	...	...	276	59
Opposite side of dividing road	half	49	00	24	50
Very thickly and heavily timbered forest	$\frac{1}{2}$	55	76	13	94
Very thickly and heavily timbered forest, rough and broken	$\frac{1}{4}$	35	18	11	73
Dense vine scrub, rough and broken...	$1\frac{1}{2}$	20	84	26	05
Dense vine scrub, extremely rugged	$1\frac{1}{2}$	37	56	56	34
Total length chargeable	...	...	...	409	15

At 45s. per mile = £11 10s. 2d. (corners, &c., in addition).

Two copies of the Circular are enclosed, so that one may be kept intact for easy reference, and the other used to substitute the amended or cancelled clauses in your copy of the "Rules and Directions."

ALLAN A. SPOWERS,
Chief Surveyor.

Survey Office,
Department of Public Lands,
Brisbane, 14th March, 1907.

CIRCULAR RE ADDITIONS TO AND AMENDMENTS OF THE RULES AND DIRECTIONS FOR THE GUIDANCE OF SURVEYORS.

Clause 36.—The provisions of this clause apply only to localities where the county arbitrary meridian has not been determined.

Clause 39.—Original clause cancelled by the following:—

The arbitrary initial meridian of the county (making allowance, where necessary, for convergence) is to be adopted as the datum for isolated surveys. For details, see clauses 162 to 164.

Clause 43.—Add: Wherever, in such country, a boundary line intersects an existing fence, the intersection shall be marked by the insertion of a peg with lockspits on the line of survey.

Clause 64.—Original clause cancelled by the following:—

An esplanade, not less than 150 links in width and providing a road, must, wherever practicable, be reserved above high-water mark, along the sea coast, navigable rivers and creeks. The esplanade is to be considered as the boundary of the portion, and surveyed and marked as such. When an esplanade is impracticable, the boundaries along salt-water frontages should still be by right lines, surveyed and marked. Boundaries of portions fronting mud flats and shallow salt-water rivers and creeks with badly defined edges should be by straight lines, the lengths and bearings of which should be recorded on the plan, if not actually marked on the ground.

Clause 76.—Clause amended to agree with conditions relating to maximum area as now existing, as follows:—

In surveying farms, care should be taken not to exceed the maximum net area fixed by the Acts and Regulations. The area, either as one selection or as the aggregate of two or more selections held at the same time by any one selector, may not exceed that hereunder set forth with respect to each mode of selection:—

Mode of Selection.	Area.	Act.	Section.
	Acres.		
Grazing or grazing homestead	60,000*	{ A B	90A 30
Grazing, forming part of a group	4,000	E	13
Grazing in conjunction with an agricultural homestead	640	A	145
Scrub	10,000	A	80 (4)
Prickly Pear	5,000†	{ A B	80 (6) 50 (2)
Prickly Pear Bonus	2,560	C	2
Prickly Pear, under D, as amended by E	2,500	E	43 (2)
Unconditional	1,280	A	80 (5)
Agricultural	1,280	A	80 (1)
Agricultural Homestead (according to purchasing price) {	160 320 640	{ A A	80 (2) 141
Agricultural Homestead—Special	320‡	D	2
Agricultural Homestead—in conjunction with previous grants	320	A	142
Country Portion for Auction	5,120	{ A B	177 52 (2)

- A.—“The Land Act, 1897.”
- B.—“The Land Act, 1902.”
- C.—“The Prickly Pear Selections Act of 1901.”
- D.—“The Special Agricultural Selections Act of 1901.”
- E.—“The Land Acts Amendment Act of 1905.”

* Area further limited by the amount of rent paid—the total must not exceed £200. Land is not to be opened for selection in areas exceeding 20,000 acres each, except on the special recommendation of the Land Court.

† Scrub Selections converted into Prickly Pear Selections may exceed 5,000 acres (A, section 162c; B, section 50 (6).)

‡ With an additional 10 acres in the Agricultural Township (D, section 3).

Clause 100.—Section 24 of “*The Land Acts Amendment Act of 1905*” is as follows:—

“In the surveying of roads through Crown lands a gradient of one foot in fourteen feet shall be the maximum gradient allowed, except in any special case where the Minister, after due inquiry, is satisfied that it is not reasonably practicable to secure such a gradient, and certifies accordingly.”

It is obvious that in carrying out the provisions of this section greater care and judgment than have been exercised in the past will be necessary in the selection and location of roads. To assist in this object and to establish uniformity of practice, the following directions are to be added to those already in force:—

In future, roads surveyed or mapped out on Crown lands must be so located that—(a) the natural profile of the roadway does not exceed a gradient of 1 in 14; or (b) the proposed roadway may be improved at a reasonable cost, so that, when formed, the gradients will not exceed 1 in 14.

