

OOD Oodlawirra Land System

Area:	98.1 km ²
Landscape:	Horseshoe shaped range of rocky hills north of Oodlawirra, with high outer range and inner pediments and low calcareous rises.
Annual rainfall:	250 – 325 mm average
Geology:	Folded Adelaide Geosyncline rocks including Pepuerta Tillite, Grampus Quartzite and Enorama Shale forming the outer rocky hills and softer, often calcareous rocks underlie the gentler topography in the middle, including Tapley Hill Formation siltstones, Saddleworth Formation shales and Enorama Shale sediments. Quaternary sediments form valley fill and some Tertiary silcretes also occur.
Main soils:	<p>A2 (29%) Calcareous loam on rock (Paralithic Calcarosol)</p> <p>RR (19%) Bare rock</p> <p>L1 (17%) Shallow soil on rock (Rocky Rudosol-Tenosol)</p> <p>C1 (10%) Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)</p> <p>A5 (10%) Rubbly calcareous loam on clay (Supracalcic-Lithocalcic Calcarosol on clay)</p>
Minor soils:	<p>D4 (7%) Loam over pederic red clay (Pederic Red Sodosol-Dermosol)</p> <p>B2 (3%) Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)</p> <p>C2 (3%) Gradational loam on rock (Shallow Red Dermosol-Kandosol-Calcarosol)</p>
Summary:	The Oodlawirra Land System consists of a horseshoe shape range of hills with shallow rocky soils on tillites and quartzites around the outer edge and deeper, often calcareous soils on siltstones, shales and alluvial/colluvial sediments on the gentler topography in the centre.

Soil Landscape Unit summary: Oodlawirra Land System (OOD)

SLU	% of area	Component	Main soils	Prop#	Notes
AKB	3.4	Rolling rises	L1RR	D	Rolling rises on quartzite with sandy and often calcareous shallow rocky soils over hard rock including the Rhynie Sandstone and Skillagoollee Dolomite. Relief is 9-30m, slopes are 10-30%. Main soils: <u>Shallow stony soils on rock - L1</u> ; <u>Bare Rock - RR</u> .
AYA	6.1	Undulating rises	A2L1RR	D	Hills and rises on fine-grained rocks, especially siltstones of the Tapley Hill Formation. More than 20% of soils contain secondary carbonate. AYA Undulating rises with shallow calcareous loam on calcareous siltstone or other fine grained rocks; or bare rock. Relief is less than 30m, slopes are 3-10%. AYB Rolling rises. AYC Rolling low hills. Slopes are 10-30%, relief is 30-90m. AYD Very steep low hills as above. Relief is 30-90m, slopes are greater than 60%.
AYB	13.1	Rolling rises	A2L1RR	D	
AYC	3.3	Rolling low hills	A2L1RR	D	
AYD	6.4	Very steep low hills	A2L1RR	D	
AYG	18.5	Undulating rises	A2L1RR	D	
AYJ	0.6	Very steep low hills	A2L1RR	D	



