

Public Environment Report

Glossary and Abbreviations

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Glossary

Term	Definition
Alluvial	Pertaining to, or composed of, alluvium or other deposits from streams and rivers.
Alluvium	A general term for unconsolidated material deposited during recent geological time by a stream or other body of running water. Typically forms a sorted or semi-sorted sediment in stream beds, floodplains, deltas or as fan at the base of a mountain slope.
Annual Exceedance Probability	Defines the likelihood of a flood occurring in any given year. The most commonly used definition in planning is the '1 in 100 year flood'. This refers to a flood level that has a one in a hundred, or 1%, chance of being equalled or exceeded in any year (1% AEP = 100 year average recurrence interval).
Aquifer	A geological formation, group of formations or part of a formation, which contains sufficient saturated permeable material to transmit and yield significant quantities of water.
Bedrock	A general term for rock, usually solid, that underlies soil or unconsolidated material.
Biodiversity	The variety of all life forms, the different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they form a part.
Bioregion	A landscape based approach to classifying the land surface using a range of environmental attributes such as climate, geomorphology, lithology and vegetation.
Catchment	The land area that drains into a stream, river, lake, estuary, or coastal zone.
Contaminant	A substance, element, or compound that, if added to an aquifer, has an adverse effect on the quality of water in that aquifer.
Cumulative impacts	Impacts arising from the presence of more than one future activity including the action; that are different in scale and/or nature to those originating from each project alone.
Discharge	Any process by which water is removed from an aquifer. Includes water that flows into a surface feature, such as a spring, river or wetland, as well as water which flows into and adjacent aquifer.
Dissolved oxygen	The amount of oxygen dissolved in water, such as groundwater or surface water. Usually measured in parts per million.
Dewatering	The lowering of static groundwater levels through extraction, usually by means of pumping from one or several groundwater bores.

Term	Definition
Drained	In the context of groundwater only, 'drained' refers to a permeable structure, which allows for the seepage of groundwater into the structure.
Drawdown	The change in groundwater head level that can be attributed to the operation of a pumping bore.
e-bird	A database of bird records (at www.ebird.org), administered by Audubon and Cornell Lab of Ornithology, USA.
Erosion	The process or group of processes whereby solids in the natural environment are relocated by moving water, glacial ice or wind.
Ecosystem	A system that is made up of a community of animals, plants, and bacteria and its interrelated physical and chemical environment.
Electrical conductivity	The ability of a material to conduct electricity under an applied voltage. This is used to estimate the Total Dissolved Solids in a water sample.
Environmental management framework (EMF)	The EMF sets out the proposed governance framework for managing the environmental effects of the project and outlines clear accountabilities for the delivery and monitoring of the implementation of the recommended Environmental Performance Requirements.
Environmental Performance Requirements (EPRs)	The minimum environmental outcomes that must be achieved for design, construction and operation of North East Link, regardless of the design solution delivered.
Ecological Vegetation Class (EVC)	A type of indigenous vegetation classification that is described through a combination of floristics, lifeforms and ecological characteristics and through an inferred fidelity to particular environmental attributes. Each EVC includes a collection of floristic communities that occurs across a biogeographic range, and although differing in species, have similar habitat and ecological processes operating.
Evaporation	The process by which liquid water becomes gaseous, or the volume lost from a body of water due to this process.
Evapotranspiration	Pertains to water lost to the atmosphere via evaporation and transpiration of plants.
Exotic fauna	Any fauna that is not native to Australia or its states and territories.
Exotic vegetation	Any vegetation that is not native to Australia or its states and territories.
Facilitated impacts	Impacts created by a future action whose occurrence is enabled by the action first taking place. For example, greenhouse gas emissions from new trips that would be unlikely to have occurred if a new road had not been constructed.
Graminoid	A herbaceous plant with grass like morphology.
Groundwater	Water occurring naturally below ground level or water pumped, diverted and released into a bore for storage underground.
Groundwater dependent ecosystem	An ecosystem that is partially or wholly reliant on groundwater for its survival. This can include terrestrial, subsurface and marine ecosystems.