In cases where it is considered undesirable or where it is impossible to provide such a roadway at reasonable cost, the circumstances should be carefully considered, the most suitable route selected, and information regarding the following particulars embodied in a report to the Chief Surveyor:—

1. The location and objective of the proposed road.
2. A general description of the country traversed by the road.
3. Probable nature and volume of traffic.
4. The extent and nature of the surveyor's inspection of the country along and adjacent to the route of the road.
5. Why a gradient of 1 in 14 cannot reasonably be obtained.
6. The gradients recommended.

As failure to locate the best and most economical route might entail the needless expenditure of large sums of money in construction work, it is imperative that a thorough inspection of the country in the locality be made, and the time spent in the necessary reconnaissance may be charged for as inspection (*see* Clauses 103 and 105).

The extent of the preliminary inspection will be governed by the nature of the country; but in all cases it should be sufficient to discover the best route. The aneroid barometer will be found very useful in the preliminary inspection and in determining the relative heights of “saddles” or suitable crossing places in ranges. To use the aneroid to the best advantage, it is desirable to have a second instrument, to be read at stated intervals, in the camp, so that the diurnal range may be noted and allowed for in the reduction of heights.

The grading of the road should be carried out with the clinometer, and when the route has been finally selected it may be traversed with the compass and chain or theodolite and chain, as provided for in Clauses 103 and 104.

In contouring spurs, care should be taken to select natural facilities and least possible side slopes. Continuous even gradients should be avoided, and short, fairly level stretches of road provided as resting places for teams.

In dealing with lands either by actual or preliminary survey, where tracks with gradients exceeding the statutory maximum are in use, it may be necessary to provide for both present and future requirements by the reservation of the tracks and by the survey of the routes which will ultimately be adopted. (*See* Clause 108.)

Clause 101.—Amended to read as follows:—

Practicable road access should be provided to each portion, except in the case of two or more portions held by the same owner.

Clause 102.—Cancel the last sentence, and substitute—

As a general rule, all necessary roads are to be surveyed, and the practice of reserving areas for road purposes is to be discontinued, except in the case of tropical jungle, where reservations for future possible requirements may be made.

Clause 122.—Add the following subclause:—

(*d*) In country infested by noxious weeds the width of roads should always be reduced to the smallest limits the circumstances of each case permit, so as to avoid imposing upon the local authority unnecessarily heavy expense in keeping such roads clear. (*See Clause 106.*)

Clause 125.—Original clause cancelled by the following:—

In grazing areas, main stock routes must be surveyed on both sides, but roads in general are to be dealt with in the same manner as those in agricultural areas. (*See Clause 127.*)

Clause 127.—Original clause cancelled by the following:—

All roads exceeding three chains in width, whether intersecting or forming boundaries of portions, are, unless otherwise directed, to be aligned, measured, and marked on both sides.

All roads, not wider than three chains and separating portions under survey at the same time, are to be dealt with as directed in Clause 130.

Unless otherwise directed, all roads not wider than three chains intersecting portions are to be aligned, measured, and marked on one side only, the opposite side being indicated as directed in Clause 128. When such roads are to be surveyed on both sides, they shall be dealt with as directed in Clause 130.

Clause 130.—Original clause cancelled by the following:—

(*a*) Where portions on both sides of a road not wider than three chains are under survey at the same time, the separating road, if passing over—

- (i.) Ordinary open forest country, level or undulating;
- (ii.) Ordinary thickly timbered forest country, level or undulating; or
- (iii.) Ordinary open forest country, slightly broken by ridges;

shall be aligned, measured, and marked on one side. The opposite side is to be measured and marked, and the notes of such measurement entered in the field book and shown on the plan; but, unless necessary for some local reason, it is not imperative to align with the theodolite such opposite side between the secant-posts. Payment for such opposite side shall, in accordance with Clause 241, be at half the marked-line rate.

(*b*) But if such road pass over—

- (iv.) Very thickly or heavily timbered forest country; or
- (v.) Ordinary open forest country, rough and broken or extremely rugged; or
- (vi.) Country covered with any of the various dense bushes, undergrowths, or scrubs detailed in Clause 248 (*d*) and (*f*);

the road may be surveyed as specified in Clause 130 (*a*), but both sides will be paid for at full rates.

Clauses 145, 146.—The necessity for these clauses does not now exist, and they have been cancelled since 1st March, 1901.

Clause 149.—Add the following:—

The bearings and distances from old reference trees are to be observed and shown.

Cluses 162, 163, 164 have been cancelled since 1st March, 1900, by the following:—

Clause 162.—At the same time it must be apparent to every surveyor that the perpetuation of so variable a datum of angular measurement is inadvisable, and it has therefore been decided to adopt an arbitrary initial meridian as the datum of survey work in each county of the State. The position of the initial point and the deviation of the adopted meridian from the true north at that point will be decided by the Department, and will be noted in the instructions, &c., issued to surveyors.

