

# Stormwater Management Policy

## Wingecarribee Community Strategic Plan 2031

### 3.4 We have a safe, maintained and effective assets and infrastructure

#### 3.4.2 Manage and plan or future water, sewer and stormwater infrastructure needs.

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## 1. Objectives

Council manages and maintains drainage infrastructure assets to provide the community with a safe and reliable stormwater network. The objectives of the Stormwater Management Policy are to provide clarity on:

- Definitions of the stormwater network
- Different types of flooding that can be experienced.
- What are the responsibilities of Council, developers and property owners

And in doing so:

- Ensure consistency and transparency when managing stormwater
- Adopt and implement a standard for stormwater management, and
- Minimise any disagreements between stakeholders.

## 2. What is the Stormwater Network

The stormwater network can be initially separated into two categories of natural system and designed system.

### 2.1 Natural Stormwater Network

The natural stormwater network is how the flow of water would naturally traverse across the landscape prior to it being disturbed by development. This is described as *natural overland flow* and would follow the topography of the land till it discharges to a *natural waterway* – be it a creek, river, lake etc.

#### Natural Waterway

There is no one method for the definition and designation of a natural waterway. It can involve the investigation and consideration of multiple factors, including topographical maps, historical imagery, shape and nature of the waterway and vegetation present. It is the subject of numerous legal actions and court proceedings and the complexity of the matter is beyond the scope of this Policy.

Natural waterways provide an important stormwater management function, however they also provide significant additional benefits through:

- Slowing water flows down, when compared to concrete pipes & channels.
- Aquatic and riparian vegetation enhancing water quality
- Protecting and conserving biodiversity including through riparian corridors and vegetation
- Improving liveability by providing green spaces


Natural waterways occur across an array of land tenures, including but not limited to, Crown and Council owned land, National Parks, State Forests and freehold title. The ownership and maintenance responsibility of natural waterways rests with the landowner of whom that section of the waterway is located.

### 2.2 Designed Stormwater Network

The designed stormwater network comprises of stormwater pits, pipes, culverts, headwalls, channels and basins which have the purpose of controlling the overland flow of an area. It can be generally separated into three categories.

#### Inter-allotment Drainage

Inter-allotment drainage systems are stormwater networks constructed for the purpose of managing the stormwater flow from properties. An inter-allotment drainage easement is often created during a subdivision and is formalised under Section 88B of the Conveyancing Act 1919 where it is registered in the land title outlining



benefitted and burdened parties.

In newer subdivisions they are commonly seen through a small pit and pipe network running along the rear boundary of properties that are unable to drain to the adjoining road due to the road being higher than the property. The inter-allotment drainage network may also utilise drainage swales or channels, although this is generally only found in rural or peri-urban areas where there is sufficient space for this arrangement. The inter-allotment drainage network will therefore convey stormwater flows from these properties to a discharge point further downhill. Inter-allotment drainage is less common in older subdivisions, however it does at times still feature through the presence of onsite detention or absorption trenches.

Inter-allotment drainage systems are of private ownership and maintenance responsibility.

### **Minor Stormwater Network**

The minor stormwater network is defined as the kerb and gutter and pipe network capable of carrying and controlling flows from frequent runoff events. The Wingecarribee Shire Council Engineering Design Specification D09 Stormwater Drainage provides the technical details as to the current design standards for the minor stormwater network - which can be largely summarised as being designed to accommodate the five year rain event (20% AEP). It is acknowledged that design standards for the minor stormwater network, all across NSW, have evolved across many years and so the minor stormwater network will be of varied design capacity across the Shire.

The minor stormwater network primarily consists of the kerb and gutter and pits and pipes along the road network. As well as water quality assets like Gross Pollutant Traps (GPTs), bioretention basins and artificial wetlands. Ownership and maintenance of the minor stormwater network largely rests with Council, however in some areas it instead rests with other public authorities (like TfNSW), private ownership or community/strata title.

