



Environment and Heritage Expertise

Technical Guideline

TG 0875.31 – Surface water

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**Government of
South Australia**

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Significant/major changes incorporated in this edition

Not applicable - this is the first edition of the Technical Guideline.



Document controls

Version history

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1.0	28 August 2025	Various	Issued for Use

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Approvers

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Reviewers

Name	Role	Version	Review Date
Environment and Heritage Expertise Team	Team review of guidelines.	1.0	28-08-2025

1 Introduction

This guideline relates to the assessment and management of surface water resources which may be encountered during a project's planning, construction, operations or maintenance activities.

It forms part of the TG 0875 - Environment and Heritage Technical Guidelines and is designed to provide insight into regulatory obligations associated with vegetation, as well as suggested approaches to manage risk.

Note the guideline is not exhaustive, and additional requirements may be necessary based on project- or site-specific activities, geographical location, or approval conditions.

1.1 Environment and Heritage Technical Guidelines Suite

The SAWG-ENV-0875 Environment and Heritage Technical Guidelines suite includes:

- TG 0875.00: General requirements
- TG 0875.11: Aboriginal heritage and Native Title
- TG 0875.12: Non-Aboriginal heritage
- TG 0875.21: Vegetation
- TG 0875.22: Fauna
- TG 0875.23: Weed hygiene
- TG 0875.24: Phytophthora
- **TG 0875.31: Surface water (this guideline)**
- TG 0875.32: Groundwater
- TG 0875.33: Recycled water
- TG 0875.34: Sediment, erosion and stormwater
- TG 0875.35: Dewatering, dredging and earthworks drainage
- TG 0875.41: Site contamination
- TG 0875.42: Acid sulfate soils
- TG 0875.43: Hazardous substances
- TG 0875.51: Dust
- TG 0875.52: Odour
- TG 0875.53: Noise and vibration
- TG 0875.61: Spoil management
- TG 0875.62: Recycling
- TG 0875.63: Waste management

This guideline must be read in conjunction with TG 0875.00: General requirements

1.2 General requirements

TG 0875.00: General requirements apply to all aspects of the work:

1. Purpose
2. Application
3. Scope
4. Statutory obligations
5. Strategic alignment
6. Terms and abbreviations

2 Surface water

2.1 Overview

MANAGEMENT	
Commitment	Wetlands and reservoirs will protect and conserve surface water quality and quantity for present and future needs. State-based legislation regulates the management of surface water resources.
Strategic objective	<ul style="list-style-type: none"> Environment Corporate Strategy: <ul style="list-style-type: none"> Our culture creates empowerment, increased accountability for environmental decisions and demonstrates proactive leadership. Our communities live in greener environments with thriving ecosystems. Asset Management Corporate Strategy: <ul style="list-style-type: none"> An integrated approach enables the sustainability outcomes our customers, community and owner expect.
Key Performance Indicator	<ul style="list-style-type: none"> KPI 1: No breaches of regulatory requirements with respect to surface water impacts. KPI 2: Construction, operations and maintenance activities do not impact sensitive surface water environments on, adjacent to, upstream or downstream from the site. KPI 3: Existing surface water quality and characteristics are maintained as much as possible for the site and adjacent landscape.
Legislation	<ul style="list-style-type: none"> Biosecurity Act 2015 (Cth) Environment Protection (Water Quality) Policy 2015 (SA) Environment Protection Act 1993 (SA) – EP Act Environment Protection and Biodiversity Conservation Act 1991 (Cth) Fisheries Management Act 2007 (SA) Landscape South Australia Act 2019 (SA) Local Government (Stormwater Management Agreement) Amendment Act 2016 (SA) National Parks and Wildlife Act 1972 (SA) Water Act 2007
Regulatory approvals	<ul style="list-style-type: none"> Water Affecting Activity permit Water licence Earthworks and Drainage licence Dredging licence Development Approval (if applicable) Native Vegetation Clearance Approval (if applicable)