Clause 162A.—The meridians of survey work effected in each county are required to be maintained parallel to the initial meridian of the county—that is to say, the meridians of survey work in a county will not converge, but all north and south lines will be parallel to and all east and west lines will be at right angles to the initial arbitrary meridian.

Clause 163.—Where survey operations are extensive—dealing with large areas or groups of portions not connected with the initial meridian—it is required that the work be preceded by the astronomical determination of the true meridian. From this should be laid off the adopted deviation of the arbitrary initial meridian of the county, increased or diminished by the computed correction for convergence, so that the parallelism referred to in *Clause 162A* may be maintained.

*Clause 164.**—Where surveys effected on the arbitrary meridians in adjoining counties meet on the common boundary of those counties, connections must be made and the difference of meridians carefully recorded in the field books and on the plans. The convergence from each of the initial points to the point of junction must be computed and applied to the bearings of such line or lines as will enable a comparison of meridians to be made and form a check on the work.†

Clause 169.—Delete the words “and correcting for convergence” from the second line.

Clause 233.—(e) Add: Report and Valuation of Country Lands (Appendix iii.) to be supplied under special instructions only.

(g) Add: No advance payment, however, can be made on any work until the three copies of voucher have been received.

Clause 236.—Original clause cancelled, the following to be substituted:—

Except when otherwise directed, payment for survey work shall be by linear measurement according to the subjoined schedule. The rates prescribed for each class have been adjusted to include compensation for economic and climatic disabilities—

Class.	1.	2.	3.	4.	5.	6.	7.	8.†
	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	<i>s. d.</i>	£
Marked-line rate, per mile	40 0	41 8	43 4	45 0	50 0	51 8	80 0	10
Traverse „ „	33 4	35 0	36 8	38 4	41 8	45 0	66 8	10
Compass „ „	20 0	20 0	20 0	20 0	20 0	25 0	*	...

* By special arrangement.

† Dense tropical jungle.

* The necessity for the provisions of original *Clause 164* does not now exist.

† NOTE.—The following rules should be adopted with regard to plans of surveys that extend from one county into another:—

(a) *In the case of surveys of portions.*—Separate plans of the portions in each county drawn to the arbitrary meridian of that county, and showing the difference in meridians between the two counties, must be supplied.

(b) *In the case of road or feature surveys.*—If a break can be conveniently made at the county boundary, furnish separate plans, as in (a). If no break can be made, the plan must be drawn to the meridian of the county in which the datum of the survey is located, and this meridian must be maintained throughout. But a general note, relating to the lines in the second county, and stating the difference in meridian between the two counties, may be made on the plan.

N.B.—In no case should the several parts of any one plan be drawn to several different meridians, as this at once leads to confusion and error.

Clause 236A.—Each county of the State has been assigned to one of the classes in Clause 236, as shown in the Schedule herounder, and the rates of payment specified for that class shall be the "base rates" payable for work performed in such county :—

