

Am I at risk of flooding?

Crindau Flood History

The dangers of flooding are nothing new to the community of Crindau. The low lying area has flooded a number of times in the past. Most notably in 1981 when 500 homes and businesses were affected, and more recently, extensive flooding was only very narrowly avoided!

1981 Flooding

On December 13th 1981 a storm surge and high tides coincided to cause extensive flooding of Crindau.

- 500 homes and business flooded
- Average depth of flooding 300mm. Chest high in some areas.
- Tide level of 8.4mAOD recorded at Newport Docks

COLD, WET, WINDY
What's next? we ask



From page 1
The high tide line passed through the town square the night before last. The sea was piling up and the wind was howling. The water was chest high in some places. The sea was piling up and the wind was howling. The water was chest high in some places. The sea was piling up and the wind was howling. The water was chest high in some places.



Hundreds flee freak flood

2014 Flooding

At 8:30am January 3rd 2014 tide levels reach 8mAOD at Newport Docks causing minor flooding of Crindau. The event was just inches away from causing far more extensive flooding!

- Estimated to be a 1 in 10 year event
- Evacuation warnings given to many homes
- Sandbags deployed to prevent overtopping of low spots
- 6 homes and businesses flooded
- Alderney Street flooded to around 300-400mm



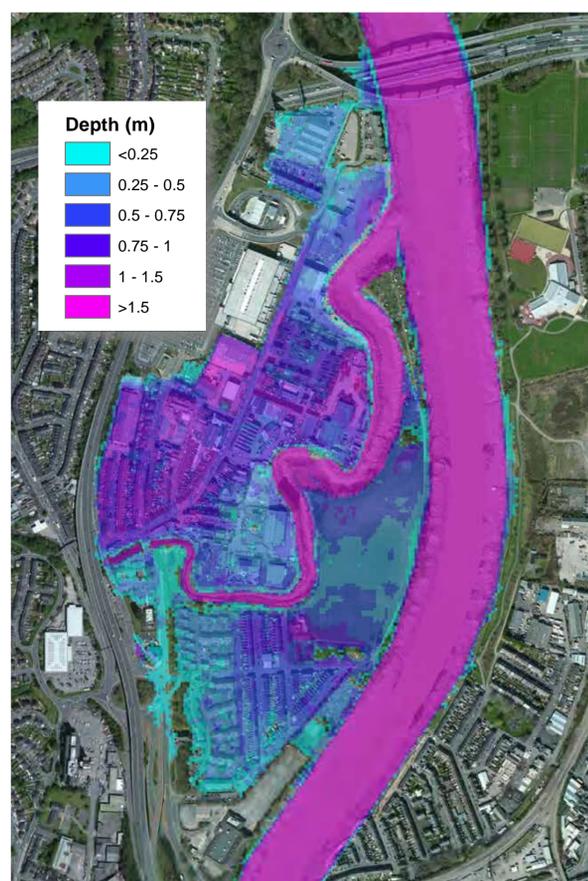
Present Day Flood Risk

The Crindau area is presently protected by a number of walls and embankments, many of which are in a poor condition.

Detailed flood modelling carried out by Natural Resources Wales estimates that Crindau can expect to see extensive flooding on average once in every ten years.

We predict that a 1 in 200 year event, as show in the map to the right, would flood 650 properties and cause damages of **£45 million**.

Annual average damages are estimated at **£1.3 million**.



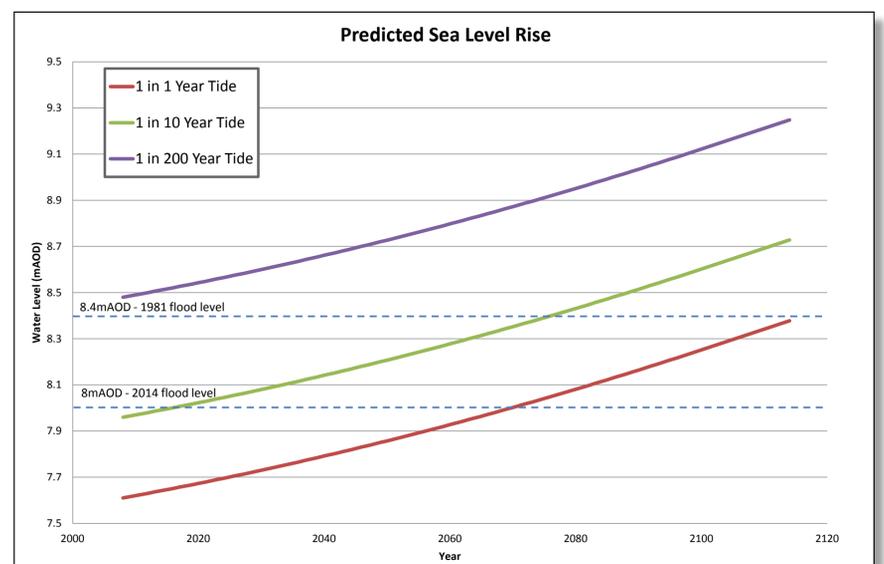
Future Flood Risk

Sea levels are increasing as a result of climate change. This will increase the frequency and severity of flooding.

