9. GLOSSARY

Note that terms shown in bold are described elsewhere in this Glossary.

100 year flood	A **flood** that occurs on average once every 100 years. Also known as a 1% flood. See **annual exceedance probability (AEP)** and **average recurrence interval (ARI)**.
50 year flood	A **flood** that occurs on average once every 50 years. Also known as a 2% flood. See **annual exceedance probability (AEP)** and **average recurrence interval (ARI)**.
20 year flood	A **flood** that occurs on average once every 20 years. Also known as a 5% flood. See **annual exceedance probability (AEP)** and **average recurrence interval (ARI)**.
Afflux	The increase in flood level upstream of a constriction of flood flows. A road culvert, a pipe or a narrowing of the stream channel could cause the constriction.
annual exceedance probability (AEP)	AEP (measured as a percentage) is a term used to describe **flood** size. It is a means of describing how likely a flood is to occur in a given year. For example, a 1% AEP flood is a **flood** that has a 1% chance of occurring, or being exceeded, in any one year. It is also referred to as the '100 year flood' or 1 in 100 year flood'. The terms **100 year flood**, **50 year flood**, **20 year flood** etc, have been used in this study. See also **average recurrence interval (ARI)**.
Australian Height Datum (AHD)	A common national plane of level approximately equivalent to the height above sea level. All **flood levels**, floor levels and ground levels in this study have been provided in metres AHD.
average annual damage (AAD)	Average annual damage is the average flood damage per year that would occur in a nominated development situation over a long period of time.
average recurrence interval (ARI)	ARI (measured in years) is a term used to describe **flood** size. It is the long-term average number of years between floods of a certain magnitude. For example, a 100 year ARI flood is a flood that occurs or is exceeded on average once every 100 years. The terms **100 year flood**, **50 year flood**, **20 year flood** etc, have been used in this study. See also **annual exceedance probability (AEP)**.
catchment	The land draining through the main stream, as well as tributary streams.
Development Control Plan (DCP)	A DCP is a plan prepared in accordance with Section 72 of the *Environmental Planning and Assessment Act, 1979* that provides detailed guidelines for the assessment of development applications.
DNR	Department of Natural Resources, formerly the Department of Infrastructure, Planning & Natural Resources (DIPNR).
discharge	The rate of flow of water measured in terms of volume per unit time, for example, **cubic metres per second (m^3/s)**. Discharge is different from the speed or **velocity** of flow, which is a measure of how fast the water is moving.
ecologically sustainable development (ESD)	Using, conserving and enhancing natural resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future, can be maintained or increased. A more detailed definition is included in the *Local Government Act 1993*.

effective warning time	The time available after receiving advice of an impending **flood** and before the floodwaters prevent appropriate flood response actions being undertaken. The **effective warning time** is typically used to move farm equipment, move stock, raise furniture, evacuate people and transport their possessions.
emergency management	A range of measures to manage risks to communities and the environment. In the flood context it may include measures to prevent, prepare for, respond to and recover from flooding.
EP&A Act	*Environmental Planning and Assessment Act, 1979*.
extreme flood	An estimate of the **probable maximum flood (PMF)**, which is the largest flood likely to occur.
flood	A relatively high stream flow that overtops the natural or artificial banks in any part of a stream, river, estuary, lake or dam, and/or local overland flooding associated with major drainage before entering a watercourse, and/or coastal inundation resulting from super-elevated sea levels and/or waves overtopping coastline defences excluding tsunami.
flood awareness	An appreciation of the likely effects of flooding and a knowledge of the relevant flood warning, response and evacuation procedures.
flood hazard	The potential for damage to property or risk to persons during a **flood**. Flood hazard is a key tool used to determine flood severity and is used for assessing the suitability of future types of land use.
flood level	The height of the **flood** described either as a depth of water above a particular location (eg. 1m above a floor, yard or road) or as a depth of water related to a standard level such as **Australian Height Datum** (eg the flood level was 7.8m AHD). Terms also used include **flood stage** and **water level**.
flood liable land	Land susceptible to flooding up to the **probable maximum flood (PMF)**. Also called **flood prone land**. Note that the term flood liable land now covers the whole of the **floodplain**, not just that part below the **flood planning level**.
flood planning levels (FPLs)	The combination of flood levels and **freeboards** selected for planning purposes, as determined in **floodplain management studies** and incorporated in **floodplain management plans**. The concept of flood planning levels supersedes the designated flood or the flood standard used in earlier studies.
flood prone land	Land susceptible to flooding up to the **probable maximum flood (PMF**). Also called **flood liable land**.
flood proofing	A combination of measures incorporated in the design, construction and alteration of individual buildings or structures subject to flooding, to reduce or eliminate damages during a **flood**.
Flood risk precinct	An area of land with similar flood risks and where similar development controls may be applied by a council to manage the flood **risk**. (The flood risk is determined based on the existing development in the precinct or assuming the precinct is developed with normal residential uses). Usually the floodplain is categorised into three flood risk precincts – 'low', 'medium' and 'high' – although other classifications can sometimes be used. (See also risk).
Flood Study	A study that investigates flood behaviour, including identification of flood extents, **flood levels** and flood velocities for a range of flood sizes.

