

CHAPTER 5 – OVERLAY CODES

PART 6 ACID SULFATE SOILS OVERLAY CODE

Division 1 Applicability of the Acid Sulfate Soils Overlay Code

1.1 This code applies to development:-

- (1) that is located¹ in areas shown on *Overlay Code Map 6 - Acid Sulfate Soils* as:
 - (a) Land Area 1: land at or below the 5m **AHD** contour; or
 - (b) Land Area 2: land between the 5m and 20m **AHD** contour;
 and
- (2) referred to as “code assessable” in Tables 5.6.1 or 5.6.2 below.

NOTE: State Planning Policy 2/02 Guideline: Planning and Managing Development Involving Acid Sulfate Soil provides guidance to compliance with this code.

Division 2 Assessment Tables for the Acid Sulfate Soils Overlay Code

2.1 Assessment Categories for the Acid Sulfate Soils Overlay Code

The assessment categories are identified for development in Column 2 of Tables 5.6.1 or 5.6.2, as follows:-

- (1) Table 5.6.1 - Material Change of Use and Associated Works² for uses listed in Column 1; or
- (2) Table 5.6.2 - Other Development not associated with a Material Change of Use³ listed in Column 1.

NOTE: Zones also affect assessment categories. See zone maps to determine the zone of the land. Also see Chapter 1, Part 1, Division 4, Section 4.8(3) explaining how the higher assessment category prevails.

2.2 Relevant Assessment Criteria for Development Affected by the Acid Sulfate Soils Overlay Code

- (1) The relevant assessment criteria in the overlay code are referred to in Column 3 of Tables 5.6.1 and 5.6.2.
- (2) For development requiring code assessment, the relevant assessment criteria are applicable codes.

Table 5.6.1: Assessment Categories and Relevant Assessment Criteria for the Acid Sulfate Soils Overlay Code – Material Change of Use and Associated Works²

COLUMN 1 Uses ⁴	COLUMN 2 Assessment category	COLUMN 3 Relevant assessment criteria - applicable code for code assessable development
Land Area 1		
All Defined and Undefined Uses	Code assessable – if 1. excavating or otherwise removing 100m ³ or more of soil or sediment OR 2. filling of land involving 500m ³ or more of material with an average depth of 0.5m or greater.	<ul style="list-style-type: none"> Acid Sulfate Soils Overlay Code
Land Area 2		
All Defined and Undefined Uses	Code assessable – if excavating or otherwise removing 100m ³ or more of soil or sediment below 5m AHD.	<ul style="list-style-type: none"> Acid Sulfate Soils Overlay Code

Table 5.6.2: Assessment Categories and Relevant Assessment Criteria for the Acid Sulfate Soils Overlay Code – Other Development not Associated with a Material Change of Use³

COLUMN 1 Type of development	COLUMN 2 Assessment category	Column 3 Relevant assessment criteria - applicable code for code assessable development
Land Area 1		
Any development (not including minor building work)	Code assessable – if 1. excavating or otherwise removing 100m ³ or more of soil or sediment OR 2. filling of land involving 500m ³ or more of material with an average depth of 0.5m or greater.	<ul style="list-style-type: none"> Acid Sulfate Soils Overlay Code
Minor Building Work	Exempt⁶	
Land Area 2		
Any development (not including minor building work)	Code assessable – if excavating or otherwise removing 100m ³ or more of soil or sediment below 5m AHD.	<ul style="list-style-type: none"> Acid Sulfate Soils Overlay Code
Minor Building Work	Exempt⁶	

Division 3 Compliance with the Acid Sulfate Soils Overlay Code

- 3.1 Assessable development that is consistent with the specific outcomes contained in Division 5, Table 5.6.3 complies with the Acid Sulfate Soils Overlay Code.

Division 4 Overall Outcomes for the Acid Sulfate Soils Overlay Code

- 4.1 The overall outcomes are the purpose of this code.
- 4.2 The overall outcomes sought by the Acid Sulfate Soils Overlay Code are the following:-
- (1) The release of **acid sulfate soils** and metal contaminants from **acid sulfate soils** is minimised as much as possible; and
 - (2) The adverse effects of acid and metal contaminants from **acid sulfate soils** on the natural and built environment and human health are minimised.

