



Stormwater Management Plan

Fact Sheet

Why Do We Need A Stormwater Management Plan?

Effective stormwater management and flood mitigation is one of the most significant issues facing the City of Charles Sturt and its residents.

Many suburbs in the City have a long history of flooding because the land is flat and close to sea level, and much of the stormwater infrastructure is ageing.

In 2002, the City of Charles Sturt embarked on a process to develop a Stormwater Management Plan (SMP), taking a holistic approach to effective stormwater management, including flood mitigation, improving water quality, urban amenity and using stormwater for community benefit.

We are identifying flood risk across the city so that we can plan with some degree of certainty for future development over the next 50 years.

In a joint project with the Adelaide & Mount Lofty Ranges Natural Resources Management Board (previously the Torrens Catchment Water Management Board), six stormwater catchment areas were identified for detailed study. These catchments represent about 57 per cent of the City's 5474 square kilometres. It is anticipated that all catchments in the City will eventually be analysed.

The initial analysis has found that a large proportion of the stormwater infrastructure is either in relatively poor condition or is inadequate and will require significant additional funding to replace or upgrade. However, if Council does nothing, the damage bill for a major flood could be many times greater than the cost of rectification.

Floodplain Mapping Identifies Properties At Risk

As part of the SMP, detailed floodplain mapping has been completed for the Henley/Fulham, Meakin Terrace, Trimmer Parade and Port Road catchments and more recently for the Torrens Road Drainage Authority (TRDA) catchment. The spatial mapping, which is an essential part of flood risk management, has indicated properties at risk of flooding and the likely outcomes of one-in-five year rainfall events and one-in-100 year events.

It is important to note that the mapping has not changed the risk to these properties, but has merely identified it. These properties may have experienced flooding in the past and many may never experience flooding.

Owners of properties identified as being at risk during a one-in-100 year rainfall event are contacted by Council as the information becomes available.

The Next Steps

The next step in the Stormwater Management Plan is a cost benefit analysis to determine the work required, the costs and the priorities for reducing the risk of flooding in vulnerable areas. A report was received by Council in 2005 outlining a cost benefit analysis approach, which is used to determine proposed programs of work. These are put to Council for consideration as they are developed.

It is clear the cost of upgrading and repairing major drainage systems will be tens of millions of dollars. Such a major infrastructure upgrade is beyond the resources of a local Council and consultation with State Government officials has already been initiated. Other options for financing the works, such as long-term infrastructure loans, are also being investigated.

Ageing stormwater infrastructure is an issue throughout metropolitan Adelaide. The Metropolitan Adelaide Stormwater Management Study, a joint State and Local Government study conducted in 2004, estimated that more than \$160 million worth of stormwater drainage work is required across the metropolitan area.

Most metropolitan Councils have now commissioned, or will be commissioning, Stormwater Management Plans.

Council and Residents Working Together

It is important that Council work with residents on developing other strategies to reduce the risk of flooding. While long-term improvements to the stormwater infrastructure are essential, it is extremely difficult to totally eliminate risk.

We strongly advise residents to introduce their own measures to alleviate flood hazards, just as people living in bushfire areas are asked to prepare for the fire season. Information regarding flood hazard advice, including an Emergency Flood Plan can be found on the State Emergency Services website: www.ses.sa.gov.au/hazardadvice/flood.htm

Council has considered how information from the floodplain mapping can be applied to the development assessment process. This may include measures such as:

- requiring increased floor heights;
- ensuring that driveways flow towards the road and not back towards the properties; and
- setting limits on how much stormwater can be discharged from properties.

The application of the information is likely to apply to new building developments, as well as additions and new outbuildings used to store goods and materials. A **Development Information Guide – Flood Mitigation** has been produced to assist with development applications.

During the past few years, Council has also been working in a number of ways to optimise the capacity of the existing stormwater infrastructure. This includes ongoing box culvert and stormwater upgrade and replacement programs, stormwater pump upgrades along the coast and the investment of a JetVac, a highly effective machine that clears debris from stormwater pipes. In addition Council has commenced the preparation of detailed design for the Port Road Rejuvenation Project.