Term	Definition
Groundwater monitoring bore	A bore installed with the purpose to; determine the nature and properties of subsurface ground conditions; provide access to groundwater for measuring level, physical and chemical properties; and permit the collection of groundwater samples and conduct of aquifer testing.
Habitat hectare (Hha)	A site-based measure of quality and quantity of native vegetation that is assessed in the context of the relevant native vegetation type.
Impacts	Changes to the environment caused by the action.
Impact assessment	<p>An impact is the effect of an action on a resource or system. An impact assessment evaluates the severity and significance of the change through consideration of the:</p> <ul style="list-style-type: none"> • Value or sensitivity of a resource or system that is affected by an action • Consequence or magnitude of the effect on that resource or system • The ability of the system to recover or for mitigation measures to be applied.
Lugeon	A unit devised to quantify the water permeability of bedrock and the hydraulic conductivity resulting from fractures.
Metropolitan Melbourne	Area defined as 'Metropolitan Melbourne' in Clause 72 of the Victoria Planning Provisions.
Main line	Portion of the road that contains the principal route or line of a roadway.
Metropolitan Melbourne	Area defined as 'Metropolitan Melbourne' in Clause 72 of the Victoria Planning Provisions.
Major Transport Infrastructure Authority (MTIA)	The Major Transport Infrastructure Authority (MTIA) is the proponent for North East Link. The MTIA is an administrative office within the Victorian Department of Transport with responsibility for overseeing major transport projects.
Matters of National Environmental Significance (MNES)	Matters specifically protected under Part 3 Division 1 of the EPBC Act.
North East Link Project (NELP)	North East Link Project (NELP) is an organisation within MTIA that is responsible for developing and delivering North East Link. NELP was formerly known as the North East Link Authority prior to 1 January 2019. NELP is responsible for developing the reference project and coordinating development of the technical reports, engaging and informing stakeholders and the wider community, obtaining key planning and environmental approvals and coordinating procurement for construction and operation.
P90	Cost estimate that is based on a 90% probability that the cost will not be exceeded.

Term	Definition
Patch	A patch of native vegetation is either: a) an area of vegetation where at least 25% of the total perennial understorey plant cover is native, or b) any area with three or more native canopy trees where the drip line of each tree touches the drip line of at least one other tree, forming a continuous canopy, or c) any mapped wetland included in the Current wetlands map, available in DELWP systems and tools (DELWP, 2017a).
Permeability	The property or capacity of a porous rock, soil or sediment for transmitting a fluid; it is a measurement of the relative ease of fluid flow within a material.
pH	A measure of the acidity or alkalinity of a solution. Neutral solutions have a value of 7, this value increases for alkaline solutions and decreases for acidic solutions.
Porosity	The percentage of the bulk volume of a soil or rock that is occupied by interstices, whether isolated or connected. It is a measure of the void space in a material. Primary porosity is the originally porosity system in a rock or the interstices of a porous media (shape, arrangement, distribution, cementation, compaction). Secondary porosity can result from fracturing or chemical leaching.
Probable Maximum Flood (PMF)	The largest flood that could conceivable occur at a particular location, usually estimated from Probable Maximum Precipitation (PMP) and, where applicable, snow melt, coupled with the worst flood-producing catchment conditions.
Pumping test	A test that is conducted to determine aquifer or well characteristics.
Recharge	The process of adding water, or the amount of water added, to the volume of water stored in an aquifer.
Reference project	One feasible way for North East Link to be delivered that would meet the Victorian Government's objectives.
Risk	The chance of an event happening that would have an impact on the objectives in relation to an asset, value or use. Risk is measured as a combination of the magnitude of potential consequences of the event and the likelihood of the event and associated impact occurring.
RORB	A general non-linear runoff and streamflow routing program used to calculate flood hydrographs from rainfall and other catchment inputs.
Reference project	One feasible way for North East Link to be delivered that would meet the Victorian Government's objectives.
Salinity	A measure of the dissolved salt content of water or soil.
Scattered Tree	A scattered tree is a canopy tree that does not form part of a patch (DELWP, 2017a).
Sedimentary rock	Rocks resulting from the consolidation of loose sediments that has accumulated in layers.
Strategic interventions	High level approaches to manage issues identified in the North East Link Business Case.