Division 5 Specific Outcomes for the Acid Sulfate Soils Overlay Code

- 5.1 The specific outcomes and probable solutions for the Acid Sulfate Soils Overlay Code are contained in Table 5.6.3.

Table 5.6.3: Specific Outcomes and Probable Solutions for Assessable Development

Specific Outcomes for Assessable Development	Probable Solutions
SO 1 Works avoid disturbing acid sulfate soils or are managed so as to avoid or minimise the release of acid and metal contaminants.	<p>PS 1.1 The disturbance of acid sulfate soils is avoided by:-</p> <ol style="list-style-type: none"> (1) not excavating or otherwise removing soil or sediment identified as containing acid sulfate soils; and (2) not permanently or temporarily extracting groundwater that results in the aeration of previously saturated acid sulfate soils; and (3) not undertaking filling that results in:- <ol style="list-style-type: none"> (a) actual acid sulfate soils being moved below the water table; or (b) previously saturated acid sulfate soils being aerated. <p>OR</p>

Specific Outcomes for Assessable Development	Probable Solutions
	<p>PS 1.2 The disturbance of acid sulfate soils avoids release of acid and metal contaminants by:-</p> <p>(1) neutralising existing acidity and preventing the generation of acid and contaminants; and</p> <p>(2) preventing the release of surface or groundwater flows containing acid and metal contaminants into the environment⁵.</p>

Schedule A to the Acid Sulfate Soils Overlay Code – Additional Defined Terms

For purposes of this code, the following meanings apply to critical terms used in the code:-

(1) Acid Sulfate Soils (ASS)

Soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of iron sulfides (actual ASS) and/or soil or sediment containing iron sulfides or other sulfidic material that has not been exposed to air and **oxidised** (potential ASS).

Note: The term acid sulfate soil generally includes both actual and potential ASS. Actual and potential ASS are often found in the same soil profile, with actual ASS generally overlying potential acid sulfate soil horizons.

(2) Actual Acid Sulfate Soils (AASS)

Soil or sediment containing highly acidic soil horizons or layers affected by the oxidation of soil materials that are rich in iron sulfides, primarily pyrite. This oxidation produces hydrogen ions in excess of the sediment's capacity to neutralise the acidity, resulting in soils of pH 4 or less. These soils can usually be identified by the presence of jarosite.

(3) AHD (Australian Height Datum)

The datum used for the determination of elevations in Australia. The determination used a national network of bench marks and tide gauges and set mean sea level as zero elevation.

(4) Extracting Groundwater

This includes drainage, pumping or otherwise removing **groundwater**.

(5) Groundwater

Subsurface water in the zone of saturation including water below the **watertable** and water occupying cavities, pores and openings in underlying soil and rock.

(6) Neutralising

The process whereby acid produced (by the oxidation of iron sulfides) is counteracted by the addition of an ameliorant such as lime (CaCO₃); there are formulae for calculating the amount of ameliorant needed.

(7) Oxidised

Process of chemical change involving the addition of oxygen following exposure to air.

(8) Watertable

Portion of the ground saturated with water; often used specifically to refer to the upper limit of the saturated ground.

¹ This overlay code does not apply if the proposed development is outside the mapped areas.

² Table 5.6.1 refers to material change of use and associated works undertaken at the same time as the material change of use. Also, see planning scheme explanatory notes giving examples that explain the type of development involved in different proposals.

³ 5.6.2 refers to other development including works not undertaken at the same time as the material change use. Also, see planning scheme explanatory notes giving examples that explain the type of development involved in different proposals.

⁴ For defined uses see Chapter 7, Part 2, Use Definitions Schedule.

⁵ Applications for code assessable development should be accompanied by a soil assessment report carried out in accordance with the State Planning Policy 2/02 Guideline: Planning and Managing Development involving Acid Sulfate Soil.

⁶ Exempt building work may still require a building development approval from a building certifier under the Building Act.