The flooding that occurred in 1981 was approximately a 1 in 100 year event. However this may become an annual occurrence by 2114!

There may be over 1100 homes and businesses at flood risk in the Crindau area by 2114

The proposed flood defences for Crindau will be designed to account for and adapt to climate change.

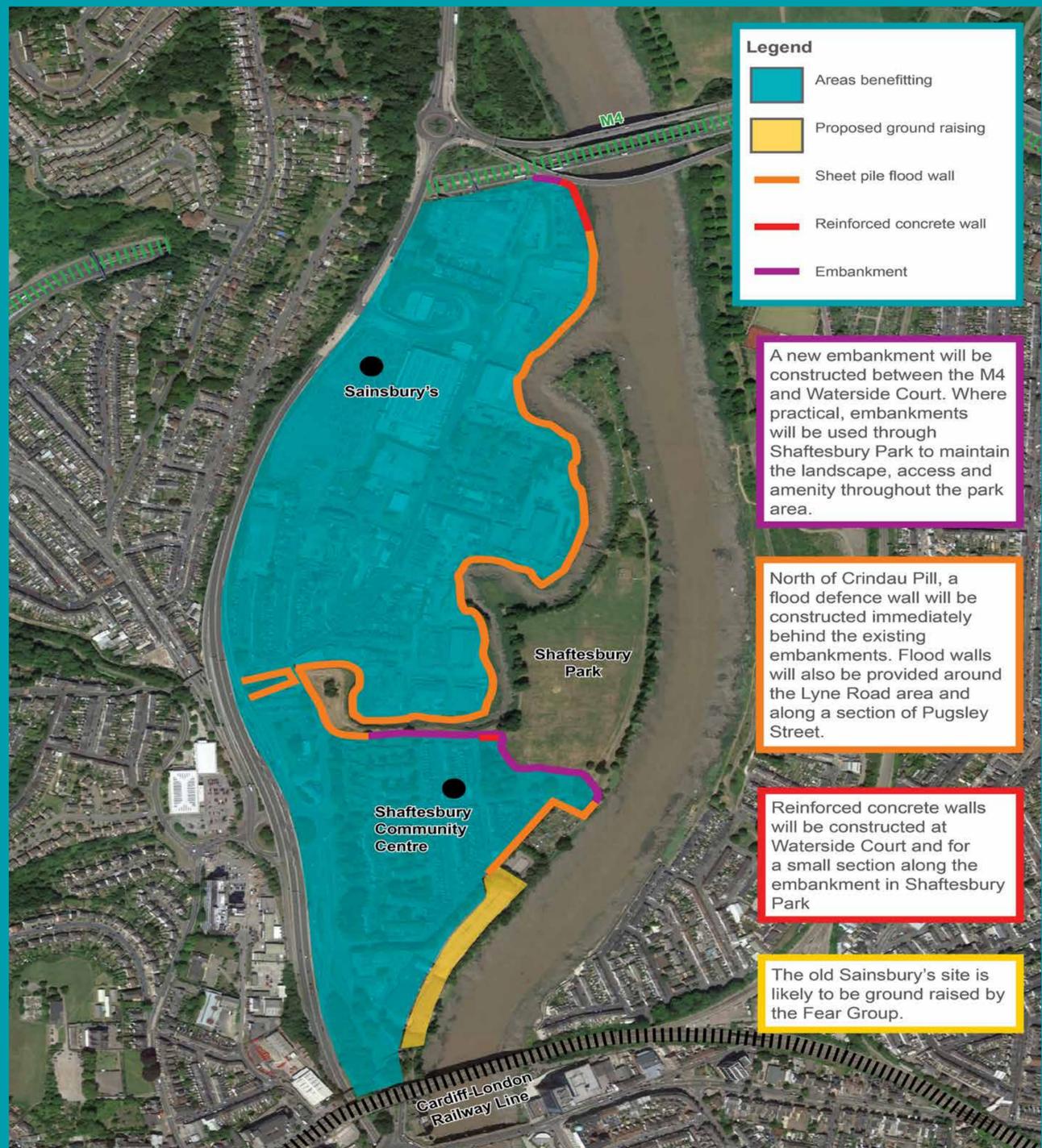


What is the solution?

Scheme Overview

The Natural Resources Wales scheme will extend along the banks of the River Usk and Crindau Pill between the M4 motorway south down to the London to Cardiff railway line.

The scheme will be made up of multiple components, including walls, embankments and ground raising. Following careful consideration of the feasibility, costs, benefits and impacts, the preferred option is to construct the new defences to provide protection against a 1 in 200 year event, including an allowance for effects of climate change over the next 50 years. The design will also be adaptive, so that it can more easily be 'topped up' in the future if required.



What has informed our design?

