Allans Creek planning matrix

A planning matrix for the Allans Creek catchment has been adopted by Council and forms part of DCP 2009 (Chapter E13 – Floodplain Management). The matrix considers the range of land uses, and the potential risk to flooding, within the floodplain up to the level of the probable maximum flood. Using this approach, a matrix of development controls, based on the flood exposure and the land use, has been developed that balances the risk of exposure across the floodplain.

If you are developing in this area, you will need to refer to DCP 2009 to ensure that Council’s requirements with respect to floodplain management are understood and met.

Removal of a Portion of the F6 Median Strip

A large vegetated earth mound forms the median strip of the F6 Freeway in the Figtree area. The removal of this median mound for the entire length of overtopping will allow for flood flows to pass the Freeway with less restriction and hence reduce flood risk upstream of the Freeway.

The removal of this median mound was completed by the Roads and Traffic Authority in 2005.

Upper Byarong Creek Scheme - Investigation and Concept Design

The main objective of this project is to assess and design a number of concept flood mitigation options within the upper Byarong Creek catchment and recommend the suitable concept options to reduce the effects of flooding on the community.

The recommended flood mitigation options (known as the upper Byarong Creek scheme) comprise:

- The installation of debris control structure upstream of Koloona Avenue
- Creek works upstream of Koloona Avenue
- Contouring park on the left bank upstream of Koloona Avenue to form an offline dry detention area
- Ring levee in the vicinity of Casuarina and Whelan/Coronata intersection
- Flood storage area immediately upstream of Koloona Avenue following voluntary purchase of property
- Flood storage area immediately downstream of Koloona Avenue following voluntary purchase of property
- Flood storage area in the vicinity of Casuarina Place and Eureka street.

The investigation and concept design works have been completed. Of all the above recommended options, the installation of debris control structure upstream of Koloona Avenue ranked the most highly. The report has recommended this option to be implemented. Council continuously seeks funding for the detailed design works of this option.

Brandy & Water Creek – Investigation and Implementation of Floodplain Lowering

The main objective of this project is to investigate and design of concept flood mitigation option in the vicinity of Darragh Drive, Figtree and to recommend the suitable concept option to reduce the effects of flooding on the community.

The proposed creek modification work involves lowering the west bank of Brandy & Water Creek and other associated works to increase conveyance and reduce overfloor flooding in the Darragh Drive properties.

Detailed modelling and design options assessment have been carried out and it was found that physical works are not viable as the costs associated with reducing the flood damages outweigh the benefits.

The report has recommended that the creek modification work not be implemented.
Koloona Avenue, Figtree - Debris Control Structure

This involves a detailed investigation into the possibility of installing a debris control structure upstream (on the western side) of Koloona Avenue. The aim is to reduce the frequency with which the existing Koloona Avenue culverts block with debris.

Council has carried out a detailed investigation into the feasibility of such a debris control structure, including an assessment of various debris control structure options and associated site constraints. The report has recommended that the debris control structure at the proposed location not be implemented as the financial cost of implementing this debris control structure outweighs the financial benefit.

Further to this, the report also recommended that Council investigate the opportunity to install a debris control structure immediately upstream of the Koloona Avenue culverts. This recommendation is dependent on the voluntary purchase of adjacent properties previously identified in the Allans Creek Floodplain Risk Management Plan.

Allans Creek Debris Control Structures

This project seeks to construct two Debris Control Structures (upstream of Princes Highway Bridge on American Creek and upstream of The Avenue on Byarong Creek). The investigation and concept design phase (completed in October 2017) found that the debris control structures will reduce the flood impacts by allowing the drainage system to drain effectively. The cost benefit analysis indicates that there are significant benefits in reducing economic damages to private properties as well as protecting key public assets including road embankments from potential catastrophic failure during storm events. Detailed design and construction of the structures is identified in Council capital works program. Council continuously seeks funding for the detailed design and construction works of these debris control structures.

Improvement of Flow Entry to Princes Highway Bridge – Byarong Creek

To reduce the volume of flows that bypass the Princes Highway Bridge and flow into the Arrow Avenue area through to Cleverdon Crescent, the Floodplain Risk Management Plan has recommended improvement of flow entry to Princes Highway Bridge and modification of creek system at the rear of Arrow Avenue properties.

This project has been undertaken in two phases:

1. Improve training of approach to the bridge and provide access for creek maintenance - Investigation and concept design of these works have been completed, detailed design is in progress. Construction of these works is identified in Council capital works program.
2. Creek modification work to reduce bypass flow – This work has not commenced as it is dependent on voluntary purchase of properties. Additional inlet capacity in Arrow Avenue is being investigated as an interim measure.

Riparian Corridor Management throughout the Catchment

Since 2012 Wollongong Council has implemented riparian corridor management (weed/vegetation management/bank regrading and stabilisation/revegetation) at various locations along Council-own portions of creeks throughout the catchment as recommended in the Floodplain Risk Management Plan. The primary objective is to reduce creek bank erosion as well as to improve channel conveyance capacity. This is an ongoing project and will include maintenance of revegetated area.

Creek Modification Works – Blackman Parade, Charcoal Creek

The project is located on Charcoal Creek downstream of Blackman Parade, Unanderra. This project involves the installation of gabion bank protection and rock bed protection.

Design and construction of these works have been completed.
Channel Reconstruction – Blackman Parade, Allans Creek

Channel reconstruction work on a section of Allans Creek in the vicinity of 11 Blackman Parade involves provision of rock scour protection on the creek bed and repair the existing rock bank protection which aim to improve hydraulic capacity and ease of maintenance.

Design and construction of these works have been completed.

Voluntary Purchase

Under the Allans Creek Floodplain Risk Management Plan (FRMP), 18 properties were earmarked for voluntary purchase. To date one property on Princes Highway, Figtree, two properties on Arrow Avenue, Figtree, three properties on Koloona Avenue, Figtree and two properties on the Avenue, Figtree, have been purchased and demolished by Council.

The implementation of further work is dependent on the Federal and State Governments' funding.