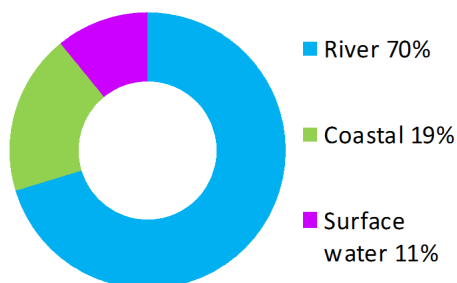


## Campbeltown (Potentially Vulnerable Area 01/40)

Local Plan District	Local authority	Main catchment
Highland and Argyll	Argyll and Bute Council	Kintyre coastal

### Summary of flooding impacts



### At risk of flooding

- 360 residential properties
- 350 non-residential properties
- £550,000 Annual Average Damages

(damages by flood source shown left)

Summary of flooding impacts

### Summary of objectives to manage flooding

Objectives have been set by SEPA and agreed with flood risk management authorities. These are the aims for managing local flood risk. The objectives have been grouped in three main ways: by reducing risk, avoiding increasing risk or accepting risk by maintaining current levels of management.

Many organisations, such as Scottish Water and energy companies, actively maintain and manage their own assets including their risk from flooding. Where known, these actions are described here. Scottish Natural Heritage and Historic Environment Scotland work with site owners to manage flooding where appropriate at designated environmental and/or cultural heritage sites. These actions are not detailed further in the Flood Risk Management Strategies.

Objectives

### Summary of actions to manage flooding

The actions below have been selected to manage flood risk.

Flood protection scheme/works	<i>Natural flood management works</i>	<i>New flood warning</i>	<i>Community flood action groups</i>	<i>Property level protection scheme</i>	<i>Site protection plans</i>
Flood protection study	<i>Natural flood management study</i>	Maintain flood warning	Awareness raising	Surface water plan/study	Emergency plans/response
<i>Maintain flood protection scheme</i>	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

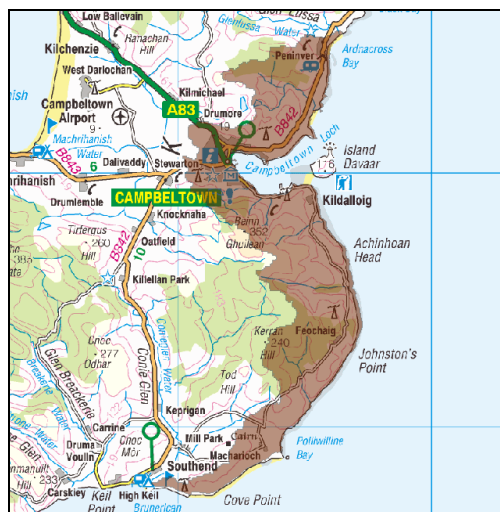
Actions

# Campbeltown (Potentially Vulnerable Area 01/40)

Local Plan District	Local authority	Main catchment
Highland and Argyll	Argyll and Bute Council	Kintyre coastal

## Background

This Potentially Vulnerable Area is centred around Campbeltown which is located on the west shore of Campbeltown Loch (shown below). It has an area of approximately 51km<sup>2</sup>.

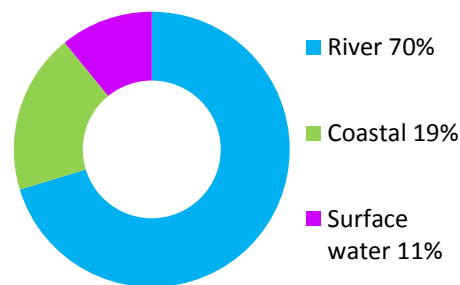


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A number of small rivers drain into Campbeltown Loch and the Firth of Clyde.

There are approximately 360 residential and 350 non-residential properties at risk of flooding.

The Annual Average Damages are approximately £550,000 with the majority caused by river flooding.



**Figure 1:** Annual Average Damages by flood source

## Summary of flooding impacts

The majority of properties at risk of flooding are in Campbeltown. River flood risk is associated with a number of small burns which flow through the town and coastal flood risk mainly affects properties along the main seafront.

The risk of flooding to people and property, as well as to community facilities, utilities, the transport network, designated sites and agricultural land is summarised in Table 1.

Roads at risk of flooding include the A83, which links the Kintyre peninsula to mainland Scotland, and the B842, which links communities along the eastern coast of Kintyre. The police station and the fire station are both at risk of flooding.