Environment

- The River Usk is an important wildlife site and has a high level of environmental protection
- The Crindau Pill is home to protected reed beds and is sometimes visited by otter
- Japanese Knotweed, a non-native, invasive species, is prevalent along areas of Crindau Pill
- There are a lot of large, mature trees (some protected) throughout Crindau
- Ground contamination has been found in many locations

Community

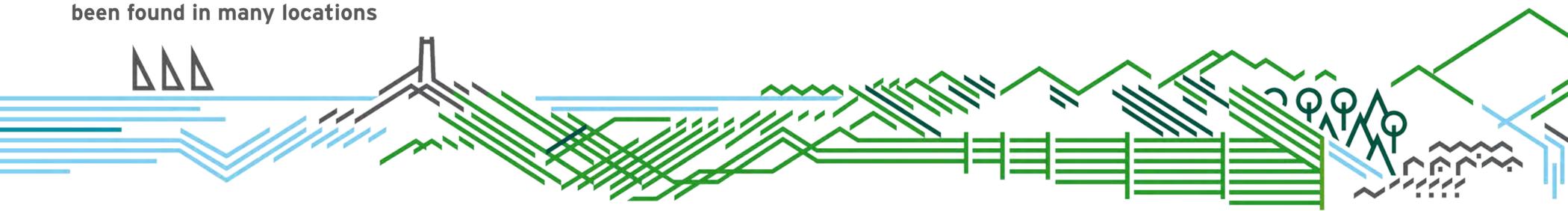
- Crindau is a built up area with limited space between riverbanks and properties
- Some properties are immediately adjacent to the riverbank
- Residential properties will be close to proposed construction works
- Lyne Road Bridge is one of only two vehicle access routes into north Crindau
- Awareness of flood risk may be low

Recreation

- Shaftesbury Park is an important community facility used for sport, events and general recreation
- There have been recent improvements to the children's play area
- Busy footpaths and cycleways pass through the Park
- There is a well-used allotment along Pugsley Street
- There is an all-weather basketball and football area on Pugsley Street

Flood Risk

- There is a significant tidal range
- Tidal events are typically well forecast
- Poor ground condition may force flood water under raised defences
- High tides can cause surface water systems to back up
- Climate change may significantly increase flood risk



Scheme Design

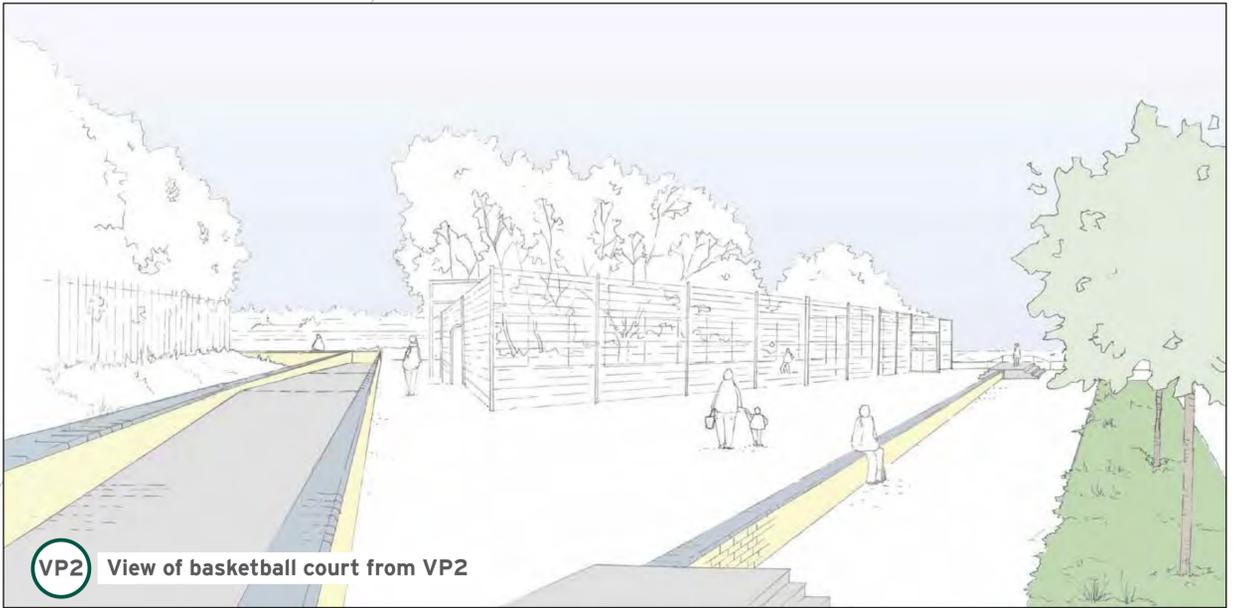
Pugsley Street



- 1 A new stone faced flood defence wall will be constructed between Pugsley Street and the basketball court. New access steps will be constructed. New trees and shrubs will be planted to provide colour and wildlife benefits.
- 2 A new stone faced flood wall 1.5 metres high will be constructed in front of the allotments. Railings will be mounted on top of the wall for security. This will require the removal of the boundary hedge and several trees, as well as changes to the existing entrances to the allotments. An access ramp for vehicles and pedestrians will be built next to the basketball court.
- 3 New steps will be provided to enable pedestrian access into the allotments.