floodplain	The area of land that is subject to inundation by floods up to and including the probable maximum flood event, that is, **flood prone land** or **flood liable land**.
Floodplain Risk Management Plan	The outcome of a **Floodplain Risk Management Study**. (Note that the term 'risk' is often dropped in common usage.
Floodplain Risk Management Study	Studies carried out in accordance with the *Floodplain Development Manual* (NSW Government, 2005) that assesses options for minimising the danger to life and property during **floods**. These measures, referred to as 'floodplain management measures/options', aim to achieve an equitable balance between environmental, social, economic, financial and engineering considerations. The outcome of a Floodplain Risk Management Study is a **Floodplain Risk Management Plan**.
floodway	Those areas of the **floodplain** where a significant discharge of water occurs during **floods**. Floodways are often aligned with naturally defined channels. Floodways are areas that, even if only partially blocked, would cause a significant redistribution of flood flow, or a significant increase in **flood levels**.
flow	see **discharge**
foreshore building line	A line fixed by resolution of Council in respect of land fronting any bay, river, creek, lagoon, harbour or ocean, which provides a setback distance where buildings or other structures would normally be prohibited.
freeboard	A factor of safety expressed as the height above the **design flood level**. Freeboard provides a factor of safety to compensate for uncertainties in the estimation of flood levels across the **floodplain**, such and wave action, localised **hydraulic** behaviour and impacts that are specific event related, such as levee and embankment settlement, and other effects such as "greenhouse" and climate change.
high flood hazard	For a particular size **flood**, there would be a possible danger to personal safety, able-bodied adults would have difficulty wading to safety, evacuation by trucks would be difficult and there would be a potential for significant structural damage to buildings.
hydraulics	Term given to the study of water flow in waterways; in particular, the evaluation of flow parameters such as water level and **velocity**.
hydrology	Term given to the study of the rainfall and runoff process; in particular, the evaluation of **peak discharges**, flow volumes and the derivation of hydrographs (graphs that show how the discharge or stage/flood level at any particular location varies with time during a flood).
Local Environmental Plan (LEP)	A Local Environmental Plan is a plan prepared in accordance with the *Environmental Planning and Assessment Act*, 1979, that defines zones, permissible uses within those zones and specifies development standards and other special matters for consideration with regard to the use or development of land.
low flood hazard	For a particular size flood, able-bodied adults would generally have little difficulty wading and trucks could be used to evacuate people and their possessions should it be necessary.
m AHD	metres **Australian Height Datum (AHD)**.
m/s	metres per second. Unit used to describe the **velocity** of floodwaters.

m^3/s	Cubic metres per second or 'cumecs'. A unit of measurement for creek or river flows or **discharges**. It the rate of flow of water measured in terms of volume per unit time.
merit approach	The principles of the merit approach are embodied in the *Floodplain Development Manual* (NSW Government, 2005) and weigh up social, economic, ecological and cultural impacts of land use options for different **flood prone** areas together with flood damage, **hazard** and behaviour implications, and environmental protection and well being of the State's rivers and **floodplains**.
overland flow path	The path that floodwaters can follow if they leave the confines of the main flow channel. Overland flow paths can occur through private property or along roads. Floodwaters travelling along overland flow paths, often referred to as 'overland flows', may or may not re-enter the main channel from which they left — they may be diverted to another water course.
peak discharge	The maximum **flow** or **discharge** during a flood.
present value	In relation to flood damage, is the sum of all future flood damages that can be expected over a fixed period (usually 20 years) expressed as a cost in today's value.
probable maximum flood (PMF)	The largest flood likely to ever occur. The PMF defines the extent of **flood prone land** or **flood liable land**, that is, the **floodplain**. The extent, nature and potential consequences of flooding associated with the PMF event are addressed in the current study.
reliable access	During a **flood**, reliable access means the ability for people to safely evacuate an area subject to imminent flooding within **effective warning time**, having regard to the depth and **velocity** of floodwaters, the suitability of the evacuation route, and other relevant factors.
risk	Risk is measured in terms of consequences and likelihood. In the context of floodplain management, it is the likelihood and consequences arising from the interaction of floods, communities and the environment. For example, the potential inundation of an aged person's facility presents a greater flood risk than the potential inundation of a sports ground amenities block (if both buildings were to experience the same type and probability of flooding). Reducing the probability of flooding reduces the risk, increasing the consequences increases risk. (See also **flood risk precinct**).
runoff	The amount of rainfall that ends up as flow in a stream, also known as rainfall excess.
SES	State Emergency Service of New South Wales.
stage–damage curve	A relationship between different water depths and the predicted flood damage at that depth.
velocity	the term used to describe the speed of floodwaters, usually in **m/s**.
water level	see **flood level**.
water surface profile	A graph showing the height of the **flood** (**flood stage**, **water level** or **flood level**) at any given location along a watercourse at a particular time.
WSUD	Water Sensitive Urban Design.