County.	Class.	County.	Class.	County.	Class.	County.	Class.
ABBOTSFORD	3	Derby	1	Liebig	2	SALISBURY	5
Aberdeen	2	Diamantina	3	Livingstone	2	Sandringham...	4
Albany	2	Dickson	2	Lukin	7, 8	Savannah	3
Albion	3	Douglas	2	Lynd	6	Saxby	3
Allison	3	Drake	5	Lyndhurst	3	Sellheim	5
Amaroo	6	Drummond	2	Lytton	1	Selwyn	6
Archer	6	Dublin	2			Shelburne	7, 8
Argylla	6	Dulhunty	1	MACKENZIE	2	Sidmouth	7, 8
Aubigny	1	Dumbar	7, 8	Malwa	6	Somerset	7, 8
Auburn	1	Durham	3	Maneroo	2	Stanley	7, 8
Ayrshire	2	Durrie	6	Manfred	3	Stokes	6
		Dutton	2	Manuka	2	Strathleven	6
BALURGA	6			Maramie	6	Strathmore	6
Bando	1			Maranoa	1	Sturt	6
Banks	(a)	EDDINGTON	3	March	(g)	Suroy	6
Barcoo	2	Einasleigh	6	Marga	6		
Bauhinta	2	Elderslie	3	Marsh	1	TALAWANTA	6
Beaconsfield	6	Elgin	1	Mayne	3	Talbot	2
Beaufort	2	Elphinstone	6	McKinlay	2	Taldora	3
Bell	2	Esmeralda	6	Melville	7, 8	Tambo	1
Belmore	1	Etheridge	6	Merivale	(h)	Tanbar	3
Belyando	2	Eurynye	6	Merlin	6	Tate	6
Bentinck	(b)	Evora	1	Mexico	1	Tewinga	6
Binburie	3	Eyre	6	Mitchell	2	Thunda	6
Bolwarra	6			Monkira	6	Tingarra	2
Boondooma	2	FARRAR	3	Morstone	6	Titheroo	2
Bowen	2	Ferguson	2	Mosman	6	Toko	6
Brahe	6	Fermoy	2	Mowarra	3	Tomoo	1
Brighton	3	Fielding	6	Mueller	6	Toorak	3
Buckingham	6	Fitzroy	2	Munga	1	Torres	7, 8
Buckland	2	Flinders	2	Mungallala	1	Towerhill	2
Bulgroo	2	Fortescue	2	Murchison	2		
Buller	6	Foxton	5	Murray	5	UANDA	2
Bulloo	2	Franklin	7, 8	Musgrave	2	Ularunda	1
Bulwer	1	Fraser	2			Undilla	6
Bundara	1			NARES	7, 8		
Burarie	3			Nash	6	VERGEMONT	2
Burenda	1	GAYUNDAH	2	Nobino	1	Victor	3
Burke	6	Georgina	6	Newcastle	2		
Burrandilla	1	Gilbert	6	Nicholson	6	WAIRUNA	6
Byerley	6	Gladstone	6	Nickavilla	2	Waldegrave	1
		Glanworth	1	Nive	1	Walker	2
CAIRNS	2	Glenogle	6	Nooruna	1	Walsh	6
Cameron	3	Glenora	3	Norley	2	Warbreccan	3
Canning	5	Gordon	2	Norman	7, 8	Warburton	6
Canobie	6	Gould	6	Numalla	2	Ward	5
Cardwell	(c)	Gowan	2	Nyama	6	Warner	6
Carlisle	(d)	Granada	6			Warrong	1
Camarvon	1	Gregory	6	OAKLANDS	6	Wayerley	6
Carpentaria	7, 8	Grey	3	O'Connell	6	Weipa	7, 8
Carrandotta	6	Griffith	5	Ondooroo	2	Wellesley	7, 8
Carruthers	3	Grosvenor	4	Orrey	1	Wellington	(e)
Cassillis	1	Gunnawarra	6	PAKINGTON	2	Wentworth	7, 8
Cavendish	5			Palmer	1	Weramo	6
Chataway	2	HADDON	3	Palmerston	2	Weringa	6
Chatsworth	(f)	Hamilton	6	Paluma	2	Westgrove	2
Cholmsford	6	Hann	7, 8	Parker	7, 8	Weymouth	7, 8
Chesterton	1	Herbert	5	Paroo	1	Wicklow	2
Cheviot	2	Hodgkinson	6	Pelham	2	Wilkie Gray	6
Chudleigh	3	Howatt	7, 8	Pender	3	Wills	6
Churchill	5	Humboldt	2	Pera	7, 8	Wilson	3
Clarke	6	Hunneburn	2	Percy	3	Windeyer	1
Claude	2			Philp	5	Windsor	6
Clermont	2	IFFLEY	6	Pitroo	3	Windula	3
Clinton	2	JARDINE	7, 8	Piturie	6	Wodehouse	4
Clive	(c)			Plantagenot	2	Wokingham	3
Coen	6	KALKAH	6	Porchester	7, 8	Wolsley	2
Cogoon	1	Kamileroi	6	Portland	1	Wondoola	6
Conbar	2	Kendall	7, 8	Pring	1	Wongalee	2
Consuelo	2	Kennedy	1	RAGLAN	2	Wonomo	6
Cook	2	Killarney	2	Rawbelle	2	Woodstock	3
Cooper	3	Kimberley	2	Richmond	2	Wooroolah	1
Coorajah	2	King	6	Rochedale	6	Wooroona	2
Cootah	6	Koolatah	7, 8	Rodney	1	Woura	2
Copperfield	6	Kungie	1	Rogers	1	Wrotham	6
Coreena	1	Kyabra	2	Roper	2	Wyara	2
Cumberland	2	Kynuna	3	Rosebery	6		
Curalle	3	Kyrunda	2	Rosebrook	3	YAGOONYA	7, 8
Currawilla	3			Ross	1	Yappur	3
		LABOUCHERE	2	Rupert	1	Yarrol	2
DAGMAR	6	Lamington	6	Ruthven	3	York	6
Dalrymple	5	Landsborough	6	Rutledge	2	Youranigh	1
Daroo	6	Lang	6				
Davenport	5	Langlo	1				
Dawson	2	Lemnox	(f)				
Deas Thompson	2	Leura	2				
Denison	2						

For references to a, b, c, &c., see page 7.

(a) **BANKS.**—Class 6.—Parishes of Battle Camp, Bella, Bullhead, Cahir, Deighton, Emla, Gresley, Macquarie, Ninda, Ruby, Saunders, Welbury, Yarico.

Classes 7 and 8.—Remainder of the county.