### **Major Stormwater Network**

The major stormwater network is defined as the drainage routes providing safe, well-defined flow paths for rare and extreme storm runoff events. The Council Engineering Design Specification D09 Stormwater Drainage provides the technical details as to the current design standards for the major stormwater network – which can be largely summarised as being designed to accommodate the 100 year rain event (1% AEP) where possible. Design standards for the major stormwater network have also evolved across many years and so the network is of varied capacity across much of the Shire.

The major stormwater network primarily consists of the waterways, channels and detention basins across the Shire and makes use of overland flow along the road network. Pipes and culverts generally only feature where a road may cross a waterway or channel.

Ownership and maintenance of the major stormwater network largely rests with Council, however in some areas it instead rests with other public authorities (like TfNSW) or private.

## **2.3 Easements**

A drainage easement is a legal encumbrance on the title of a property to protect the drainage infrastructure within that property which benefits other properties. The infrastructure can include open drainage channels, below ground pipe systems and grated inlets that are designed to accept allotment and roof water together with larger upstream catchment stormwater flows.

Generally, no structures or improvements (such as dwellings, buildings and landscaping treatments including

earthworks, retaining walls and fill) are permitted within the easement boundaries.

### 3. What are the different causes of flooding

#### 3.1 Seepage

Groundwater relates to water that moves underground towards waterways, it can also be described as natural subterranean flow. Seepage is where this groundwater may rise to the land surface. Groundwater in most locations exists independently of whether there is rain falling. Additionally, groundwater may surface in several locations creating seepage issues generally where natural ground exists (i.e. back and front yards, nature strips, etc.). Groundwater movement and quantity may change over time due to a variety of factors (i.e. periods of drought or prolonged rainfall, etc.).

#### 3.2 Riverine Flooding

River flooding happens when widespread, prolonged rain falls over the catchment of a river. As the river channel reaches capacity, excess water flows over its banks causing flooding. Riverine flooding downstream can occur hours or days after the rainfall has finished. Riverine flooding may coincide or exacerbate flooding in adjacent creeks and tributaries and may itself be exacerbated by higher than normal high tide conditions.

#### 3.3 Natural Overland Flow

Many instances of flooding across the Shire can be attributed to natural overland flow. Properties that are located downhill of bushland, parks and road reserves may experience natural overland flow during rain events. The volume of natural overland flow can be increased when the ground is already saturated and so cannot absorb any more water.

#### 3.4 Exceedance of Designed Stormwater Network

The intent of the minor and major stormwater networks are that they are designed to safely accommodate rain events up to a certain magnitude. If a rain event is encountered which exceeds the capacity of the network, some properties may experience flooding as result.

#### 3.5 Failure of Stormwater Network

If the designed stormwater network experiences structural failure or suffers from blockage, this will inevitably result in reduced performance and so some properties may experience flooding as consequence.

### 4. How does Council manage the Stormwater Network

#### 4.1 Floodplain Risk Management Process

Under the NSW Flood Prone Land Policy the management of flood prone land is, primarily, the responsibility of Council. The main objective of the Flood Prone Land Policy is to reduce the impact of flooding and flood liability on owners and occupiers of flood-prone property and reduce public and private losses. The Policy recognises the benefits of use, occupation and development of flood-prone land.

The NSW Government has developed the Floodplain Development Manual and Guidelines to assist Council is successfully meeting these responsibilities. The Manual advises Councils to adhere to the Floodplain Risk Management Process described below:

Stage	Description
1. Data Collection	Compilation of existing data and collection of additional data.
2. Flood Study	Defines the nature and extent of the flood problem

3. Floodplain Risk Management Study	Determines options for the existing and future development of the floodplain, considering social, economic and environmental costs and benefits.
4. Floodplain Risk Management Plan	Management plan for the risks identified in the risk management study. Preferred options publicly exhibited and subject to revision in light of responses.
5. Plan Implementation	Implementation of actions identified in the plan.

