Millport Coastal Flood Protection Scheme

Protecting the people of Millport

6.1

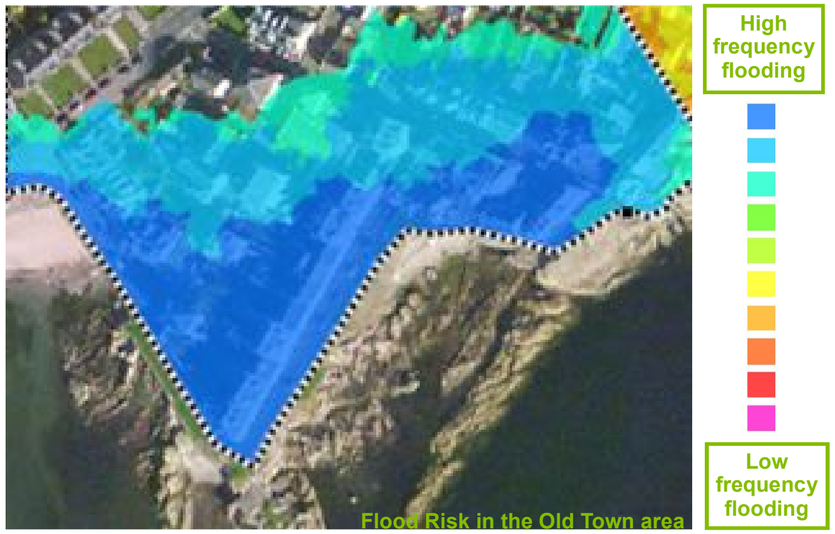
West Bay Road

What is the hazard?

- At high tide waves travel up the beach and crash in to the flood wall.
- When there is a very high tide and large waves the waves break over the flood wall.

What is at risk?

- Wave overtopping causes flooding of the road.
- Properties on West Bay Road are set back from the sea wall at a higher level, so there is a low risk of flooding to properties.
- The level of overtopping is unsafe for pedestrians and traffic.



Proposed solution

The danger to pedestrians and vehicles would be addressed as part of the scheme, to provide consistent level of safety.

A crest wall along the top of the existing sea wall is proposed to reduce overtopping to acceptable levels. The wall would be a maximum of 1.2m (3ft 11in) higher than the existing ground level. Public access to the beach would be maintained.

The wall will be built of concrete, with a curved face on the seaward side. The road side of the wall could be textured concrete or clad with brick or stone.

The design will consider the position of buried water and sewer pipes and the stability of the sea wall.

During construction...

- Access would be restricted along West Bay Road during installation of crest walls.
- The programme will be planned to minimise disruption.
- Temporary traffic lights will be used to control vehicle movements.

Risk to...

Houses

Pedestrians

Vehicles

The visualisation is scaled to show a flood wall approximately 1.2m (3ft 11in) high along Millburn Street and West Bay Road.

For more information about the Millport Flood Protection Scheme please visit the Flooding page on North Ayrshire Council's website: **http://www.north-ayrshire.gov.uk/MillportFPS**

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6.2

Millburn Street

What is the hazard?

- The existing sea wall is low and doesn't provide enough protection.
- High waves from the south and south-west overtop the wall during storms.
- On a storm with a probability of 0.5%, more than **1000 litres** of water could come over each 1m length of the sea wall every second!

What is at risk?

- Properties along Millburn Street and Crawford Street are low relative to surge tide levels.
- Houses in the Old Town are flooded most years.
- Flooding will occur more often as sea levels rise and storms become more intense.

Risk to...

Houses	
Pedestrians	
Vehicles	

Proposed solution

A 1.2m (3ft 11in) high crest wall would be constructed to reduce the volume of water coming over the sea wall.

The position of the wall would need to avoid buried water and sewage pipes. The design would consider the stability of the existing sea wall. Public access to the beach will be maintained.

The wall will be built of concrete, with a curved face on the seaward side. The road side of the wall could be textured concrete or faced with brick or stone.

Shore connected rock breakwaters could be built around the natural rock outcrops to reduce the height of waves reaching the sea wall.

To build the breakwaters we would use rocks that look similar to the natural rocks on the beach.

The construction of a rock breakwater could disturb natural foreshore habitats.

The wave modelling results show that shore connected breakwaters on their own would not reduce overtopping enough, so a flood wall will be needed.

Rock breakwaters combined with a 1.2m (3ft 11in) flood wall give only a small improvement in the standard of protection provided compared with a wall alone.

During construction...

- Access would be restricted along Millburn Street during installation of crest walls.
- The programme will be planned to minimise disruption.
- Temporary traffic lights will be used to control vehicle movements.

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6.3

Crichton Street & Clyde Street

What is the hazard?

- The road and properties along Crichton Street are very low relative to high tide levels.
- High waves run up over the rocky foreshore and flood the road and properties.
- There is a dangerous level of wave overtopping during storms.
- Waves run up and over the rock outcrops and garden walls on the seaward side of properties on Clyde Street.

What is at risk?

- Houses along Crichton Street and Clyde Street are flooded most years.
- Flooding will occur more often as sea levels rise and storms become more intense.

Risk to...

Houses	
Pedestrians	
Vehicles	

The construction of a rock breakwater at the junction Millburn and Crichton Streets would not reduce overtopping rates along most of Crichton Street. A flood wall is needed to reduce overtopping and flooding here.

At the junction of Clyde and Crichton Streets, a rock revetment and a low crest wall would reduce overtopping to a safe level.

Increasing the height of the garden walls to properties on Clyde Street would stop flooding. The height of the walls would not need to be increased if a rock revetment was built over the natural rock outcrops at the top of the beach.

Proposed solution

Shore connected rock breakwaters and revetments could be built around the natural rock outcrops to reduce the height of waves reaching the sea walls. We would use rocks that look similar to the natural rocks on the beach. This work could disturb natural foreshore habitats.

A **1.2m (3ft 11 in) high crest wall** would be constructed along Crichton Street to reduce the risk of flooding. The position of the wall would need to avoid buried water and sewage pipes. The wall would be built of concrete, with a curved face on the seaward side. The road side of the wall could be textured concrete or faced with brick or stone. Public access to the beach would be maintained.

During construction...

- Access would be restricted along Crichton Street during installation of flood walls.
- Temporary traffic lights will be used to control vehicle movements.
- Improvements to garden walls along Clyde Street would require access through properties into the gardens.
- Construction of rock revetments would be completed from the foreshore.
- The programme will be planned to minimise disruption.

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