sm	SEVEN MILE	Estuarine

Landscape—series of dune ridges and swales, swamps or lagoons on Quaternary marine sands. Relief <5 m. Slopes <5%. Watertable at depth of <200 cm. Open-scrub, low open-forest grading to tall open-forest. Pockets of closed-forest in sheltered areas.

Soils—deep (>150 cm) Siliceous Sands (Uc1.21), Podzols (Uc2.21) occur on ridges. Acid Peats (0) occur in swamps and Humus Podzols (Uc4.21) occur in swales (localised).

Limitations—wind erosion hazard, non-cohesive soil, very low available water-holding capacity, sodicity, salinity, low fertility.

LOCATION

Series of dune ridges and swales, swamps and lagoons on Quaternary marine sands on the Coastal Plain. Examples include Seven Mile Beach, Warrain Beach, Coomonderry Swamp, Foys Swamp and Wollumboola Lake.

LANDSCAPE

Geology

Quaternary marine sands and peat; fine to medium marine quartz sands. Quaternary alluvium and peats in swamp.

Topography

Receding barrier (Thom 1974) with gently to moderately inclined dune ridges and swales, lagoons or swamps occurring landward of the barrier. Relief <5 m. Slopes <5%. Watertable at a depth of <200 cm.

Vegetation

The vegetation includes open-scrub on beach ridges to low open-forest to tall open-forest. Common species of open-scrub is coastal heath (*Monotoca eliptica*). Common species of low open-forest and tall open-forest include blackbutt (*Eucalyptus pilularis*) and bangalay (*Eucalyptus botryoides*) with an understorey of coastal banksia (*Banksia integrifolia*), old man banksia (*Banksia serrata*), sydney golden wattle (*Acacia longifolia*), and burrawang (*Macrozamia communis*). In poorly drained areas swamp mahogany (*Eucalyptus robusta*) and linear paperbark (*Melaleuca linariifolia*) grow. Pockets of closed-forest including lillypilly (*Acmena smithii*) and red-fruited olive plum (*Cassine australis*) occur in sheltered areas.

Land Use

Predominately National Park—for example, Seven Mile Beach National Park— with localised sandmining near Seven Mile Beach.

Existing Erosion

Wind and coastal erosion processes including blowouts are active on unconsolidated sands.

SOILS

Dominant Soil Materials

sm1—Loose dull yellow sand (topsoil)

Colour	dull yellow (2.5Y 6/3) to light grey (2.5Y 8/2)
Texture	sand
Structure	apedal, single-grained
Fabric	sandy
pH	4.5–6.0
Stones	nil
Roots	abundant

sm2—Friable organic peat (topsoil)

Colour	brownish black (10YR 2/2)
Texture	peat
Structure	apedal massive
Fabric	sandy
pH	5.5
Stones	nil
Roots	common

sm3—Bright yellowish brown clayey sand (subsoil)

Colour	bright yellowish brown (2.5Y 7/6)
Texture	clayey sand
Structure	apedal massive
Fabric	sandy
pH	7.0
Stones	nil
Roots	nil

sm4—Brownish black soft sandy organic pan (subsoil)

Colour	brownish black (10YR 3/1)
Texture	loamy sand
Structure	apedal massive
Fabric	sandy
pH	5.5–7.0
Stones	nil
Roots	nil

sm5—Bright yellowish brown sandy iron pan (subsoil)