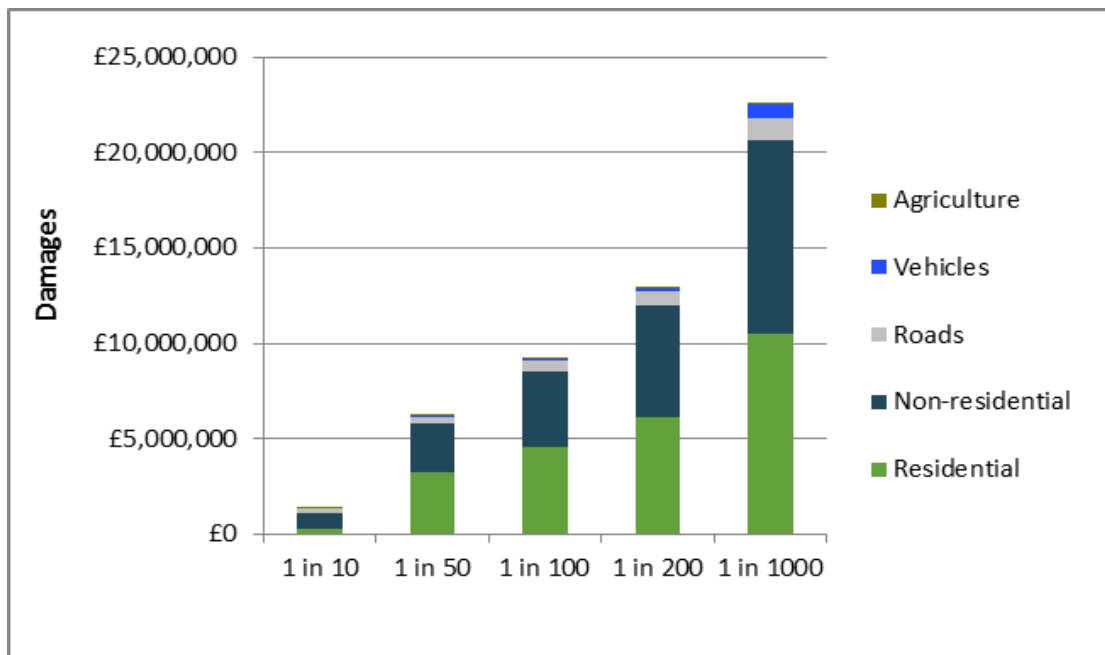
Eight designated cultural heritage sites and small areas of environmental importance are also at risk. This includes a small area of Balnabraid Glen Site of Special Scientific Interest.

The damages associated with floods of different likelihood are shown in Figure 2. For this Potentially Vulnerable Area the highest damages are to residential properties followed by damages to non-residential properties.

The location of the impacts of flooding is shown in Figure 3.

