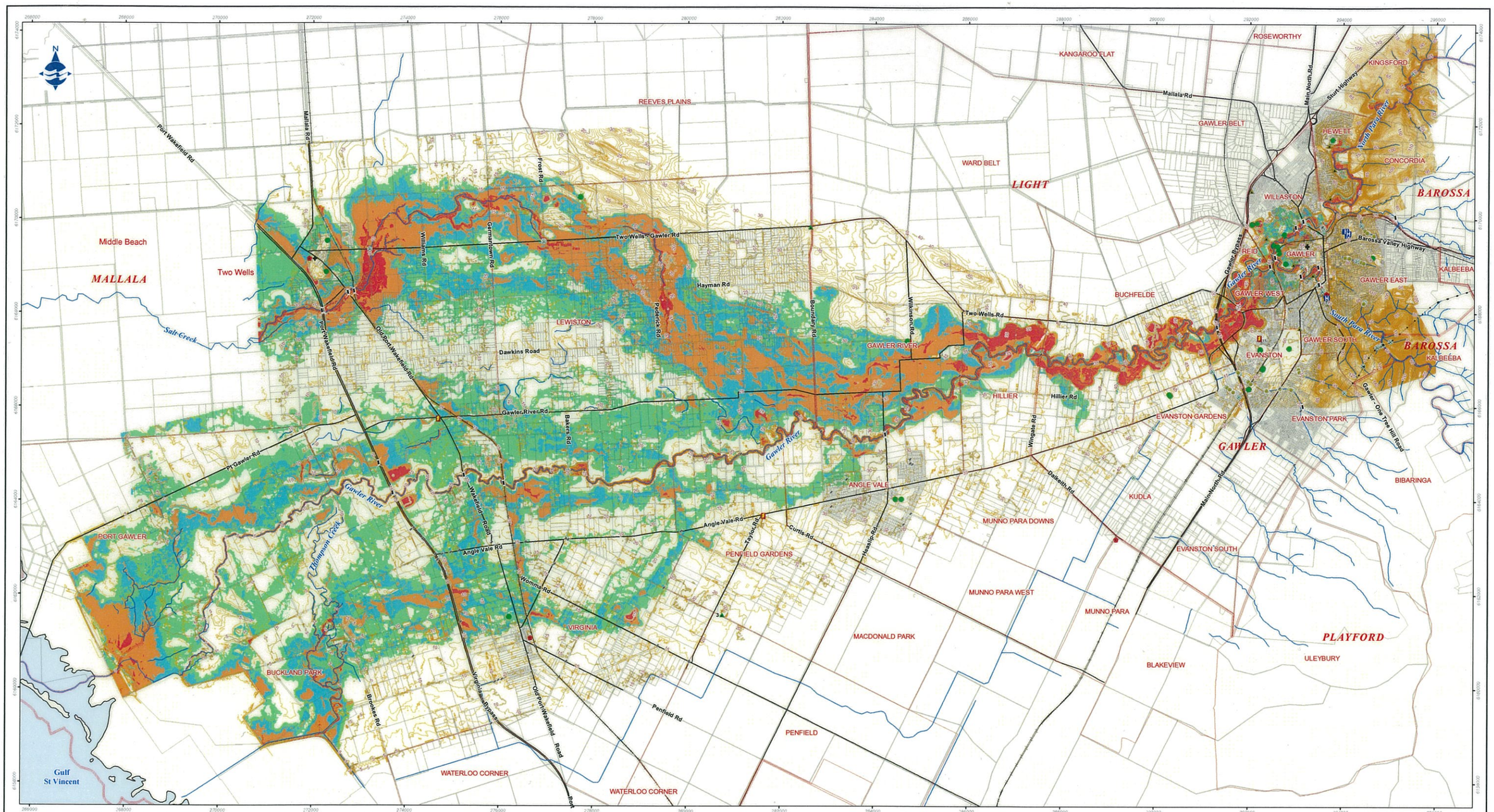

Notice To Readers Of This Map

This map must be read in conjunction with the following information and the main study report "Floodplain Mapping for Gawler River Technical Report, February 2008, volume 1".

Background

This map has been prepared using the best technology currently available to a standard of accuracy sufficient for broad scale flood risk management and planning. All maps in the series will help promote awareness of flooding associated with the Gawler River. It is expected that it will be of use to persons undertaking development and by the authorities that assess land capability and development proposal. It will also assist in planning essential services and emergency response.

Flood behaviour

A flood occurs when a pipe, channel or creek cannot carry the volume of water entering from a catchment. When this occurs, floodwaters travel across the surface of the land potentially damaging property built upon the floodplain and potentially threatening the safety of people in the floodplain. Flooding is a natural event.