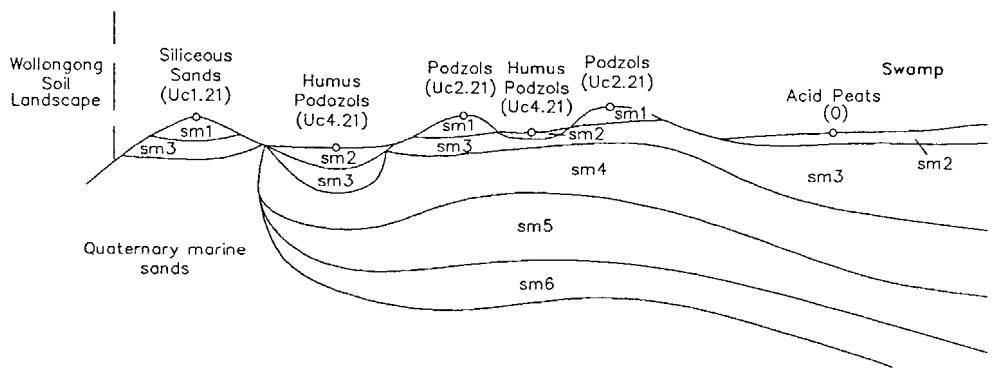
Colour	bright yellowish brown (10YR 7/6)
Texture	loamy sand
Structure	apedal massive
Fabric	sandy
pH	5.5–7.0
Stones	nil
Roots	nil

sm6—Mottled bright yellowish brown clayey sand (subsoil)

Colour	bright yellowish brown (10YR 7/6) with orange and red mottles
Texture	clayey sand
Structure	apedal massive
Fabric	sandy
pH	4.0
Stones	nil
Roots	nil

Occurrence and Relationships

Recent beach ridges. Up to 30 cm loose dull yellow sand **(sm1)** overlies <50 cm bright brownish yellow clayey sand **(sm3).** Boundary is clear. Total depth is <100 cm [Siliceous Sands (Uc1.21)].



■ *Schematic cross-section of Seven Mile soil landscape illustrating the occurrence and relationship of the dominant soil materials.*

Former beach ridges. Up to 30 cm loose dull yellow sand **(sm1)** overlies <20 cm bright yellowish brown clayey sand **(sm3).** Up to 20 cm brownish black soft sandy organic pan **(sm4)** overlies cm bright yellowish brown soft sandy iron pan **(sm5).** These soil materials overlie <200 cm mottled bright yellowish brown clayey sand **(sm6).** Boundaries are sharp to clear. Total depth is <300 cm [Podzols (Uc2.21)].

Swamps. Up to 30 cm friable organic peat **(sm2)** overlies >100 cm **sm3** [Acid Peats (0)].

Swales. Up to 20 cm **sm2** overlies <30 cm **sm3** which in turn overlies <10 cm **sm4** and **sm5**. These soil materials overlie <20 cm **sm6.** Boundaries are sharp to clear [Humus Podzols (Uc4.21)]. Total depth is >150 cm.

LIMITATIONS TO DEVELOPMENT

Soil Limitations

sm1 Very low available water-holding capacity
High organic matter
Strongly saline
Strongly sodic

sm2 Very low available water-holding capacity
Strongly sodic
Strongly saline

sm3 Low fertility
Sodicity
Aluminium toxicity

sm4 Hardsetting
Low available water-holding capacity
Very low fertility
Aluminium toxicity
Strongly acid
Sodicity

sm5 Low available water-holding capacity
Hardsetting
Very low fertility
Strongly acid
Aluminium toxicity

sm6 Low fertility
Low permeability
Strongly acid
Aluminium toxicity

Fertility

General fertility is low. The soils are often saline, low in organic matter and moderately to strongly acid. They have a low water-holding capacity and low CEC.

Erodibility

The erodibility of the topsoils **(sm1, sm2)** is very low. The erodibility of the subsoils **(sm3, sm4, sm5, sm6)** is high.

Erosion Hazard

Erosion hazard for this soil landscape for non-concentrated flows is slight. The calculated soil loss for the first 12 months of urban development ranges up to 10 t/ha for topsoils and 30 t/ha for exposed subsoils. The erosion hazard for concentrated flows, wind erosion and wave erosion is extreme.

Surface Movement Potential

The sandy soil materials are stable.

Landscape Limitations

Wind erosion hazard
Waterlogging (localised)
Permanently high watertable (localised)
Non-cohesive soil

Urban Capability

Generally high to severe limitations for urban development.

Rural Capability

Generally high to severe limitations for regular cultivation and grazing.