Term	Definition
Strategic options	Options consist of combinations of strategic interventions.
Surface water	Any water that collects as a surface features, including rivers, streams, lakes, wetlands and the ocean.
Tanked	'Tanked' or 'tanking' is a term used to describe 'waterproofing' structures below ground. When a structure is tanked, it is designed to be sealed and aims to prevent groundwater leaks into the structure.
Threatened species	For the purposes of this report, threatened species refers to species considered threatened in Victoria or Australia. This includes species that are vulnerable or endangered in Victoria as defined by DEPI (2014) listed under the Victorian Flora and Fauna Guarantee (FFG) Act 1988 or listed as vulnerable, endangered or critically endangered under the Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999. Species listed as rare, near-threatened, poorly known or data deficient are not considered threatened.
Total dissolved solids	The total mass of all solids dissolved in a water sample, measured in mg/L.
TUFLOW	1D/2D finite difference numerical model used to simulate hydraulic behaviours in rivers, floodplains and urban drainage environments.
The Department	Refers to the Commonwealth Department of the Environment and Energy.
Victorian Biodiversity Atlas (VBA)	The VBA is administered by the Victorian Department of Environment, Land, Water and Planning and replaces several legacy systems, including the Flora Information System, the Atlas of Victorian Wildlife, and the Aquatic Fauna Database. The VBA encompasses vertebrate and invertebrate animals, fungi, vascular and non-vascular plants from terrestrial and aquatic environments, including marine waters to the three nautical mile statutory limit. It includes both native and naturalised exotic species (including weeds and pests) but is not intended to hold data on cultivated or domesticated species.
Victorian Department of Transport	The Victorian Department of Transport is responsible for delivering the government's transport infrastructure agenda. It was formed on 1 January 2019 when the former Victorian Department of Economic Development, Jobs, Transport and Resources transitioned into the Department of Transport and the Department of Jobs, Precincts and Regions.
Wetland	An area of land whose soil is saturated with moisture either permanently or seasonally. Such areas may also be covered partially or completely by shallow pools of water. Wetlands include swamps, marshes, and bogs, among others.
Water table	The surface between the vadose zone and the saturated zone of unconfined groundwater. This can also be defined as the surface at which groundwater pressure is equal to atmospheric pressure.
Water quality	The physical, chemical and biological characteristics of water, frequently used by reference to a set of standards against which compliance can be assessed.
Yield	The rate at which water can be extracted from a pumping well, typically measured in L/sec or ML/day.

Abbreviations

Abbreviations	Definition
AEP	Annual Exceedance Probability
ALA	Commonwealth Atlas of Living Australia
BLA	Bird Life Australia
BOM	Bureau of Meteorology
CMA	Catchment Management Authority
CBA	Cost Benefit Analysis
CEMP	Construction Environmental Management Plan
CHMP	Cultural Heritage Management Plan
CO	Carbon monoxide
D&C	Design and construct
DoD	Department of Defence
DDA	<i>Disability Discrimination Act 1992</i>
DELWP	Department of Environment, Land, Water and Planning (Vic)
DoEE	Department of Environment and Energy
EP Act	<i>Environment Protection Act 1970</i>
ESD	Ecologically Sustainable Development
EMP	Environmental Management Plans
EC	Electrical Conductivity
EVC	Ecological Vegetation Class
EES	Environment Effects Statement
EMF	Environmental Management Framework
EPA Victoria	Environment Protection Authority (Vic)
EPR	Environmental performance requirement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)</i>
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
GDE	Groundwater dependant ecosystem
GEWVVP	Grassy Eucalypt Woodland of the Victorian Volcanic Plain
Hha	Habitat hectare
K	Hydraulic conductivity

Abbreviations	Definition
LAC Act	Land Acquisition and Compensation Act 1986 (Vic)
LPP	Local Planning Policies
LPPF	Local Planning Policy Framework
M80 Ring Road	Metropolitan Ring Road
MNES	Matters of National Environmental Significance
MSS	Municipal Strategic Statement
MTIA	Major Transport Infrastructure Authority
MTPF Act	Major Transport Projects Facilitation Act 2009 (Vic)
MVA	Megavolt Amps
NEL	North East Link
NELA	North East Link Authority
NELP	North East Link Project
NEIC	National Employment and Innovation Cluster
NEPM	National Environmental Protection Measure
NO ₂	Nitrogen dioxide
NVIM	Native Vegetation Information Management
OEMP	Operation Environmental Management Plan
PER	Public Environment Report
PMF	Probable Maximum Flood
PMST	Protected Matters Search Tool
PPF	Planning Policy Framework
PPP	Public Private Partnership
PSA	Planning Scheme Amendment
RBA	Rapid Bioassessment of waterways monitoring
SEPP	State Environment Protection Policy
SO ₂	Sulfur dioxide
SPRAT	Species Profile and Threats Database
TBM	Tunnel boring machine
TDS	Total Dissolved Solids
TIA	Transport Integration Act 2010 (Vic)
TSSC	Threatened Species Scientific Committee
UDS	Urban Design Strategy

Abbreviations	Definition
VBA	Victorian Biodiversity Atlas
WEMP	Worksite Environmental Management Plan
WoV	Waters of Victoria
WSUD	Water sensitive urban design