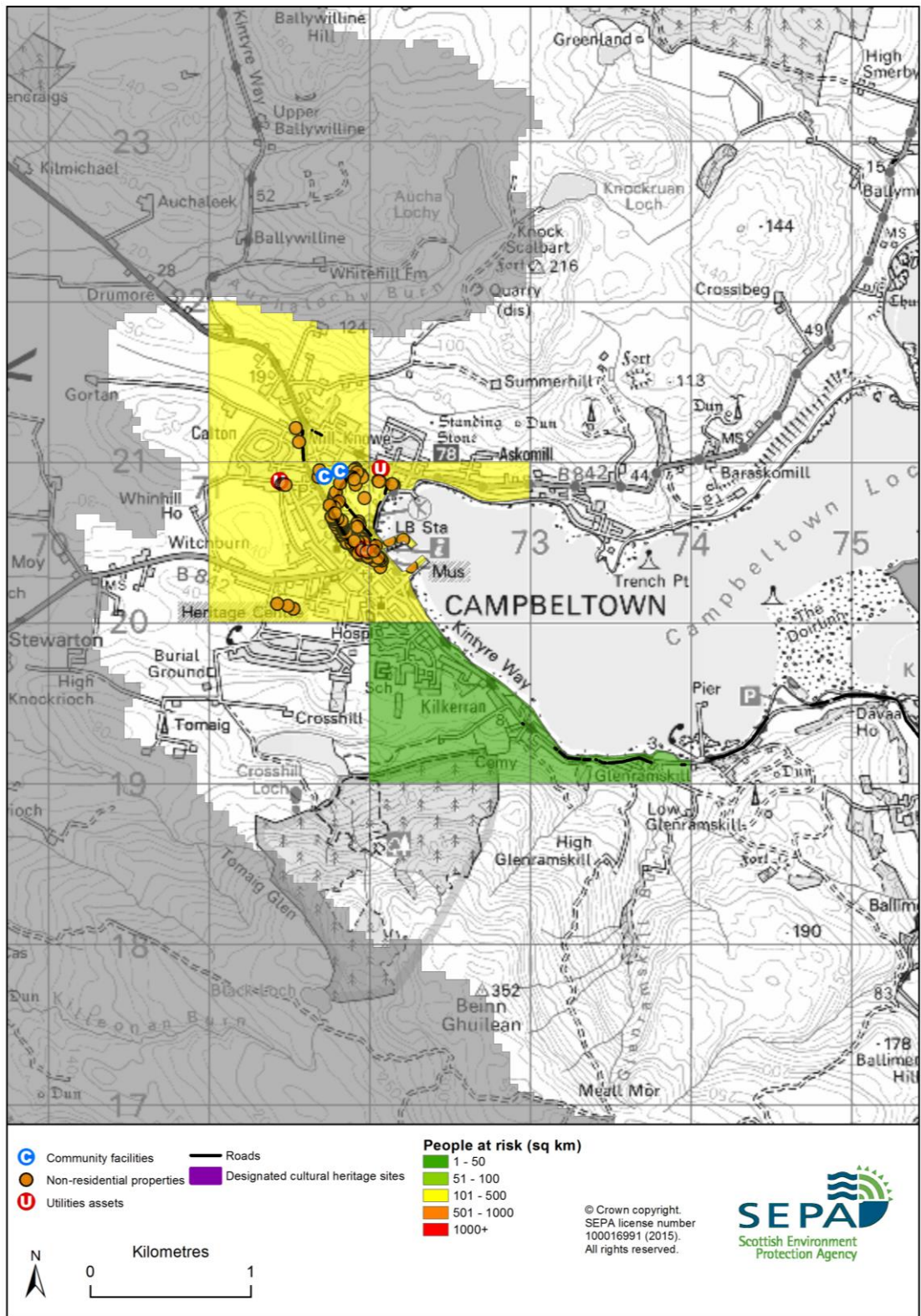
	1 in 10	1 in 200	1 in 1000
	High likelihood	Medium likelihood	Low likelihood
Residential properties (total 2,500)	30	360	550
Non-residential properties (total 800)	40	350	550
People	60	800	1,200
Community facilities	<10 Emergency services	<10 Emergency services	<10 Emergency services
Utilities assets	<10	<10	10
Transport links (excluding minor roads)	Roads at 30 locations	Roads at 70 locations	Roads at 100 locations
Environmental designated areas (km <sup>2</sup> )	<0.1	<0.1	<0.1
Designated cultural heritage sites	4	8	8
Agricultural land (km <sup>2</sup> )	0.2	0.3	0.3

**Table 1:** Summary of flooding impacts<sup>1</sup>



**Figure 2:** Damages by flood likelihood

<sup>1</sup> Some receptors are counted more than once if flooded from multiple sources



**Figure 3: Impacts of flooding**

## History of flooding

The earliest recorded flood was in 1874, when agricultural land was affected. The area between Campbeltown and Machariorch Bay was largely submerged in 1875. There were floods in 1881, 1901, 1902, and 1903 which affected low lying land, properties, roads and a distillery.

In 2008, surface water flooding in Campbeltown resulted in properties in High Street, Saddle Street, Bolgam Street, Longrow, Lochend Street, and McCallum Street being flooded externally.

Between 2011 and 2013, overtopping at Millknowe affected several roads in Campbeltown, including the A83.

## Objectives to manage flooding in Potentially Vulnerable Area 01/40

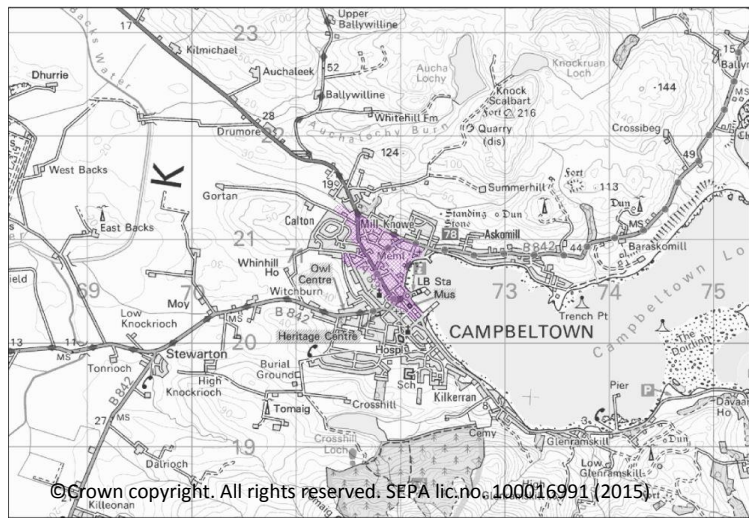
Objectives provide a common goal and shared ambition for managing floods. These objectives have been set by SEPA and agreed with flood risk management authorities following consultation. They were identified through an assessment of the underlying evidence of the causes and impacts of flooding. Target areas have been set to focus actions; they do not necessarily correspond to areas at risk in SEPA's flood map. The objectives below have been set for Campbeltown Potentially Vulnerable Area.