(b) **BENTINCK.**—Class 3.—Parishes of Ballandean, Broadwater, Catterthun, Drumsleed, Folkestone, Herries (that part south-east of the divide between Pike Creek and Macintyre Brook waters), Jibbinbar, Marsh, Nundubbermere, Pikedale, Stanthorpe, Tenterfield.

Class 1.—Remainder of the county.

(c) **CARDWELL.**—Class 6.—Parishes of Armstrong, Bankton, Blencoe, Coolgarra, Goshen, Herberton, Ismailia, Kirrama, Morecambe, Mullaburra, Murko, Ongera, Ramlah, Ravenshoe, Silver Valley, Timsah, Tirrabella, Woodleigh, Woomunda, Yourka.

Classes 7 and 8.—Remainder of the county.

(d) **CARLISLE.**—Class 5.—Parishes of Appin, Beckford, Cauley, Clovelly, Crediton, Dartmoor, Dawlish, Fungella, Exe, Exmoor, Gamma, Hillalong, Stockton, Sutherland, Tiverton.

Class 4.—Remainder of the county.

(e) **CLIVE.**—Class 3.—Parishes of Aitkin's Flat, Claremont, Glenlyon, Maidenhead, Mingoola.

Class 1.—Remainder of the county.

(f) **LENNOX.**—Class 5.—Parishes of Amamoor, Brooloo, Cambroon, Conondale, Glastonbury, Imbil, Kandauga, Kilkivan, King, Widgee, Woonga, Yabba.

Class 2.—Remainder of the county.

(g) **MARCH.**—Class 5.—Parishes of Como, Conondale, Gympie, Kenilworth, Laguna, Maleny, Noosa, Tagigun, Tewantin, Traveston, Tuchkoi, Weyba, Woondum.

Class 2.—Remainder of the county.

(h) **MERIVALE.**—Class 5.—Parishes of Emu Vale, Gilbert, Gladfield, Killarney.

Class 1.—Remainder of the county.

(i) **WELLINGTON.**—Class 1.—That part of the county east of the Paroo River.

Class 2.—That part of the county west of the Paroo River.

Clause 241.—Amended to read as follows:—

Payment for the survey of opposite sides of roads not wider than three chains, as directed in Clause 130 (a), shall be at half the marked-line rate.* But, under the conditions specified in Clause 130 (b), and for all road lines directed to be aligned, measured, and marked, whether on one or both sides, the payment will, under Clause 238, be at the marked-line rate for each line surveyed.

Clause 242.—The provisions of this clause do not apply to districts carrying the schedule rates of £4 and £10 per mile. Extra work in determining datum, &c., is provided for in Clause 246.

Clause 245.—Add: Where the datum of a survey is determined astronomically, the double rate will not be allowed in the case of extensive surveys, but in small surveys it may be charged.

Clause 247A.—In addition to the payment for the corner post and tree in accordance with Clause 250, a fee of two shillings and six pence will be allowed for each intersection with a previously surveyed line, not being one of the lines of the survey in course of execution, but where the necessary connection exceeds five chains the whole length measured along the original line will be paid for at the district traverse rate per mile: provided that the amount allowed shall in no case be less than two shillings and six pence.

Clause 248.—Original clause cancelled by the following:—

Where it is clearly shown (Clauses 179 and 218) that the lines surveyed are in scrub, thickly timbered, or rugged country, or any of these combined, extra payment, at the rate chargeable on the lines run, may be made by the addition to the actual length surveyed of fractions for the lines passing over such country in accordance with the subjoined schedule.

The classification of country as regards formation shall be according to the following scale:—

- (i.) Level, undulating, or slightly broken—slopes up to 8 degrees.
- (ii.) Rough and broken—slopes up to 20 degrees.
- (iii.) Extremely rugged—slopes above 20 degrees.

N.B.—This classification is to be governed by the general nature of the country rather than by the incidence of short isolated slopes of the given inclinations. Side slopes are to be taken into account only when they actually affect the line being run.

* The most convenient method of charging half rates is by charging full rates on half the total length on which the half rate is payable. (See example in covering memorandum.)

SCHEDULE OF ADDITIONAL ALLOWANCES.