Legend			
	Existing footpath / hard landscape		Proposed footpath / cycleway
	Buildings		Proposed ramp
	Existing wall		Proposed steps
	Existing green space		Proposed green space
	Existing trees		Proposed trees
	Trees to be removed		Proposed hedge
	Buildings to be demolished		Proposed flood embankment
	Crindau Pill		Proposed flood defence wall
	Football pitch		Proposed fence
	Lyne Road Bridge Parapet		Proposed gates
	Site Compound		Project information point



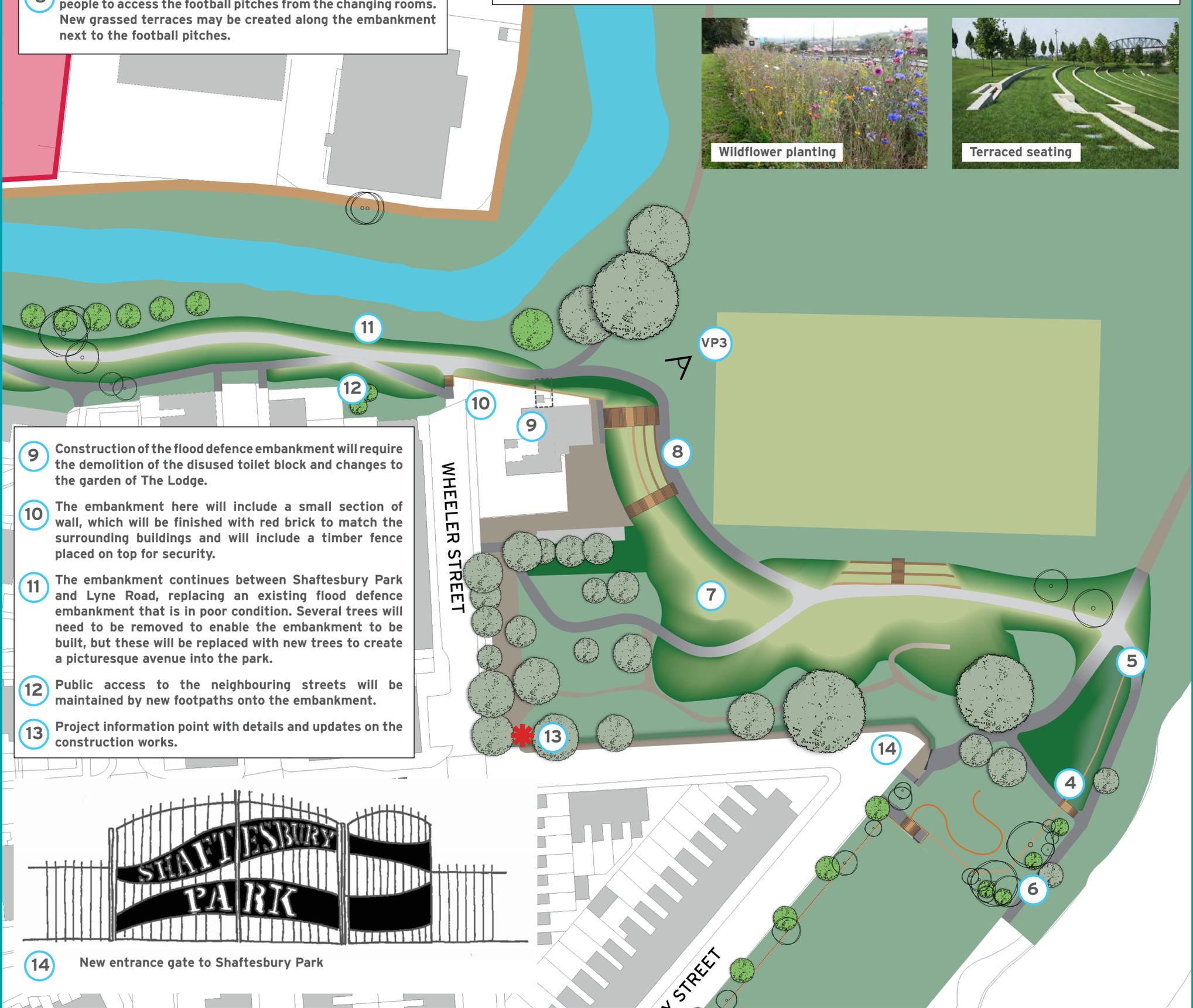
Scheme Design

Shaftesbury Park 1

- 4 A flood defence wall will be constructed around the children's play area and will be buried for almost all of its length and will not be visible above ground.
- 5 Where the flood defence wall is visible, it will be clad in red brick to match the existing wall in the play area.
- 6 Several trees will need to be felled to enable the flood defence wall to be constructed. The largest tree in the play area, a London plane, will be protected. New trees and bulbs will be planted following completion of the main construction works.
- 7 A new flood defence embankment approximately 1.5 metres high will be created between the play area and the entrance to the Park off Lyne Road. The footpath and cyclepath will be placed on the top of the embankment.
- 8 New access steps and a ramp will be constructed to enable people to access the football pitches from the changing rooms. New grassed terraces may be created along the embankment next to the football pitches.