Table 1 - Floodplain Risk Management Process

Council has, and is continuing to, develop flood studies and floodplain risk management studies in accordance with the Floodplain Risk Management Process. All completed studies and plans are available on the Council website. (<https://www.wsc.nsw.gov.au/Environment/Natural-Environment/Waterways/Flood-Studies>).

#### 4.2 Stormwater Masterplans

For localities where preparation of a Flood Study & Floodplain Risk Management Plan would yield minimal benefit, a Stormwater Masterplan for the locality will instead be prepared Council. Stormwater modelling will be utilised to identify and consider flooding potentials, drainage bottlenecks, current upgrades and future drainage needs. An example of a locality for which this would be appropriate is Yerrinbool.

The Stormwater Masterplans would be prepared by Council, and following a period of public exhibition, would be adopted by Council and made available on the Council website.

The works identified within the Masterplans will be considered for inclusion within the annual capital program and will also influence private development in these areas.

#### 4.3 Asset Renewal

In accordance with objectives of Council's Asset Management Policy, the successful delivery of an asset renewal program is critical to the sustainable management of an infrastructure network.

To this end, Council is striving to achieve an asset renewal ratio of at least 100%. This means that no less than the value of the annual depreciation of infrastructure base is being annually expended on the renewal of that infrastructure base.

An asset inspection regime is therefore in place for the stormwater network to ensure condition and performance data is being methodically collected across the Shire.

#### 4.4 Maintenance

Maintenance of the stormwater network is undertaken as required across the Shire. Like most regional councils, the network is largely managed on a reactive basis in response to enquiries, requests and complaints from the community.

#### 4.5 Private Development

Private development within the Shire is regulated through the Environmental Planning and Assessment Act 1979. There are three ways which authorised private development can occur. The stormwater requirements for each are summarised below:

##### Exempt development

Roof water or surface runoff is disposed of by connection into an existing stormwater drainage system.



## Complying development

Stormwater drainage directed by a gravity fed or charged system to a public drainage system or inter-allotment drainage system or an on-site disposal system. Demonstrated by that there would be no increase in the overland water flows (peak discharge rate) in terms of volume and direction. (Note: non-minor development also needs to model stormwater quality). Generally, would need to be connected to a public drainage system or inter-allotment drainage system.

Note: State Exempt and Complying Development Codes SEPP 2008 requires separate approval under Section 68 of the Local Government Act 1993 or compliance with Council stormwater requirements contained in the applicable development control plan (DCP).

## Development application

Demonstrated by that there would be no increase in the overland water flows (peak discharge rate) in terms of volume and direction. (Note: non-minor development also needs to model stormwater quality). Generally, would need to be connected to a public drainage system or inter-allotment drainage system.

Through this process, Council will ensure that the proposed development is in accordance with relevant Development Control Plan (DCP) and Engineering Design Specifications. With much of the Shire located within the Sydney Drinking Water Catchment, most new development is required to have a neutral or beneficial effect (NorBE) on water quality and so will require significant consideration of runoff and water quality control measures.

That withstanding, opportunities also exist for landowners of private property to install and manage property-based stormwater management & reuse measures such as raingardens and water tanks. Development Approval may be required in some situations; however the Exempt & Complying Development Codes State Environmental Planning Policy (SEPP) does create provision for these works to be classed as Exempt Development in many cases.

## Driveways

Of critical importance in the design and construction of driveways is that they do not create a low spot for water to escape from the kerb and gutter or swale drain that may be supporting the adjacent road.

For this purpose, Council has developed standard drawings for residential and commercial driveways which are available on the Council website. (<https://www.wsc.nsw.gov.au/Development/Other-Development-Information/Engineering-Standards#section-9>).

Driveways, inclusive of any underlying pipes in rural settings, are the owners' responsibility to construct and maintain as per NSW Roads Act 1993.