ON ACCOUNT OF VEGETATION.	ON ACCOUNT OF CONFORMATION.			
	Level or Undulating. (Class i.)	Slightly Broken by Ridges. (Class i.)	Rough and Broken. (Class ii.)	Extremely Rugged. (Class iii.)
(a) Ordinary open forest ... ..	...	add $\frac{1}{4}$	add $\frac{1}{2}$	add $\frac{3}{4}$
(b) Thickly timbered forest	add $\frac{1}{4}$	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{3}{4}$
(c) Very thickly or heavily timbered forest, or forest combined with a dense growth of saplings	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{3}{4}$
(d) Forest combined with dense wattle, fox-bush, turkey-bush, currant-bush, rosemary-bush, emu-bush, or with any of the dense miscellaneous undergrowths	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{3}{4}$
(e) Same as (d), but where the forest is also very thickly or heavily timbered	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{1}{2}$	add $\frac{3}{4}$
(f) Dense vine scrub, or dense impenetrable lantana	add 1	add 1	add 1 $\frac{1}{4}$	add 1 $\frac{1}{2}$
(g) Ordinary brigalow, gidya, belar, mulga, or bendee scrubs ... ..	...	...	...	add $\frac{1}{2}$
(h) Same as (g), combined with the miscellaneous undergrowths detailed in (d) ... ..	...	...	...	add $\frac{1}{2}$
(i) Very dense and heavy brigalow, gidya, belar, mulga, and bendee scrubs in which the trees are large and numerous	...	...	...	add $\frac{1}{2}$
(j) Same as (i), combined with the miscellaneous undergrowths detailed in (d) ... ..	...	...	...	add $\frac{3}{4}$
(k) Dense impenetrable prickly pear, in addition to the percentages already obtaining for the classification of the country in which the survey lies	...	...	...	add $\frac{1}{4}$ to $\frac{3}{8}$

Clause 249.—Original clause cancelled by the following:—

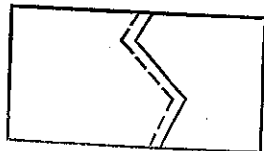
Additional allowances on linear measurement for scrub, timbered, and rugged country, &c., may be claimed on the single and half rates only. No extra payment will be made on the following items:—

- (a) The additional first mile.
- (b) The £10 per mile rate.
- (c) Compass work—except when the line passes through scrub.
- (d) Ordinary level or undulating open forest.

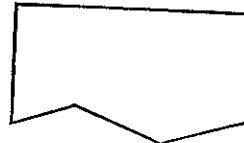
Clause 250.—Add the following:—

In surveying groups of conterminous country portions—not exceeding 10 acres each in area—the external corners only of each group should be marked as specified in Clauses 47 to 56, and such external corners only will be paid for at the rate set forth in Clause 250. Intermediate and internal corners are to be marked with pegs similar to those specified in Clause 94.

Clause 250.—To facilitate the preparation of vouchers, the following illustration of payment for corners of portions of 160 acres and under is given:—



In this case 5s. each for four portion corners and 3s. 6d. each for eight road corners may be charged.



In this case six portion corners at 5s. each may be charged.

Clause 252.—Instead of “For the survey of marked lines aggregating 80 chains and under,” read “For the survey of lines aggregating 80 chains and under.”

Clause 256.—Original clause and addendum of 1st March, 1901, cancelled, and the following substituted:—

Payment for travelling by road with camp and party, to effect surveys under instructions from the Department, will be allowed to surveyors at the rate of 2s. per mile.

Clause 261.—Add: When old and badly surveyed lines have to be traversed so that pegs may be aligned between the corners, and more than the ordinary amount of work is entailed, extra payment for computing offsets and reclearing the line will be allowed at 10s. per mile in forest country and £1 per mile in dense scrubs.

Appendix xiii. of the “Rules and Directions,” as published in 1898, has been cancelled, and amended Board Rules are enclosed herewith.

Appendices xxxii. and xxxiii. are reissued in an improved form.

Appendix xxxv.—a table of distances in miles, equivalent to one minute of convergence at various latitudes—is now issued as supplementary to the Convergence Table (Appendix xxxiv.) already supplied.

APPENDIX XXXII.

Table of Lengths of Half a Degree, a Minute, and a Second of Latitude, from Latitude 10° S. to Latitude 30° S.

Latitude.	LENGTH OF—			Latitude.	Latitude.	LENGTH OF—			Latitude.
	Half Degree.	One Minute.	One Second.			Half Degree.	One Minute.	One Second.	
10 0	Statute Miles.	Links.	Links.	10 0	10 0	Statute Miles.	Links.	Links.	10 0
10 30	34'363	91 63'6	152'72	10 30	20 0	34'394	91 71'8	152'86	20 0
11 0	364	63'8	73	11 0	20 30	396	72'3	87	20 30
11 30	365	64'1	74	11 30	21 0	398	72'8	88	21 0
12 0	367	64'4	74	12 0	21 30	400	73'4	89	21 30
12 30	368	64'8	75	12 30	22 0	402	73'9	90	22 0
13 0	34'369	91 65'1	152'75	13 0	22 30	404	74'5	152'91	22 30
13 30	370	65'5	76	13 30	23 0	407	75'1	92	23 0
14 0	372	65'8	77	14 0	23 30	409	75'7	93	23 30
14 30	373	66'2	77	14 30	24 0	411	76'3	94	24 0
15 0	375	66'6	78	15 0	24 30	413	76'9	95	24 30
15 30	34'376	91 67'0	152'79	15 30	25 0	416	77'6	152'96	25 0
16 0	378	67'5	79	16 0	25 30	418	78'2	97	25 30
16 30	379	67'9	80	16 30	26 0	420	78'8	98	26 0
17 0	381	68'3	81	17 0	26 30	423	79'5	99	26 30
17 30	383	68'8	82	17 30	27 0	425	80'2	153'00	27 0
18 0	34'385	91 69'3	152'82	18 0	27 30	428	80'8	153'01	27 30
18 30	386	69'7	83	18 30	28 0	430	81'5	02	28 0
19 0	388	70'2	84	19 0	28 30	433	82'1	03	28 30
19 30	390	70'7	85	19 30	29 0	436	82'8	05	29 0
20 0	392	71'2	86	20 0	29 30	438	83'5	06	29 30
				20 30	30 0				30 0