- 9 Construction of the flood defence embankment will require the demolition of the disused toilet block and changes to the garden of The Lodge.
- 10 The embankment here will include a small section of wall, which will be finished with red brick to match the surrounding buildings and will include a timber fence placed on top for security.
- 11 The embankment continues between Shaftesbury Park and Lyne Road, replacing an existing flood defence embankment that is in poor condition. Several trees will need to be removed to enable the embankment to be built, but these will be replaced with new trees to create a picturesque avenue into the park.
- 12 Public access to the neighbouring streets will be maintained by new footpaths onto the embankment.
- 13 Project information point with details and updates on the construction works.

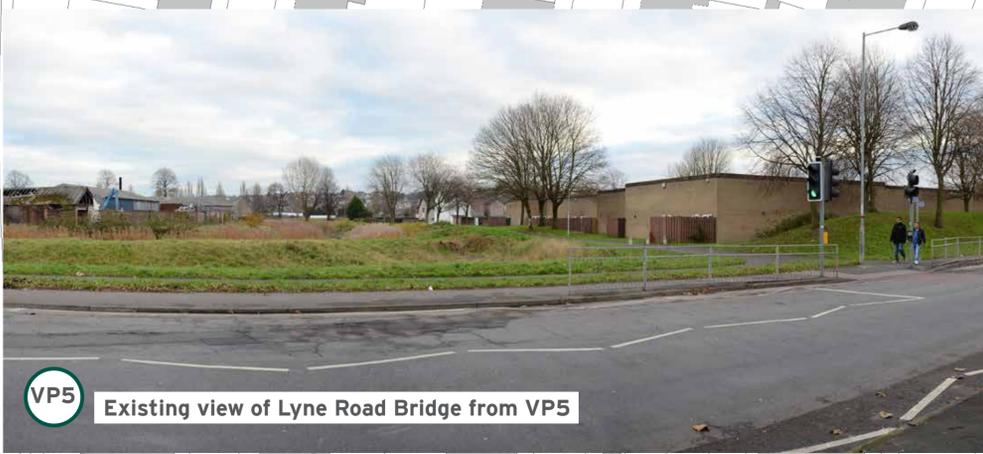


Scheme Design

Shaftesbury Park 2



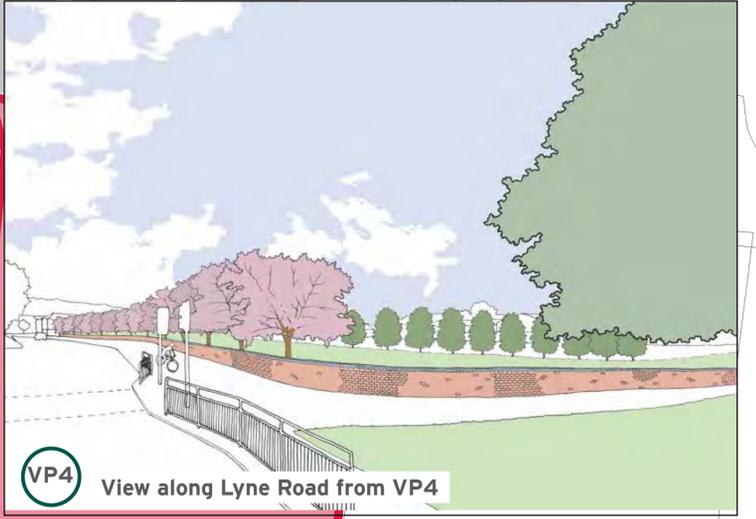
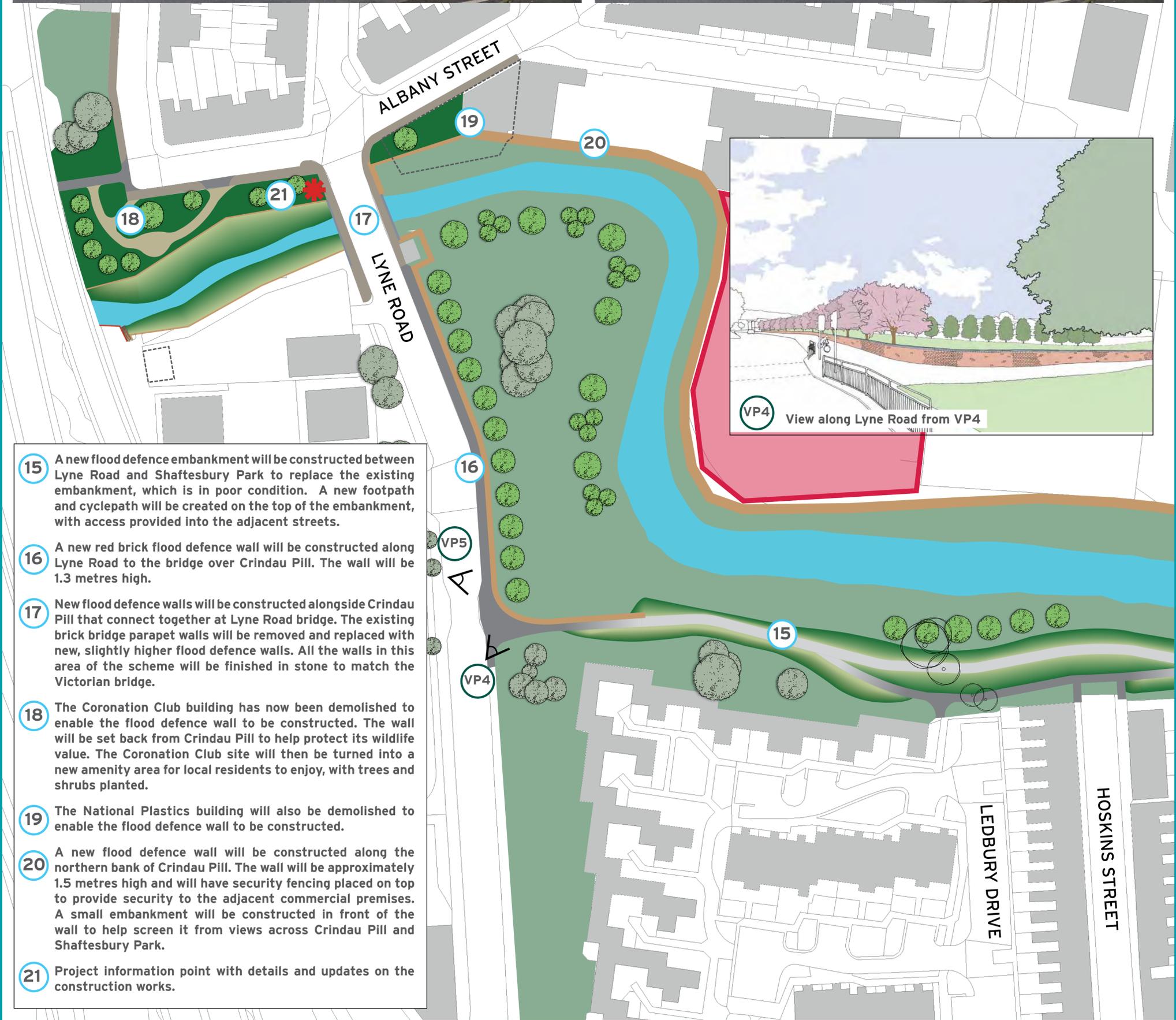
Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales



VP5 Existing view of Lyne Road Bridge from VP5

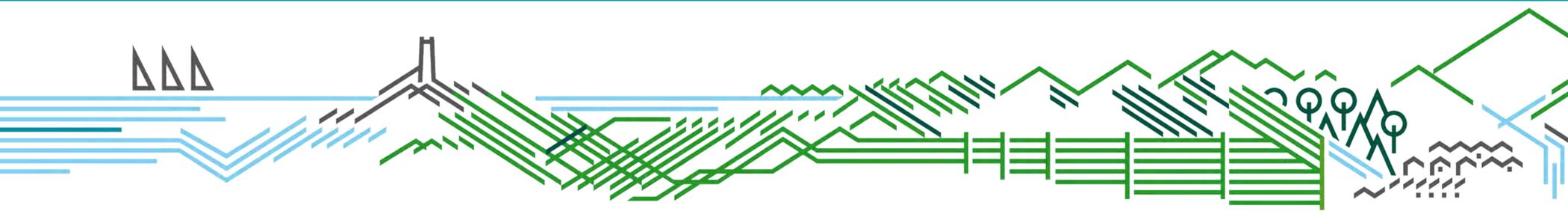


VP5 View of Lyne Road Bridge from VP5



VP4 View along Lyne Road from VP4

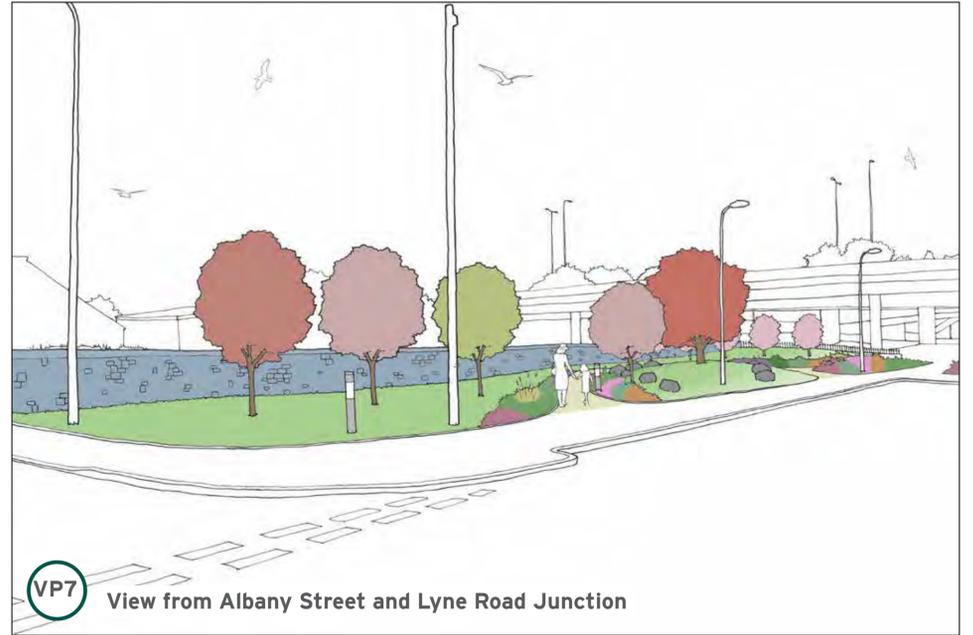
- 15 A new flood defence embankment will be constructed between Lyne Road and Shaftesbury Park to replace the existing embankment, which is in poor condition. A new footpath and cyclepath will be created on the top of the embankment, with access provided into the adjacent streets.
- 16 A new red brick flood defence wall will be constructed along Lyne Road to the bridge over Crindau Pill. The wall will be 1.3 metres high.
- 17 New flood defence walls will be constructed alongside Crindau Pill that connect together at Lyne Road bridge. The existing brick bridge parapet walls will be removed and replaced with new, slightly higher flood defence walls. All the walls in this area of the scheme will be finished in stone to match the Victorian bridge.
- 18 The Coronation Club building has now been demolished to enable the flood defence wall to be constructed. The wall will be set back from Crindau Pill to help protect its wildlife value. The Coronation Club site will then be turned into a new amenity area for local residents to enjoy, with trees and shrubs planted.
- 19 The National Plastics building will also be demolished to enable the flood defence wall to be constructed.