## 5. How will Council respond to stormwater enquiries

### 5.1 Natural Overland Flow

Natural overland flow is the outworking of an area's natural topography and geology.

An upstream property cannot be held liable merely because surface water flows naturally from their land onto the lower land. As long as the natural overland flow is not being concentrated or redirected as the result of development, it must be accepted by adjoining properties. Downstream properties cannot erect any type of barrier by way of large walls or closed fencing that interferes with the path of natural overland flow.





If a landowner has concerns that they are being subject to overland flow being unlawfully redirected or concentrated by a neighbour, it is recommended that the matter is attempted to be resolved through discussion and liaison with the impacted parties. Council has limited powers to intervene in drainage disputes between neighbours and, similar to dividing fences, they are generally deemed as a civil matter to be resolved between the respective parties.

Landowners are encouraged to talk to their neighbours about the problem and to seek a mutually suitable solution. If this does not resolve the matter, the landowners can also contact the Community Justice Centre who can offer free advice and non-legal mediation services. The Centre can be contacted on 1800 990 777 or through their website [www.cjc.nsw.gov.au](http://www.cjc.nsw.gov.au). Alternatively, land owners can seek legal advice about the feasibility of taking civil action against the party generating the problem if it is believed their property has suffered or been exposed to potential damage.

Natural overland flow is to be one of the site factors considered in the design and construction of all development. Council therefore holds no responsibility for preventing natural overland flow from exiting any land under Council's ownership or care.

## **5.2 Seepage**

Seepage is the surfacing of natural subterranean flow. Similar to natural overland flow, it is a natural occurrence that is the outworking of an area's natural topography, geology and water table. Seepage is to be one of the site factors considered in the design and construction of all development. Council therefore holds no responsibility for the management of seepage across the Shire.

## **5.3 Natural Waterways**

The ownership and maintenance responsibility of natural waterways rests with the landowner of whom that section of the waterway is located. Council therefore holds no responsibility for the maintenance of waterways that are within property not under Council's ownership or care.


For natural waterways within land under Council's ownership or care, the primary focus is on ensuring the satisfactory flow of water through the channel for the purpose of avoiding any premature flooding within the catchment. Maintenance works will therefore seek to prioritise works for this purpose in the first instance, however works for environmental and aesthetic benefit will also be considered as required. These environmental and aesthetic considerations are specified within Section 3 of the Wingecarribee Environmental Strategy 2012 – 2017.

## **5.4 Inter-allotment Drainage**

Inter-allotment drainage is of private ownership and maintenance responsibility. It is the responsibility of the landowner to maintain their roof water drainage, stormwater pipes, gutters, downpipes, stormwater inlet pits and any other components of their approved drainage system in good condition and in compliance with any Council/statutory requirements.

If a landowner has concerns over the condition and performance of a neighbour's inter-allotment drainage network, it is recommended that the matter is attempted to be resolved through discussion and liaison with the impacted parties. Council has limited powers to intervene in drainage disputes between neighbours and, similar to dividing fences, they are generally deemed as a civil matter to be resolved between the respective parties.

Landowners are encouraged to talk to their neighbours about the problem and to seek a mutually suitable solution. If this does not resolve the matter, the landowners can also contact the Community Justice Centre who can offer free advice and non-legal mediation services. The Centre can be contacted on 1800 990 777 or through



their website [www.cjc.nsw.gov.au](http://www.cjc.nsw.gov.au). Alternatively, land owners can seek legal advice about the feasibility of taking civil action against the party generating the problem if it is believed their property has suffered or been exposed to potential damage.

### **5.5 Minor Stormwater Network**

Council is responsible for ensuring that the minor stormwater work under Council's ownership and care is of satisfactory condition and performance.

Renewal of the minor stormwater network will be prioritised in accordance with the condition of the network.

Upgrades to the minor stormwater network will be prioritised in accordance with the flooding benefit achieved. Works to address floor-level flooding (defined as buildings being inundated) will be prioritised over nuisance flooding (defined as only land being inundated).