NOTE.—The values for minutes and seconds here given are the lengths of these arcs at the middle latitude between the whole and half degrees—i.e., at 15 and 45 minutes respectively.

APPENDIX XXXIII.

Tables of Lengths of a Degree, a Minute, and a Second of Longitude, for every Ten Minutes, from Latitude 10° S. to Latitude 30° S.

LATITUDE.	LENGTH OF ONE DEGREE—IN STATUTE MILES.						LATITUDE.
	0'	10'	20'	30'	40'	50'	
10	68'128	68'093	68'058	68'022	67'985	67'948	10
11	7'910	7'872	7'833	7'793	7'753	7'712	11
12	6'71	6'629	6'586	6'543	6'500	6'456	12
13	4'11	4'066	4'020	3'974	3'927	3'879	13
14	1'31	1'282	1'253	1'223	1'193	1'162	14
15	66'831	66'779	66'726	66'673	66'619	66'565	15
16	5'10	5'055	5'009	4'962	4'915	4'867	16
17	1'70	1'661	1'621	1'581	1'541	1'500	17
18	5'808	5'746	5'683	5'620	5'557	5'493	18
19	4'28	4'226	4'172	4'117	4'062	4'006	19
20	65'027	64'958	64'889	64'819	64'749	64'678	20
21	4'606	4'534	4'462	4'389	4'315	4'241	21
22	1'66	1'601	1'541	1'481	1'421	1'360	22
23	3'706	3'628	3'549	3'470	3'390	3'309	23
24	2'28	2'216	2'151	2'086	2'021	1'956	24
25	62'730	62'645	62'559	62'473	62'387	62'300	25
26	2'12	2'044	1'966	1'887	1'807	1'727	26
27	1'676	1'585	1'494	1'402	1'310	1'218	27
28	1'21	1'117	1'022	927	832	737	28
29	60'548	60'451	60'353	60'254	60'155	60'056	29
30	59'956	...	...	...	...	...	30

APPENDIX XXXIII.—continued.

Tables of Lengths of a Degree, a Minute, and a Second of Longitude, for every Ten Minutes, from Latitude 10° S. to Latitude 30° S.—continued.

LATITUDE. °	LENGTH OF ONE MINUTE—IN LINKS.						LATITUDE. °
	0'	10'	20'	30'	40'	50'	
10	90 83.9	90 70.2	90 74.5	90 69.7	90 64.8	90 59.8	10
11	54.7	49.6	44.4	39.1	33.8	28.4	11
12	22.9	17.3	11.6	05.9	00.1	59.2	12
13	89 88.2	89 82.2	89 76.1	89 69.9	89 63.6	89 57.3	13
14	50.9	44.4	37.8	31.2	24.5	17.7	14
15	89 10.8	89 03.9	88 96.9	88 89.8	88 82.6	88 75.4	15
16	8 68.1	8 60.7	8 53.2	8 45.7	8 38.1	8 30.4	16
17	22.6	14.8	06.9	7 98.9	7 90.8	7 82.7	17
18	7 74.5	7 66.2	7 57.8	7 49.4	7 40.9	7 32.3	18
19	23.7	15.0	06.2	6 97.3	6 88.4	6 79.4	19
20	86 70.3	86 61.1	86 51.9	86 42.6	86 33.2	86 23.7	20
21	14.2	04.6	5 94.9	5 85.2	5 75.4	5 65.5	21
22	5 55.5	5 45.5	5 35.4	5 25.2	5 15.0	5 04.7	22
23	4 94.3	4 83.8	4 73.3	4 62.7	4 52.0	4 41.2	23
24	30.4	19.5	08.5	3 97.5	3 86.4	3 75.2	24
25	83 64.0	83 52.7	83 41.3	83 29.8	83 18.3	83 06.7	25
26	2 95.0	2 83.3	2 71.5	2 59.6	2 47.7	2 35.7	26
27	23.6	11.4	1 99.2	1 86.9	1 74.5	1 62.1	27
28	1 49.6	1 37.0	1 24.4	1 11.7	80 98.9	80 86.0	28
29	80 73.1	80 60.1	80 47.1	80 34.0	80 20.8	80 07.5	29
30	79 94.2	...	...	...	...	...	30

