

Surface Water



Environment Effects Statement

An [Environment Effects Statement \(EES\)](#) is Victoria's most rigorous and transparent environmental impact assessment. It describes the project, its rationale, and potential environmental and social effects.

Scoping requirements

In February 2025, the Victorian Minister for Planning issued the final scoping requirements for the VNI West EES, setting out the proposed specific matters to be investigated and documented in the EES. While the scoping requirements are intended to cover all relevant matters, the EES can also address other significant matters that emerge during the EES investigations or through consultation.

Surface water (catchment values and hydrology) scoping requirements

Surface water is listed as part of the catchment values and hydrology scoping requirements. The requirements state that it has been assigned a medium priority due to the moderate likelihood of interaction between the project and surface water environments. Key areas of concern include transmission line crossings over significant waterways including the Murray River, Avoca River, Wimmera River, Loddon River, and Six Mile Creek and infrastructure installation within floodplain areas, which could lead to potential alterations in surface water flow, water quality, or flood risk.

Matters for investigation

- *Potential for adverse effects on waterways, floodplains, and wetland systems (including permanent and ephemeral waterways and Ramsar-listed wetlands).*
- *Potential interaction of project infrastructure with floodwaters and potential changes to floodwater flows.*
- *Consideration of the potential for the project to impact on water and catchment values in NSW.*

Assessment overview

The surface water assessment is looking into the potential effects on the function and values of waterbodies across the entire project area. This includes the potential for adverse effects on waterways, floodplains, and wetland systems (including permanent and ephemeral waterways and Ramsar-listed wetlands) as well as the potential interaction of project infrastructure with floodwaters and potential changes to floodwater flows.

Study methodology

The surface water assessment is adopting the following methodology:

- Desktop assessment of the existing conditions in the study area and identification of key waterbodies using publicly available data.
- Flood modelling of the Tragowel Terminal Station.
- Identification and risk-screening of potential surface water impacts in each phase of the project.
- Identification of mitigation measures (where required) and assessment of the residual impact of each risk once the mitigation measures are applied.
- Assessment of combined effects with other proposed developments in the region.
- Site visit to the Tragowel Terminal Station site to gain an understanding of the local hydrology and hydraulic structures that could potentially affect the proposed site.

Scan this QR code to view the complete list of [scoping requirements](#) for the VNI West project





Existing conditions

The project easement crosses three river basins between Joel Joel to the south and the Murray River crossing to the north, namely the Wimmera-Avon River Basin, the Avoca River Basin, and the Loddon River Basin. The Wimmera-Avon River Basin contains four main waterways: the Wimmera River, Heifer Station Creek, Richardson River, and Avon River. All are seasonal – except the Wimmera River – which flows year-round. The Wimmera River flows into Lake Hindmarsh, about 175 kilometres northwest of the project easement and eventually connects to Lake Albacutya, a Ramsar-listed site.

The Avoca River Basin, located in the centre of the project easement, is the smallest of three basins crossed in the area. It includes two main seasonal waterways: the Avoca River and the Waranga Western Channel. The Avoca River flows into important wetlands north of the project easement (including Bunguluke Wetlands, Tyrell Creek and Lalbert Creek Wetlands) before reaching Lake Bael Bael in the Ramsar-listed Kerang Wetlands system, about 65 kilometres downstream.

The Loddon River Basin in the north includes the Loddon River, Pyramid Creek, and the Macorna Channel. While all are major waterways, only the Macorna Channel – an irrigation channel – flows year-round.

The Lower Loddon River system features large floodplains and wetlands which become more complex closer to the Murray River, including the eastern parts of the Ramsar-listed Kerang Wetlands. The basin also has an extensive irrigation network supplying water for agriculture across its flat terrain. Key environmental values in this area include agricultural use, wetlands, Aboriginal cultural heritage, and local ecology and biodiversity.

The proposed Kerang Terminal Station site is on the floodplain of Bannagher Creek, a tributary of the Lower Loddon River. This site includes areas identified as Floodway Overlay (FO) and Land Subject to Inundation Overlay (LSIO) under the local planning scheme.

Local input

Discussions with catchment management authorities (CMAs) and corporations have occurred in relation to:

- Existing flood risk, flood history, and development requirements in flood prone areas. These discussions helped guide the assessment process to determine flood risk for the Tragowel Terminal Station, including potential mitigation strategies
- The status and role of water channels in the Tragowel Terminal Station's vicinity

Further engagement with other CMAs and water corporations will occur during the detailed design phase (where relevant) to discuss specific design aspects and potential permitting requirements.

Landholders throughout the region have provided valuable input on areas subject to flooding in and around the project easement which are not shown on publicly available databases and maps, particularly in relation to the severe 2022 floods.

Next steps

As the surface water assessment continues, it will evaluate how construction, operation, and decommissioning of the project may influence flow pathways, floodplains, flood characteristics, and water quality throughout the project area. Selection of the project easement and the Reference Design has focused on avoiding the placement of transmission towers immediately adjacent to streams, rivers, and wetlands (where practicable) and avoiding flood flow paths. The impact assessment will focus on whether there is potential for infrastructure to alter flood regimes or result in changes to surface water flows on surrounding properties.