

Changes to the Australian Soil and Land Survey Field Handbook in the draft 4th Edition.

The following table summarises the key changes in the draft 4th edition of the Australian Soil and Land Survey Field Handbook. The list does not indicate specific changes in wording, rather the items that have change. Comparison of the 3rd edition text and 4th edition text is recommended. For a detailed understanding of why changes were made to any item, please contact your local representative or Andrew Biggs (andrew.biggs@resources.qld.gov.au).

Chapter	Page No. in 3 rd Edn	Page No. in 4 th Edn	Item	Change	Comment
Purpose & use	1	1		Significant re-write	
The site concept	5	3		Significant re-write. Clarification of some attribute dimensions and the difference between a site and an observation. Reference to plots.	
Location	7	4		Significant re-write.	
		4	Site location	Moved from General chapter	
		5	Datum	Addition of GDA2020	
		6	Air photo reference	Removal of redundant text (state codes and air photo text)	
General	13	7		Significant re-write. Removal of redundant text	
		7		Expansion of site purpose list	
		7		Addition of plot features	
Landform	15	10		Re-ordering of text	
	18	11	Slope	Amend wording of the slope section to more explicitly state the need to only observe slope to an appropriate number of decimal places for the method being used	
				Addition of methods for derivation of slope by DEM	

	24	14	Elements	Change of 'pass' in Figure to saddle	Notable omission
	32	22	Elements	Amendment of some elements to include context of material types, including reef flat, parabolic dune, linear dune, hummocky dune, foredune, beach ridge, barchan dune. Amendment of definition of gully element.	Create consistency between definitions and make them more explicit
	32		Elements	Addition of <i>extratidal flat</i> (ETF) and <i>subtidal flat</i> (SBF).	The terms have been in use in the ASC for many years.
	32		Elements	Addition of glacial pavement, arete, anabranche, eyot, saddle, spring mound	Are known to exist in Australia
	33		Elements	Slight amendment to the definition of a blow-out	Makes the definition more explicit
	42		Elements	Removal of risecrest and riseslope	Redundant
	44	34	Patterns	Addition of moraine, shield volcano, stock, glacial valley, erosion caldera, island, coral island, river island (eyot), sand island	Are known to exist in Australia
Vegetation					
				Removal of redundant codes and text, modernisation to current NVIS standards and inclusion of reference to current methods.	
		57	Structure	Addition of basal area and vegetation traits	
		70		Addition of vegetation condition	
		70		Addition of non-native vegetation condition	
Land surface					
	189	85	Surface condition	Soil surface condition has been moved from the soil profile section into this section	More appropriate to be in this chapter as it is a feature of the surface, not the profile
		85	Surface condition	Re-ordering of codes Addition of weakly self-mulching, gravel pavement, snuffy.	Weakly self-mulching surface condition often

				Change hard setting to hardsetting	equates to epipedal in the ASC Snuffy characteristic is recognised in Ferrosols in the ASC. It is a term coined by Parbery (1939) Gravel pavements are widespread in arid areas in Australia
	127	72	Elevation	Addition of code for determining elevation	
	128	72	Disturbance	Inclusion of reference to ALUM codes Two new disturbance categories Inclusion of subdivision table, depth of disturbance, addition types	Greater flexibility and detail required in recording disturbance, in particular mechanical disturbance of soil
	129	73	Microrelief	Re-ordering of text Addition of depression width, revision of definitions of VI and HI.	Creates ability to capture further detail and makes definitions more explicit. Adjustment to definition of vertical and horizontal interval to ensure they are applicable to any type of microrelief.
	131	75	Biotic microrelief	Addition of extra codes for biotic microrelief agent <ul style="list-style-type: none"> • Pig (P) • Buffalo (F) • Wombat (W) • Rabbit (R) • Crab (C) • Bilbies (L) • Reptiles (H) • Dissolution 	Creates ability to capture further detail and makes definitions more explicit

