Mathern

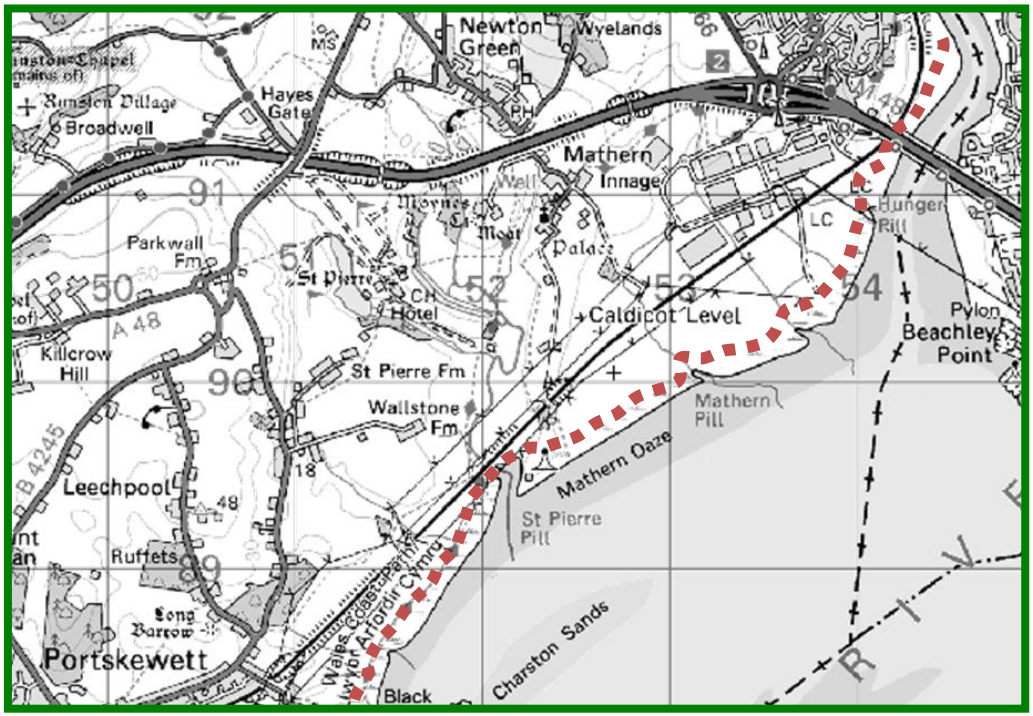
Existing defences and probability of flooding

The existing sea defences protect agricultural land and villages on the Caldicot Levels.

There is typically a 1 in 200 chance of tidal flooding occurring in any year although there are low spots where the local risk of tidal flooding is greater.

Flood risk will increase as sea levels rise and storms become worse.

The defences are earth embankments which often have concrete or stone protection.



Key

Existing defences referred to in text

Sea level rise note

The UKCP09 medium emissions scenario projects about 0.1m of sea level rise by 2030, about 0.3m by 2060, and about 0.7m by 2110.

Currently sea level is rising at about 2 to 2.5mm a year. If this rate were to continue then sea level rise would be less than what is projected by the UKCP09 medium emissions scenario.

How these proposals were reached

There is a clear economic case to maintain and improve the existing defences due large number of properties and infrastructure that is protected.

It is possible that towards the end of this century, it becomes more cost-effective to move defences inland to continue to reduce tidal flood risk. This will depend on actual sea level rise experienced.

What can be done?

We will continue maintaining the various defences over the next 100 years. This may include filling of low spots where required in the next 5-10 years.

We aim to raise embankments in phases to keep pace with climate change, though no major works are expected for at least 20 years.

We will work with Network Rail to ensure the protection remains secure where the flood defence meets the railway line at St Pierre Pill.

These actions will ensure the chance of tidal flooding does not become worse than a 1 in 50 chance in any year.

Some of the embankments could be moved inland parallel to the railway line to make them more secure, but this is unlikely to be justified until the end of this century. This would only be undertaken by agreement with landowners.