LATITUDE. °	LENGTH OF ONE SECOND—IN LINKS.						LATITUDE. °
	0'	10'	20'	30'	40'	50'	
10	151.40	151.32	151.24	151.16	151.08	151.00	10
11	150.91	150.83	150.74	150.65	150.56	150.47	11
12	38	29	19	10	00	149.90	12
13	149.80	149.70	149.60	149.50	149.39	149.29	13
14	18	07	8.96	8.85	8.74	8.63	14
15	148.51	148.40	148.28	148.16	148.04	147.92	15
16	7.80	7.68	7.55	7.43	7.30	7.17	16
17	04	6.91	6.78	6.65	6.51	6.38	17
18	6.24	6.10	5.96	5.82	5.68	5.54	18
19	5.40	5.25	5.10	4.96	4.81	4.66	19
20	144.50	144.35	144.20	144.04	143.89	143.73	20
21	3.57	3.41	3.25	3.09	2.92	2.76	21
22	2.59	2.43	2.26	2.09	1.92	1.74	22
23	1.57	1.40	1.22	1.04	140.87	140.69	23
24	140.51	140.33	140.14	139.96	139.77	139.59	24
25	139.40	139.21	139.02	138.83	138.64	138.45	25
26	3.25	3.06	2.86	2.66	2.46	2.26	26
27	7.06	6.86	6.65	6.45	6.24	6.03	27
28	5.83	5.62	5.41	5.19	4.98	4.77	28
29	4.55	4.34	4.12	3.90	3.68	3.46	29
30	3.24	...	...	...	...	...	30

APPENDIX XXXV.

Convergence Table showing in Miles the Distance equivalent to One Minute of Convergence for every Five Minutes of Latitude, from 10° to 30° South Latitude.

LATITUDE. °	LENGTH—EQUIVALENT TO ONE MINUTE OF CONVERGENCE—IN MILES.												LATITUDE. °
	0'	5'	10'	15'	20'	25'	30'	35'	40'	45'	50'	55'	
10	6.538	6.483	6.429	6.375	6.323	6.271	6.220	6.170	6.121	6.072	6.024	5.977	10
11	5.931	5.885	5.840	5.796	5.752	5.709	5.666	5.625	5.583	5.543	5.502	5.463	11
12	5.424	5.385	5.347	5.310	5.273	5.236	5.200	5.165	5.130	5.095	5.061	5.027	12
13	4.994	4.961	4.928	4.896	4.864	4.833	4.802	4.771	4.741	4.711	4.682	4.653	13
14	4.624	4.595	4.567	4.539	4.512	4.485	4.458	4.431	4.405	4.379	4.353	4.328	14
15	4.302	4.278	4.253	4.229	4.204	4.181	4.157	4.134	4.111	4.088	4.065	4.043	15
16	4.020	3.999	3.977	3.955	3.934	3.913	3.892	3.871	3.851	3.830	3.810	3.791	16
17	3.771	3.751	3.732	3.713	3.694	3.675	3.656	3.638	3.620	3.602	3.584	3.566	17
18	3.548	3.531	3.513	3.496	3.479	3.462	3.446	3.429	3.412	3.396	3.380	3.364	18
19	3.348	3.332	3.317	3.301	3.286	3.271	3.256	3.241	3.226	3.211	3.196	3.182	19
20	3.167	3.153	3.139	3.125	3.111	3.097	3.083	3.070	3.056	3.043	3.030	3.016	20
21	3.008	2.990	2.977	2.965	2.952	2.939	2.927	2.914	2.902	2.890	2.877	2.865	21
22	2.853	2.841	2.830	2.818	2.806	2.795	2.783	2.772	2.760	2.749	2.738	2.727	22
23	2.716	2.705	2.694	2.683	2.673	2.662	2.651	2.641	2.630	2.620	2.610	2.600	23
24	2.589	2.579	2.569	2.559	2.549	2.540	2.530	2.520	2.510	2.501	2.491	2.482	24
25	2.472	2.463	2.454	2.444	2.435	2.426	2.417	2.408	2.399	2.390	2.381	2.372	25
26	2.364	2.355	2.346	2.338	2.329	2.321	2.312	2.304	2.296	2.287	2.279	2.271	26
27	2.263	2.254	2.246	2.238	2.230	2.222	2.215	2.207	2.199	2.191	2.183	2.176	27
28	2.168	2.161	2.153	2.146	2.138	2.131	2.123	2.116	2.109	2.101	2.094	2.087	28
29	2.080	2.073	2.066	2.059	2.052	2.045	2.038	2.031	2.024	2.017	2.010	2.004	29
30	1.997	30

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