

NRW B B 54.15 Flood Risk Management Capital Programme Update 2016/17

Annex 1: Flood Risk Management Capital Programme – summary of major projects recently constructed or under development.

Portland Grounds and Tabbs Gout, Monmouthshire and Newport

Sea Defence improvements in line with recommendations from the Severn Estuary FRM Strategy at both Portland Grounds and Tabbs Gout will benefit a wide area of the Caldicot and Wentlooge levels including both communities and critical infrastructure such as the M4 and the main London to South Wales railway line. The flood cells behind the Severn Estuary defences are large and any weak spots in the defences have the potential to put large numbers of properties and businesses, including farms, at risk. These projects will benefit 833 houses and 197 businesses, with Tabbs Gout costing approximately £1.6m whilst Portland Grounds is a larger project, costing slightly over £2.1m.



Construction at both locations began in April this year, with Portland due to be completed this financial year, and works at Tabbs Gout not finishing until early next year.

Dolgellau, Gwynedd

The community of Dolgellau has experienced flooding in recent years, the existing defences were inadequate, the fields surrounding Dolgellau were regularly inundated with flood water, the embankments regularly overtopped and it was estimated that the level of protection was approximately 1 in 5 years.



A flood alleviation scheme was proposed; benefitting 182 residential properties and 128 businesses and key local infrastructure within the flood risk zone such as a fire station and an ambulance station.

The scheme will provide the town with a defence to a 1 in 150 year standard, costing £5.3m. Construction completed in August this year, with some fencing and reinstatement work scheduled for September. The works include

new set back walls and repairs and refurbishment of existing defences.

Pontarddulais, Swansea

This scheme consist of the construction of a 7.5m high and 120m wide embankment which will create a flood storage reservoir upstream of the town of Pontarddulais. This will hold back flows during flood conditions protecting 224 houses and 22 businesses and is currently forecast to cost £4.8m. The main construction works started back in July 2014, and is likely to be completed by March 2016, although this is dependent on the settlement rate of the material used for the embankment.



The largest flood in living memory occurred in 1947. Much of the town including the town centre was affected. Other large floods occurred in 1963 and 1979, more recently, flows came out of bank in 2003, 2005 and 2008.

Risca, Caerphilly

There is a history of flooding issues in Risca. Recorded recent flood events include 1960, 1979, 1998 and 2001. The 1979 event is the largest on recent record, with extensive damage to several thousand properties across South Wales, including Risca. The majority of the existing defences were constructed in 1985 as part of a wider scheme on the Ebbw. Analysis has identified areas of weakness due to overland flow paths, overtopping of defences and potential structural defects.

The proposed scheme at Risca will cost approximately £1.6m and the construction period will span from mid-September this year through to the end of the May next financial year. The work consists of providing new defences, raising the height of existing defences, stabilisation of existing defences and maintenance of existing embankments and walls which present instability issues for the design return period.

The scheme will provide a reduced risk of flooding to 224 residential properties and 22 businesses. It will provide a standard of protection of 1 in 100 (1%) annual chance of fluvial flooding in each year.

Caerleon, Newport

The flood defence at Isca Road was built in 2005 to protect 45 properties from tidal flooding from the River Usk. However, this previous work resulted in a defence of mixed design standard. Landowner constraints at the time left low points in the defence. The flood embankments were constructed to match this design level, and the area was left with a design standard of approximately 1 in 30 years.

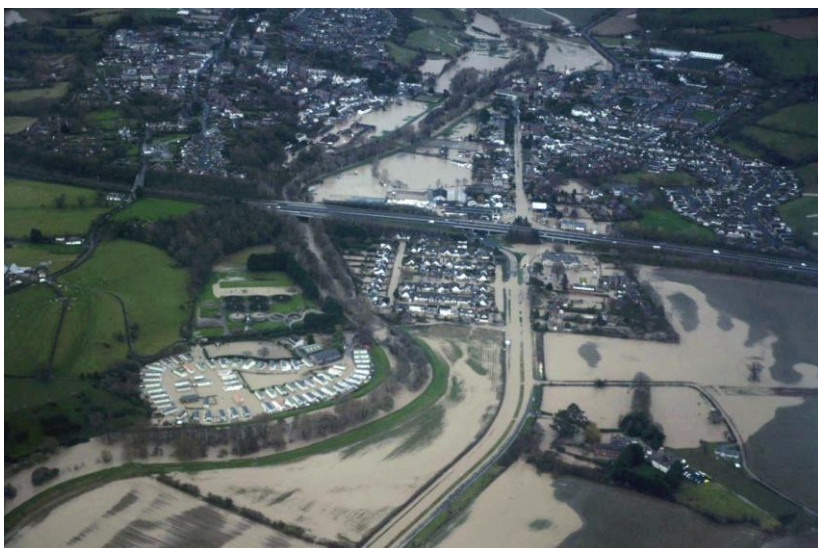
In 2011 an assessment was undertaken to assess the current condition of the wall. The main defects observed were in a 25m section of the wall. Progressive failure of this section was deemed the most likely, and therefore a scheme was proposed to address these issues.

The scheme involves raising the existing defences on the present line to above current levels (max 8.91mAOD) and construct new defence structures at undefended locations. This will provide a consistent standard of service to the local area in excess of a 1 in 200 year standard.

The scheme will cost in the region of £600k and will provide a reduced risk of flooding to 49 residential properties and one business. Construction started during August this year and will be complete by the end of November.

St Asaph

St Asaph lies on the River Elwy, a major tributary of the River Clwyd. Existing defences only offer a level of protection of about 1:30 years. There are approximately 550 properties at risk in a 200 year return period rainfall event. In November 2012 a significant rainfall event caused major overtopping of the Elwy defences at various locations in St Asaph, resulting in the flooding of approximately 320 properties.



The new scheme will provide a 1 in 200 standard of protection. The work will include raising existing embankments, constructing new flood walls and also replacing the Spring Gardens Bridge with a new bridge which will reduce the likelihood of blockage. The scheme will cost in the region of £7.2m and if sufficient funding is confirmed by Welsh Government, this scheme could start on site next financial year. Construction is likely to take 13 months.

Crindau, Newport

The district of Crindau is a heavily urbanised suburb of the City of Newport. It comprises high density housing together with an established industrial estate with both manufacturing and retail outlets. Any impact of flooding in this location is also likely to affect a major artery road into Newport. The scheme will benefit 549 houses and 118 businesses. If NRW receives confirmation that funding is available for next year, construction could begin in 2016. The main construction works are likely to span over 14 months and the whole project will cost approximately £10.5m.

The work will consist of approximately 2.5km of new defences comprising of walls, sheet piling, embankments and ground raising. The new defences will achieve a standard of protection of a 1 in 200 annual chance of tidal flooding.

Roath, Cardiff

The Roath Flood Alleviation Scheme consists of two main elements. The first element was completed in December 2014, and addressed tidal defences on the River Rhymney which benefited 12 businesses including both industrial and retail units on Newport Road in Cardiff as well as a major artery road into Cardiff and the main London to South Wales railway line.



The second element of the scheme will address flooding issues in the residential area of Roath including an area which has flooded several times in recent years. It will also benefit commercial sections of Newport Road and a Fire Station in this area. Overall the Roath Scheme will benefit 360 houses and 51 businesses. The construction period is likely to last around 15 months, with the projects total cost approximately £11.3m. Work could start next year, however this is reliant on funding being secured for next year and also subject to planning approval, which has been highlighted as a key risk by the project team.