- 20 A new flood defence wall will be constructed along the northern bank of Crindau Pill. The wall will be approximately 1.5 metres high and will have security fencing placed on top to provide security to the adjacent commercial premises. A small embankment will be constructed in front of the wall to help screen it from views across Crindau Pill and Shaftesbury Park.
- 21 Project information point with details and updates on the construction works.



Scheme Design

Albany Street Amenity Area

The former Coronation Club site at Albany Street will be turned into a new amenity area. The design includes a variety of ornamental and native trees, shrubs and perennial planting providing colour and biodiversity benefits. Raised landforms and boulders will add form and texture providing spaces for informal play and seating.



Materials



Permeable resin bound gravel



Stone setts



Bollards



Bowtop railing



Lighting



Stone boulders



Scheme Design

North Crindau

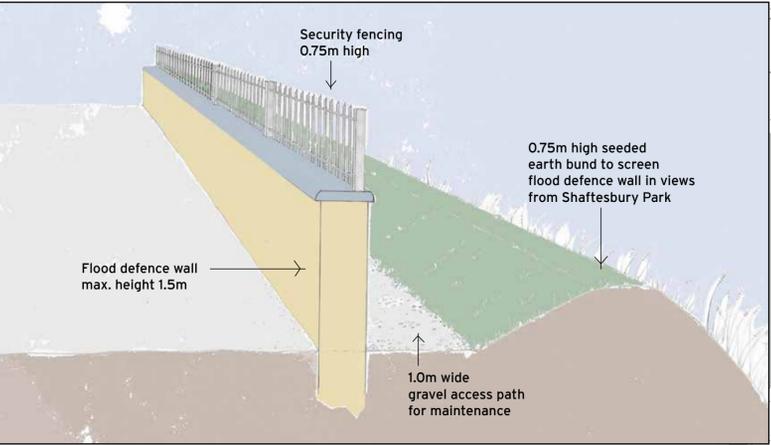


Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales

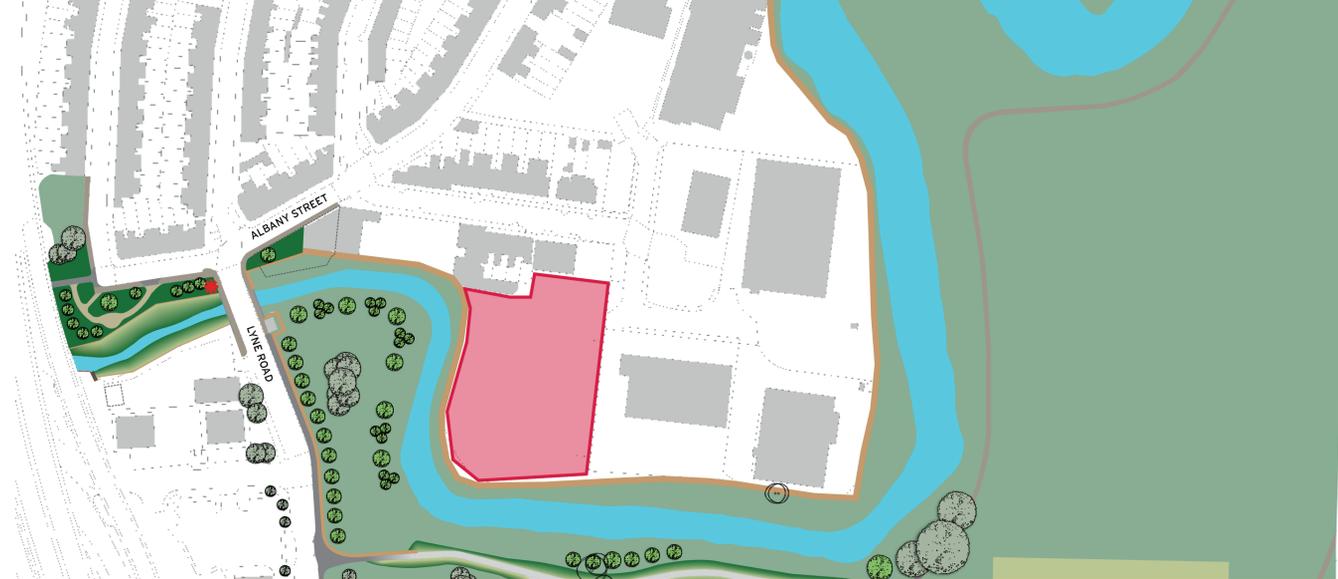
22 A new flood defence wall will be constructed along the northern bank of Crindau Pill. The wall will be about 1.5 metres high and will have security fencing placed on top to provide security to the adjacent commercial premises. A small embankment will be constructed in front of the wall to help screen it from views across Crindau Pill.