Extension of the minor stormwater network into new sub-divisions will be in accordance with Council's Engineering Design Specification D09 Stormwater Drainage.

### **5.6 Major Stormwater Network**

The existing major stormwater network is managed in accordance with the Floodplain Risk Management Process. The Flood Studies and subsequent Risk Management Studies and Plans are all available on the Council website. (<https://www.wsc.nsw.gov.au/Environment/Natural-Environment/Waterways/Flood-Studies>).

Extension and upgrade of the major stormwater network within new sub-divisions will be in accordance with Council's Engineering Design Specification D09 Stormwater Drainage.

### **5.7 Council Easements**

There are instances across the Shire where the stormwater network passes through private property without the formalisation of an easement. Instances where an easement requires formalisation will be managed as identified and with consideration to the flooding impact incurred.

However, it is noted that an easement is not required in many of these situations due to the presence of a natural watercourse or the flow in fact being classified as natural overland flow – example being an unsealed road constructed on-grade without a drainage network and so the surface water follows the natural topography.

Council can also at times be listed as the governing authority or benefitting party of an easement despite there being no Council drainage infrastructure within the easement. The listing of Council as a benefitting party of an easement does not by itself create a responsibility for Council to maintain the land or infrastructure within the easement. Council is responsible for the structural integrity and maintenance of Council stormwater pipes and concrete channels – irrespective of whether there is a formalised drainage easement or not.

If the drainage easement is the purpose of ensuring the controlled overland flow of water along a swale or natural waterway, the landowner is responsible for ensuring the continued unencumbered flow of this water. Fences and other obstructions are therefore not permitted within the easement.

### **5.8 Other**

The Policy does not provide an exhaustive response to all permutations of the various matters that may arise in the management of the stormwater network across the Wingecarribee Shire.

## **6. Responsibilities**

Responsibilities for the implementation of this Policy are shared as follows:



## 6.1 Councillors

Provide leadership in supporting this Policy at Council meetings, functions and events.

## 6.2 Executive

Integrate the Policy across business areas.

## 6.3 Council staff

Act in accordance with this Policy while dealing with customer complaints.

## 7. Performance Measures

- Improved response time in relation to stormwater enquiries, requests and complaints.
- Reduced numbers of stormwater enquiries, requests and complaints.

## 8. Definitions

Define any specific terms relating to the Policy that may not be obvious to a member of the public or other external stakeholder. Include any acronyms and their meanings. The following table should be used:

<b>S88B</b>	S88B of the Conveyancing Act 1919
<b>AEP</b>	Annual Exceedance Probability
<b>Inter-allotment Drainage</b>	Drainage between properties
<b>Drainage Easements</b>	Created under S88B for the passage of stormwater, it may be within property boundaries and the beneficiary has the right to discharge stormwater through it.
<b>Drainage Reserves</b>	Created outside the property boundaries and will be fully owned by Council
<b>Waterways</b>	Natural creeks or rivers
<b>TfNSW</b>	Transport for NSW

## 9. Related Material

### 9.1 Related Legislation

The following legislative materials are related to this Policy:

- Conveyancing Act 1919
- Local Government Act 1993
- NSW Roads Act 1993
- Water Management Act 2000
- Environment Planning and Assessment Act 1979

## 10. Document Control

### 10.1 Version Control

Version	Adoption Date	Notes
1.0	16 November 2022	Development of Stormwater Management Policy

### 10.2 Superseded Documents

The following documents are superseded by this Policy:

Document Title	Adoption Date	Notes
<b>Stormwater Drainage Over Private Property Policy</b>	28 July 2004	Policy did not provide sufficient coverage across the wide range of matters arising in stormwater management.

## 11. Attachments

1. There are no attachments to this Policy.

Approved by:

**WINGECARRIBEE SHIRE COUNCIL**

16 November 2022