					<p>AYG Undulating rises with 10-20% eroded watercourses. Relief is less than 30m, slopes are 3-10%.</p> <p>AYJ Very steep low hills with 10-20% eroded watercourses. Relief is 30-90m, slopes are greater than 60%.</p> <p>Main soils: <u>Calcareous loam on rock</u> – A2 and <u>Shallow stony soils on rock</u> – L1 and <u>Bare rock</u> – RR.</p>
DZB	1.1	Gently undulating rises	D1A2L1	V	<p>Gently undulating rises with texture contrast sandy loam over red clay on rock, or shallow calcareous loam on rock; 10-30% sandy loam over poorly structured red-brown clay on rock or gradational sandy loam over red sandy clay on rock. 20-30% outwash pediment slopes with texture contrast loam over red clay, or deep rubbly calcareous loam over clay, or gradational sandy loam over red clay. Slopes are 1-3%, relief is less than 30m.</p> <p>Main soils: <i>Rises:</i> Clay <u>loam over pedaric red clay on rock</u> - D1, <u>Calcareous loam on rock</u> – A2, <u>Shallow stony soils on rock</u> - L1. <i>Pediments:</i> <u>Loam over red clay</u> - D2, <u>Rubbly calcareous loam on clay</u> - A5 and <u>Gradational sandy loam</u> - C1.</p>
		Gently sloping pediments	D2A5C1	C	
EJH	6.1	Undulating rises	C1D4C2	D	<p>Undulating rises with gradational sandy clay loam over red clay, and both texture contrast and gradational sandy clay loam over crumbly red clay; 10-30% shallow calcareous sandy clay loam on siltstone. Relief is less than 30m, slopes are 3-10%. Moderately gullied (10-20%).</p> <p>Main soils: <u>Gradational sandy loam</u> - C1, <u>Loam over pedaric red clay</u> - D4 and <u>Gradational loam on rock</u> - C2.</p>
EUC	4.1	Undulating rises	C1D4C2	V	<p>Undulating rises with gradational sandy clay loam over red clay, and both texture contrast and gradational sandy clay loam over crumbly red clay; 10-30% shallow calcareous sandy clay loam on siltstone. 20-30% pediments with gradational, often hard, sandy clay loam over red clay; 10-30% texture contrast sandy clay loam over crumbly red clay. Relief is less than 30m, slopes are 3-10%.</p> <p>Main soils: <i>Rises:</i> Gradational sandy loam - C1, Loam over pedaric red clay - D4 and Gradational loam on rock - C2. <i>Pediments:</i> <u>Gradational sandy loam</u> - C1 and <u>Hard gradational clay loam</u> - C4.</p>
		Pediments	C1C4	C	
EVB	13.1	Gently undulating rises	A2	V	<p>Gently undulating rises with gradational calcareous sandy loam over clay loam on weathered rock; 10-30% shallow calcareous sandy loam on rock, or bare rock. 20-30% bare rock. Slopes are 1-3%, relief is less than 30m.</p> <p>Main soils: <u>Calcareous loam on rock</u> – A2; <u>Bare rock</u> – RR.</p>
		Rocky outcrops	RR	C	
EZC	4.4	Undulating rises	A2A5B2	V	<p>Undulating rises with shallow calcareous sandy loam over rock, or deep rubbly calcareous sandy loam over clay. 20-30% rocky outcrops. Relief is < 30m, slopes are 3-10%.</p> <p>Main soils: <u>Calcareous loam on rock</u> – A2, <u>Rubbly calcareous loam on clay</u> - A5, <u>Shallow calcareous loam on calccrete</u> - B2.</p>
		Rocky outcrops	RR	C	
JKG	0.5	Pediments	D1A3A5	D	<p>Gently sloping pediments with sandy loam over red clay on rock, or deep rubbly calcareous soils. Slopes are 1-3%, relief is less than 9m.</p>



					Main soils: <u>Loam over pedaric red clay on rock</u> - D1 , <u>Deep moderately calcareous loam</u> - A3 and <u>Rubbly calcareous loam on clay</u> - A5 .
JLU	1.8	Plains	D4	D	Plains with loam over crumbly red clay; 10-30% deep moderately calcareous loam over clay. Moderately scalded. Main soils: <u>Clay loam over pedaric red clay</u> - D4
KIB	0.3	Gently undulating pediment	D1D4E2	D	Gently undulating pediments with clay loam over, often crumbly, red clay, or deep red clay. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Loam over clay on rock</u> - D1 , <u>Clay loam over pedaric red clay</u> - D4 and <u>Red cracking clay</u> E2 .
KLB	0.5	Pediment	A5	D	Gently sloping pediments with deep rubbly calcareous loam over clay. 10-30% shallow calcareous loam over rock or calcrete. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Rubbly calcareous loam on clay</u> - A5 .
KQB	2.6	Pediment	A5	V	Gently undulating pediments with deep rubbly calcareous loam over clay. 10-30% clay loam over crumbly red clay. 20-30% rises with shallow calcareous loam over rock or bare rock. Slopes are 1-3%, relief is less than 9m. Main soils: Pediments: <u>Rubbly calcareous loam on clay</u> - A5 . Rises: <u>Calcareous loam on rock</u> - A2
		Shallow rises	A2	C	
KXB	6.5	Pediment	C1	D	Gently sloping pediments with gradational sandy loam over red clay on rock; 10-30% deep calcareous sandy loam over, often rubbly, clay. Slopes are 1-3%, relief is less than 9m. Main soils: <u>Gradational sandy loam</u> - C1
KZE	2.2	Valley floor	A5C1	D	Valley floor and lower slopes with deep sandy loam grading to rubbly clay, or gradational loam over red clay on rock. Main soils: <u>Rubbly calcareous loam on clay</u> - A5 and <u>Gradational sandy loam</u> - C1 .
KcB	2.8	Gently undulating pediment	A5D4C1	D	Pediments with deep rubbly calcareous clay loam on clay, or clay loam on crumbly red-brown clay, or gradational sandy clay loam over massive red clay KcB Gently sloping pediments. Slopes are 1-3%, relief is less than 9m. KcC Undulating pediments. Slopes are 3-10%, relief is less than 9m. KcG Gently sloping pediments. Moderately gullied (10-20%). Slopes are 1-3%, relief is less than 9m. Main soils: <u>Rubbly calcareous loam on clay</u> - A5 , <u>Clay loam over pedaric red clay</u> - D4 and <u>Gradational sandy loam</u> - C1 .
KcC	1.3	Undulating pediment	A5D4C1	D	
KcG	1.3	Gently undulating pediment	A5D4C1	D	