Annual Exceedance Probability (AEP)

The AEP is the likelihood of occurrence of a flood of given size or larger in any one year. This is expressed as a ratio, for example 1:100 or 1%. There is a 1% chance that the 1:100 AEP flood will be equalled or exceed in any one year. Similarly, there is a 5% chance that a 1:20 AEP flood will be exceeded in any one year.

Annual Exceedance Probability (AEP) (cont.)

Alternatively, flood risk can be considered in terms or average recurrence interval (ARI). This is the number of years on average, within which a given flood will be equalled or exceeded. A 1:100 AEP flood will be equalled or exceeded once in 100 years on average. A 1:20 AEP flood will be equalled or exceeded once in 20 years on average, and so on.

Due to the random nature of floods, however, a 1:100 year flood need not occur in every 100 years and conversely, several floods which exceed the 1:100 year flood could occur within any one period of 100 years.

Storm durations

The flooding response of a catchment is dependent on the duration of any storm event. Generally shorter, more intense storms produce the greatest flows from urban areas. Longer duration, but less intense storms, produce the greatest flows from undeveloped hills areas.

Impact on buildings

The flood extents shown are a prediction of land affected for the specific level of risk and do not necessarily indicate a threat to buildings located on that land. Flood assessment for particular sites will require more detailed interpretation, survey and analysis by qualified and experienced persons.

Basis of mapping

The data contained on this map is based on survey, hydraulic and hydrological modelling (as at 2007) to an accuracy sufficient for broad scale flood risk management and planning. The modelling reflects current practice, but it must be realised that there are uncertainties and assumptions associated with the data and the processes on which the models are based, and the flood extents shown on this map cannot be regarded as exact predictions.

The flood extents are not based on actual historical floods.

Scope of the mapping

The limit of flooding shown on this map is not a boundary between flood prone and flood free land.

Land outside the flood extent shown on this map could be affected by:

- flooding from the mapped flood that extends beyond the area that has been mapped;
- larger storms;
- flooding from local drainage systems which can occur as a result of localised heavy rainfall or drain blockage;
- storms with a different Annual Exceedance Probability.

The modelling and mapping does not deal with the influence of local underground drainage systems. The effect of these systems will increasingly affect the flood extent as distance from the main creek increases and the depth of flooding reduces.

Areas of very shallow flooding

In areas shown as being affected by flood depths of less than .1m (100mm) fences, walls, landscaping and buildings will affect the flow of floodwaters. Resolution to this level of detail is beyond the capabilities of the modelling process and consequently the level of certainty in relation to flood depths in these areas is reduced.

Changes to the catchment

The flood extent shown on the maps is based on conditions current at 2007. Further development, earthworks and other changes to the catchment may affect the actual flood extents.

The mapping includes allowance for the Northern Expressway by including the expressway reference design in the model. The expressway is due to be completed in 2009. The mapping also includes allowance for flood mitigation works on the South Para Dam which are also due for completion in 2009.

Disclaimer

This map is provided on the basis that those responsible for preparation and publication do not accept any responsibility for any loss or damage alleged to be suffered by anyone as a result of the publication of the map and the notations on it, or as a result of the use or misuse of the information provided herein.

Data Source:
AAMHatch: contours and digital terrain data from Airbourne Laser Scanning flights between 17 and 19 August 2007
Water Technology: flood data
City of Playford, Light Regional Council, Town of Gawler, Barossa Council and District Council of Mallala:
names of suburbs and roads, cadastral boundaries, culverts, sports grounds, bridges, emergency facilities and natural watercourses.
ETSA Utilities: electricity sub-stations.
DAWater: pumping stations and pipe crossing over watercourse.

Legend

- Railway
- Major Road
- other roads
- Cadastral parcels
- Suburb boundary
- Local Government boundary
- pipeline Barossa-Adelaide
- Watercourse
- Bridge
- Culvert gt449mm / Ford
- V-notch Weir
- water main crossing water course
- sewer main crossing water course
- Pumping station water
- Pumping station sewer
- Pumping station reclaimed water
- ETSA Substation
- Sports Ground
- CFS / MFS
- Police Station
- Hospital / Ambulance
- Major Contour 5m
- Minor Contour 1m

Hazard Category

- Low
- Medium
- High
- Extreme

Hazard Categories
Depth (m)
Velocity (m/s)

0 1 2 3 4 5
Kilometres (1:40,000 Sheet A1)

GDA94
MGA Zone 54

Government of South Australia
GRFMA
WATER TECHNOLOGY
Australian WATER Environments

Gawler River Floodplain Mapping

1:100 Year ARI Flood Hazard Map

Job No. 46896a - 476
080226