MANAGEMENT	
Statutory obligations	<ul style="list-style-type: none"> • <i>Environment Protection Act 1993 (SA)</i>, Section 25: A person must not undertake an activity that pollutes, or might pollute, the environment unless the person takes all reasonable and practicable measures to prevent or minimise any resulting environmental harm • <i>Landscape South Australia Act 2019 (SA)</i>, Section 8: A person must act reasonably in relation to the management of natural resources within the State • <i>Biosecurity Act 2015 (Cth)</i>, Section 11: An entity must not undertake an activity that harms or has the potential to harm biodiversity unless the entity takes all reasonable and practicable measures to prevent or minimise any resulting harm. • <i>Environment Protection (Water Quality) Policy 2015 (SA)</i>, Clause 10 & 11: A person must not discharge pollutants listed in Schedules 2 and 3 of the Policy into any waters. Furthermore, those pollutants known as Class 1 and listed in Schedule 2 must not be deposited onto land where they are likely to enter waters.
Reference material	<ul style="list-style-type: none"> • DEW (SA): Water affecting activity permits • DEW (SA): Water Allocation Plans relevant to the landscape region • Green Adelaide: Looking after our waterways – Healthy Waterways • Landscape South Australia Hills and Fleurieu: Managing creeks and watercourses • Landscape South Australia Murraylands and Riverland: Building and maintaining culverts • Landscape South Australia Murraylands and Riverland: Building and maintaining fords • Landscape South Australia Murraylands and Riverland: Dam development • EPA (SA): Information Sheet - Vessel & facility management, Refuelling • EPA (SA): Guidelines – Liquid storage, Bunding and spill management
Related guidelines	<ul style="list-style-type: none"> • TG 0875.22: Fauna • TG 0875.32: Groundwater • TG 0875.33: Recycled water • TG 0875.34: Sediment, erosion and stormwater • TG 0875.35: Dewatering, dredging and earthworks drainage

2.2 Planning and design

MITIGATION MEASURES	STAKEHOLDERS
<p>A Preliminary Assessment (desktop) must be undertaken to identify:</p> <ul style="list-style-type: none"> • Any potential surface water quality and quantity risks and constraints such as sensitive receptors, potential users (that is, downstream dams) and receiving environments. • Any dependent ecosystems and biota, including native fish, fish passage, and any potential impacts to breeding. • Any changes to flow regimes, potential impact on bed or bank stability, or sedimentation or erosion risk. 	<p>Environmental Officer Asset Planner Design Manager</p>

MITIGATION MEASURES	STAKEHOLDERS
Ensure all materials proposed will not breach the EP Water Quality Policy, and all mitigation measures for potential water affecting activities are in line with the relevant WAA Control Policy.	Environmental Officer Project Manager Design Manager
Potential surface water impact minimisation options (e.g., completion of works during dry season) should influence options selection and decision making	Environmental Officer Project Manager Design Manager
Note the "stream order" of any potentially impacted watercourses (noting that stream order 3 and above are more likely to have native fish present).	Environmental Officer Project Manager Design Manager
Where there is an operational or significant construction risk of interacting with surface water, a Detailed Hydrology Assessment (including surface water modelling) may be required by a suitably qualified hydrologist.	Environmental Officer Hydrologist Design Manager Project Manager
Recommendations of any Detailed Hydrology Assessment must be incorporated into design, which may include the design and implementation of control measures, that is, detention basins.	Design Manager Project Manager Environmental Officer
Ensure advice, permits, approvals from the relevant Landscape Board, Department for Environment and Water (DEW) and/or EPA, or the statutory planning authority prior to commencing waterbody disturbance works or water discharges.	Environmental Officer Project Manager
Requirements for aquatic environments, disturbance of water bodies, removal or relocation of animals or plants in an aquatic environment, will require authorisation under relevant legislation.	Environmental Officer Project Manager
Sediments to be disturbed with a higher risk of potentially contaminating activities must be tested to determine the presence and extent of contaminants. Higher risk areas include environments receiving urban runoff, areas located within or adjacent to an EPA licenced facility or known polluted waterways or environments.	Environmental Officer Project Manager