PROPORTION codes assigned to Soil Landscape Unit (SLU) components:

D	Dominant in extent (>90% of SLU)	C	Common in extent (20–30% of SLU)
V	Very extensive in extent (60–90% of SLU)	L	Limited in extent (10–20% of SLU)
E	Extensive in extent (30–60% of SLU)	M	Minor in extent (<10% of SLU)



Detailed soil profile descriptions:

- A2** Shallow calcareous loam (Paralithic, Hypercalcic / Lithocalcic Calcarosol)
Gradational calcareous sandy loam over clay loam on weathered rock.
- A3** Deep moderately calcareous (sandy) loam (Calcic Calcarosol)
Calcareous (sandy) loam topsoil grading into loamy-clay loamy subsoil without a significant CO₃ buildup in the subsoil (<20% CO₃ in subsoil). Pediment type Calcarosols.
- A5** Rubbly calcareous loamy sand on clay (Supracalcic-Lithocalcic Calcarosol on clay)
Calcareous loamy sand topsoil grading into loamy-clay loamy subsoil on a clayey substrate. Usually rubbly. Clayey substrate occurs at >60 cm and <120 cm.
- B2** Shallow calcareous loam on calcrete (Petrocalcic Calcarosol-Rudosol)
Shallow, grey to reddish calcareous sandy to clay loamy soil on calcrete. This includes calcareous Petrocalcic Rudosols.
- C1** Gradational sandy loam (Calcic-Hypercalcic Kandosol-Calcarosol)
Friable sandy to loamy topsoil grading into massive red-brown alkaline loamy to clay loamy subsoil.
- C2** Gradational loam on rock (Calcic / Hypercalcic Red Dermosol)
Loam to clay loam grading to a friable red clay with soft Class I carbonate within 50 cm, grading to weathering rock within 100 cm.
- C4** Hard gradational clay loam Calcic-Hypercalcic Sodic Red Dermosol-Calcarosol)
Topsoil <30 cm over a poorly structured subsoil. Often hard setting clay loam to loam grading into prismatic/poorly structured/sodic red (-brown) alkaline clayey to clay loamy subsoil. Includes eroded former texture contrast soils.
- D1** Loam over red clay on rock (Hypercalcic / Calcic, Red Chromosol / Sodosol)
Medium thickness hard gravelly loam over red clay, friable and finely structured, calcareous with depth, grading to weathering basement rock within 100 cm.
- D2** Hard loam over red clay (Calcic / Hypercalcic, Red Chromosol)
Hard setting sandy loam to clay loam (with variable quartzite stones) abruptly overlying a well structured red clay with soft Class I carbonate at depth.
- D4** Loam over red friable clay (Calcic, Pedaric, Red Sodosol)
Thin to medium thickness fine sandy loam to loam over a finely structured friable red clay, calcareous from about 50 cm, grading to fine or medium grained alluvium.
- E2** Red cracking clay (Epicalcareous, Epipedal, Red Vertosol)
Dark strongly structured clay grading to a well structured red calcareous medium to heavy clay continuing below 100 cm. Often containing gypsum segregations in subsoil.
- L1** Shallow stony loam (Paralithic, Leptic Tenosol)
Shallow stony loam, often calcareous throughout or with depth, overlying weathering rock shallower than 50 cm.
- RR** Bare rock.

Further information: [DEWNR Soil and Land Program](#)