23 Where Crindau Pill meets the River Usk, a 0.25m flood defence wall will be constructed along the western bank of the River Usk to the M4 road bridge. The wall will be faced in yellow brick to match the buildings at Waterside Court.

24 An embankment will be constructed to tie into higher ground by the M4 road bridge and the low wall in front of Waterside Court. The existing cyclepath will continue up and over the embankment.



Legend			
	Existing footpath / hard landscape		Proposed footpath / cycleway
	Buildings		Proposed ramp
	Existing wall		Proposed steps
	Existing green space		Proposed green space
	Existing trees		Proposed trees
	Trees to be removed		Proposed hedge
	Buildings to be demolished		Proposed flood embankment
	Crindau Pill		Proposed flood defence wall
	Football pitch		Proposed fence
	Lyne Road Bridge Parapet		Proposed gates
	Site Compound		Project information point



Environmental enhancements

As part of the flood defence scheme we will deliver a range of environmental enhancements. These include:

- New tree and shrub planting.
- Creation of new grassed terraces in Shaftesbury Park to enable spectators to watch football matches.
- Improvements to the appearance of Lyne Road bridge.
- Creation of a new public amenity area on the Coronation Club site.
- Installation of bird and bat boxes to benefit local wildlife.



What happens next?



**Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales**

Summer 2016		Contractor appointed
Autumn 2016		Compound establishment Adelaide Street
Winter 2016		North Crindau Construction start
Spring 2017		South Crindau Construction start
Autumn 2017		Landscaping start
Spring 2018		Construction & Landscaping finish

Galliford Try are the contractors commissioned for carrying out the main construction works. Should you have any queries or concerns while construction works are being carried out you can contact Milwyn Jones or Gino Salvatore from Galliford Try.



Milwyn Jones
Works Manager /
Community Liaison
Officer
07918 640168



Gino Salvatore
Community
Liaison Officer
07918 640481

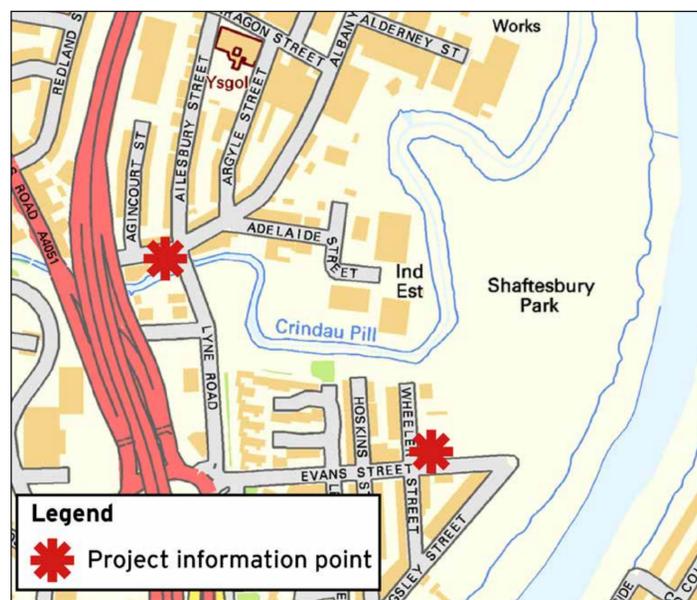


Further information...

For the latest news and updates on the Crindau flood alleviation scheme please visit the NRW Crindau webpage at:

<http://naturalresourceswales.gov.uk/about-us/our-projects/crindau-flood-alleviation-scheme>

There will also be two project information boards, one located in Shaftesbury Park opposite Shaftesbury Park Community Centre and one near Lyne Road Bridge by Albany Street. These will be updated with the latest news and information about the scheme and construction works.



FOR MORE INFORMATION
PLEASE CONTACT

MELISSA MAHAVAR-SNOW
03000 654 369

**MELISSA.MAHAVAR-SNOW@
NATURALRESOURCESWALES.GOV.UK**

OR

SUSIE TUDGE
0300 0654 919
SUSIE.TUDGE@

NATURALRESOURCESWALES.GOV.UK