2.3 Construction

MITIGATION MEASURES	STAKEHOLDERS
Boundaries of approved vegetation clearance or disturbance areas must be clearly marked onsite and described within approved management plans and on approved design drawings.	Contractor
Protected trees (including dead trees) and/or areas of protected vegetation must be clearly identified by markers, construction tape or other barriers prior to mobilisation to site or commencement of land or vegetation disturbance.	Contractor
Where construction zones occur near protected trees, ensure the Tree Protection Zone is marked and the construction method adopts best practice approaches for minimising risk of tree damage.	Contractor

MITIGATION MEASURES	STAKEHOLDERS
All vehicles to remain on designated tracks, with all storages, stockpiles and laydown areas to be clearly defined and marked.	Contractor
Consider Bureau of Meteorology weather forecasts prior to commencing works and schedule high-risk activities in line with suitable weather conditions.	Contractor
Plant and equipment should not enter waterways or be located on the banks of the waterway unless absolutely necessary. Any floating or submersible plant and equipment must be disinfected prior to use.	Contractor
Effective silt curtains must be installed and maintained in waterways around activities that present a risk of sediment disturbance.	Contractor
Controls to avoid sedimentation or pollution to waterbodies e.g., bunds, diversion drains, sedimentation ponds (in accordance with any pre-existing Water Allocation Plan) must be functioning and maintained.	Contractor
Refuelling must not occur within 30m of a waterway without appropriate controls in place. Refuelling must be in line with the EPA's Information Sheet: Vessel & facility management, Refuelling.	Contractor
Licences and approved management plans are required for dredging and earthworks drainage activities. Refer to Dewatering, Dredging and Earthworks Drainage Guideline.	Contractor
If concrete washout is required, an adequate number of facilities must be installed and maintained, isolated from drainage lines, with lined bunds, and disposed of at an appropriately licenced facility.	Contractor
Where creek crossings are required, options to minimise disturbance must be considered, and any works in line regulatory requirements (e.g., Water Affecting Activity, or materials listed in EP Water Quality Policy).	Contractor
Bund any sources of potential contaminants and store potential sources away from drainage lines. Bunding should be in accordance with the EPA's Guideline: Liquid storage, Bunding and spill management.	Contractor
Fully stocked and easily accessible spill kits, and personnel adequately trained in their use, must be present for all activities that may result in accidental spills.	Contractor
Locate portable site amenities, chemical storage, and stockpiles of erodible materials away from watercourses, drainage lines, and flood prone areas.	Contractor
Any stockpiles on site will be managed to avoid and minimise erosion and sedimentation. Refer to Spoil Management Guideline.	Contractor
Stormwater will be managed on site in line with any relevant approvals, policies, or legislation to avoid and minimise pollution to waterways. Refer to the Sediment, Erosion Control and Stormwater Guideline.	Contractor

MITIGATION MEASURES	STAKEHOLDERS
Hazardous materials (such as chemicals and fuels) will be managed to avoid and minimise pollution to surface waters. Refer to Hazardous Substances Guideline.	Contractor
Ensure equipment is leak free. Repair oil/fuel leaks immediately or remove from site and replace with a leak-free item.	Contractor
The type and location of environmental control equipment and devices to manage, mitigate, and monitor impacts to aquatic environments must be detailed and maintained in an approved management plan.	Contractor
Mitigation measures and controls must effectively prevent erosion, bed and bank instability, sedimentation, flooding, impacts to sensitive receivers and downstream environments, destruct of habitat, decline in water quality or alteration of the natural flow regime, unless appropriate approvals are in place.	Contractor
Incident notification protocols, especially those that present water quality or public health risk, must be in place and reported immediately to SA Water.	Contractor
Any unplanned or emergency water discharges are an incident, with SA Water to be notified immediately who will be responsible for enacting SA Water's environmental incident notification protocols.	Contractor

2.4 Monitoring requirements

DESCRIPTION	METRIC	FREQUENCY	ACCOUNTABILITY
Installations of mitigation measures	Visual Inspection	Daily	Contractor
Water quality monitoring where required	Turbidity	Continuous	Contractor