By working together we can limit the potential damage from a major flood.

Frequently Asked Questions

How do I know if my property has been identified as being at risk?

Council has written to the owners of properties that the floodplain mapping has identified as at risk in a one-in-100 year rain event, and will continue to update affected owners with new information as it becomes available.

For further information, please contact our Customer Service staff (telephone 8408 1111) or visit our website; www.charlessturt.sa.gov.au

What is the difference between a one-in-five year rainfall event and a one-in-100 year event?

A one-in-five year rainfall event has a probability of occurring every five years, and a one-in-100 year event is one that will probably occur every 100 years. Generally a one-in-100 year rain event is more intense and heavier than a one-in-five year event.

Planning for a one-in-100 year flood does not guarantee protection for the next 100 years. For example, Murray Bridge recently experienced two one-in-100 year floods within weeks of each other. A 100-year event may not occur at all in that timeframe and, if it does, it may not necessarily cause a problem.

Will all catchments undergo analysis and floodplain mapping?

It is anticipated that each catchment will eventually be analysed and mapped in a systematic order decided by Council. The five catchments considered at highest risk of flooding, covering 57 per cent of the City area, were analysed first. (A sixth report, of Hindmarsh/Enfield/Prospect, is not yet complete.)

Floodplain mapping is now completed for Henley/Fulham, Meakin Terrace, Trimmer Parade, Port Road and TRDA catchments.

The work is being undertaken by Tonkin Consulting, an acknowledged leader in stormwater management and drainage systems in Australia.

Why wasn't the information already available?

Prior to commissioning the analysis of individual catchments, Council had information about drainage systems, a good deal of internal knowledge, and both recorded and anecdotal history. This information was piecemeal and inconsistent, having come from three different Councils before amalgamation in 1997.

A number of smaller studies have been conducted in the past but a coordinated, overall approach to stormwater management was required.

Council's storm information needed updating to reflect newer rainfall data knowledge and the effect of increased development. The last major widespread floods on the Adelaide plains were in the early 1980s and there has been a great deal of development since then.

It is the cumulative effect of developments over many years that may worsen the impact of floods, and we must plan for the long-term implications of this.

What happens if no action is taken to improve the infrastructure?

The initial analysis of five catchments has found that a large proportion of the City's stormwater infrastructure is either in relatively poor condition or is inadequate and will require significant additional funding.

If the work is not done, the level of flood protection for properties will reduce as the infrastructure continues to deteriorate and the population of the City increases. The damage bill from a major flood may be many times greater than the cost of replacing or repairing the infrastructure.

If Council fixes the infrastructure, will it mean that the properties identified as being at risk of flooding will be free of risk?

If the infrastructure is replaced, repaired or improved, it will reduce the flood risk for most properties.

What does Council plan to tackle first and what will it cost?

The cost benefit analysis to determine the work required, the costs and the priorities was put to Council for consideration in late 2005. Our engineering department will use this report to determine a proposed program of works, which will also be put to Council. The timing of works will depend on funding availability and the City is seeking assistance from the State Government.

Tonkin Consulting in July 2004 made early estimates that it would cost \$30 million for major infrastructure work in three catchments alone - Port Road (\$24 million), Trimmer Parade and Meakin Terrace (\$6 million combined).

This does not include the cost of repairing smaller, local drains or achieving any other objectives in the SMP, such as improving water quality and using stormwater for community benefit.

What impact will this have on rates?

Council is looking at every option to minimise the effect on Council rates. Consultation with the State Government on funding has already begun and other options, such as long-term infrastructure loans, are being investigated. Ultimately, the Council's budget is determined by elected Councillors.

More Information

Further information, including the floodplain mapping and the Development Information Guide, is available at the Civic Centre at Woodville. All information is posted on our website www.charlessturt.sa.gov.au. General information can be obtained by contacting our Customer Service staff on 8408 1111.