				<ul style="list-style-type: none"> Domesticated livestock etc 	
		76	Microrelief dimension	Addition of depression width	
	134	77	Erosion	Addition of a code Z to indicate 0 erosion across all erosion types. Clarification of definition of X. Restructuring of text. Significant addition of text and codes in relation to mass movement.	
	137	78	Gully depth	Depth category 1 should be 0.3-1.5 m Note regarding recording numerical depth	
	139	81	Surface coarse fragments	Inclusion of ability to describe alteration of coarse fragments. Amendment to lithology codes and relationship to the lithology table in the Substrate chapter. Additional diagram.	
	143	85	Rock outcrop	Inclusion of distance between rock outcrop	As per FAO (2006) guidelines
	144		Depth to free water	Replace the 0 value with Z Some re-wording.	0 implies that free water is at the soil surface, not that it is absent. Z is the value used elsewhere to indicate absence e.g microrelief
Soil profile	147			Significant re-write	Further text required to clarify some key issues (soil, soil profile, solum, layers etc)
	147	87	Type of observation	Added codes for surface observation, shallow soil pit, vacuum sampling, codes for reason of depth of profile	
	148	88	Horizons	Significant amendments to text, inclusion of new diagrams, additional section on eroded soils, pedogenic discontinuity, fining-up sequences	
	148	88	O horizons	Amendment of definitions	Improve clarity
	149	89	P horizons	Amendment of definitions, inclusion of P3, definition of peat	Achieve consistency with other sections

		89	M horizon	Addition	Required
	149	90	A horizons	Amendment of definitions	Improve clarity
	150	90	B horizons	Amendment of definitions	Improve clarity
	151	91	C horizons	Amendment of definitions	Improve clarity
	151	91	D horizons	Amendment of definitions	Improve clarity
	151	91	R layers	Amendment of definitions	Improve clarity
	151	91	Transitional horizons	Amendment of definitions	Improve clarity
	152	92	Bleached horizons	Explanatory text added	Improve clarity
	152	92	Horizons in cracking clays	Minor amendment of text	Improve clarity
	154	93	Suffixes	Addition of suffixes a for jarosite cc for engulfment with concretions kk for engulfment with secondary carbonate yy for engulfment with gypsum u for strong reduction v for vesicular Proposed change to t suffix (see Appendix 1 in the document)	
		94	Pedologic discontinuities	Addition	Improve clarity
	156	94	Lithologic discontinuities	Significant amendment of text and new examples	Improve clarity
	156	95	Buried soils	Significant amendment of text and new examples	Improve clarity
		96	Eroded soils	Addition	Improve clarity
	159	98	Colour	Inserted codes for colour books	
	160	98	Mottles	Addition of reticulate mottle pattern	Creates consistency with ASC
	162	100	Figure 15	Added size classes from FAO (2006)	
	163	101	Mineral textures	Significant addition of text.	Increase clarity of terms and explanation of

					differences between field texture and particle size classes
	167	103	Field texture qualifiers	Addition of Hemic, amendments to text	
	169	104	Organic textures	Minor amendment of text. Inclusion of definition of peat.	
	171	104	Structure	Re-ordering of text	Brought compound pedality to the beginning of the section
	181	110	Clods	Replacement of the term 'fragment' with the term 'small clod'. Adjustments to the explanatory text.	
	182	111	Cutans	Addition of definition for lamellae	Lamellae are defined in the ASC
	184	111	Voids	Addition of more void types from FAO guidelines, including: Vesicular Channels Change from cracks to planar voids	Creates ability to capture further detail and makes definitions more explicit
	192	115	Pans	Amendments to definitions. Addition of hardsetting pan.	Improve clarity
	196	116	Segregations	Addition of segregation forms: <ul style="list-style-type: none"> • Pseudomycelia • Powdery • Coralliferous • Capsule 	Forms that exist within FAO and/or are known to exist in Australian soils
	198	118	Field tests	Significant expansion to include other tests, including soil odour, slaking, dispersion, hydrogen peroxide	Required
	199	97	Horizon boundaries	Moved upwards in the chapter. Amended definitions	
	202	121	Drainage	Added ability to deal with artificial drainage	Required
		122	Sampling	Addition	
		122	Photography	Addition	

Substrate					
	205	123		Minor amendments to text and re-ordering of sections	
	211	132	Alteration	Added wind	Allows for ventifacts
	214	128	Lithology codes	Added bitumen, concrete, asbestos, fly ash, fired clay, coffee rock, plastics, pumice, obsidian, glass, tonalite	Required
	218	129	Mass genetic type	Correct code for <i>stabilised soil</i> is ST	Conflicting codes