### Reduce flood risk in Campbeltown from river flooding

Indicators:

- 560 people
- £91,000 Annual Average Damages from residential properties
- £160,000 Annual Average Damages from non-residential properties
- 2 emergency services

Target area:



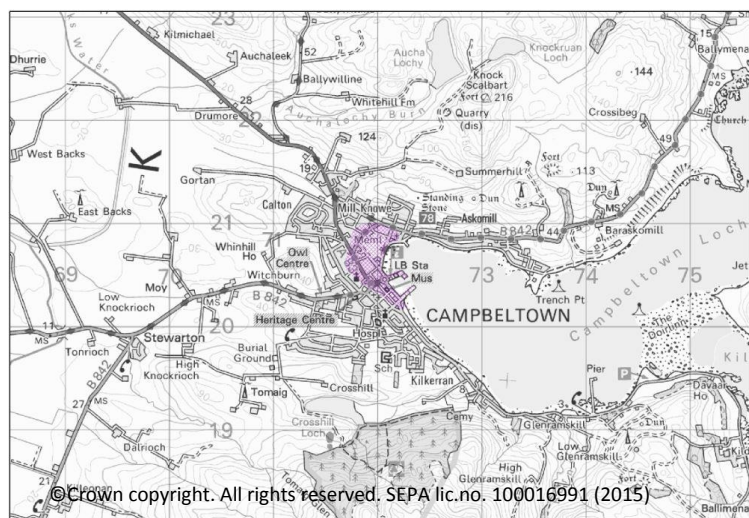
Objective ID: 104001

### Reduce risk in Campbeltown from coastal flooding

Indicators:

- 210 people
- £25,000 Annual Average Damages from residential properties
- £39,000 Annual Average Damages from non-residential properties

Target area:



Objective ID: 104002

Target area	Objective	ID	Indicators within PVA
Campbeltown	Reduce risk from surface water flooding in Campbeltown	104005	* See note below
Applies across Highland and Argyll Local Plan District	Avoid an overall increase in flood risk	100001	<ul style="list-style-type: none"> <li>• 360 residential properties</li> <li>• £550,000 Annual Average Damages</li> </ul>
Applies across Highland and Argyll Local Plan District	Reduce overall flood risk	100002	<ul style="list-style-type: none"> <li>• 360 residential properties</li> <li>• £550,000 Annual Average Damages</li> </ul>
Applies across Highland and Argyll Local Plan District	Organisations such as Scottish Water, energy companies and Historic Environment Scotland actively maintain and manage their own assets, including the risk of flooding. These actions are not detailed further in the Flood Risk Management Strategies.		

\* This objective will be monitored using surface water flood risk across the Potentially Vulnerable Area. For 01/40 there are <10 residential properties at risk and Annual Average Damages of £60,000.

## Actions to manage flooding in Potentially Vulnerable Area 01/40

Actions describe where and how flood risk will be managed. These actions have been set by SEPA and agreed with flood risk management authorities following consultation. Selection of actions to deliver the agreed objectives was based on a detailed assessment and comparison of economic, social and environmental criteria. The actions shaded and then described below have been selected as the most appropriate for Campbeltown Potentially Vulnerable Area.

Selected actions					
Flood protection scheme/works	<i>Natural flood management works</i>	<i>New flood warning</i>	<i>Community flood action groups</i>	<i>Property level protection scheme</i>	<i>Site protection plans</i>
Flood protection study	<i>Natural flood management study</i>	Maintain flood warning	Awareness raising	Surface water plan/study	Emergency plans/response
<i>Maintain flood protection scheme</i>	Strategic mapping and modelling	Flood forecasting	Self help	Maintenance	Planning policies

<b>Action (ID):</b>	<b>FLOOD PROTECTION SCHEME/WORKS (1040010006)</b>				
<b>Objective (ID):</b>	Reduce flood risk in Campbeltown from river flooding (104001)				
<b>Delivery lead:</b>	Argyll and Bute Council				
<b>Priority:</b>	National:		Within local authority:		
	<b>15 of 42</b>		<b>1 of 1</b>		
<b>Status:</b>	<b>Under development</b>	Indicative delivery:	<b>2016-2021</b>		
<b>Description:</b>	A flood protection scheme is to be developed for Campbeltown to reduce flood risk from small watercourses. Feasibility studies indicate that the scheme should include temporary storage of flood water on two burns plus a relief culvert in the town to a standard of 1 in 200 years. There have been a number of floods in Campbeltown in recent years including incidence of sewer flooding which the scheme should contribute to reducing. The detailed design should also include consideration of runoff reduction (woodland planting, land management techniques) and the creation of wetlands and ponds. Other natural flood management actions may also be considered in order to develop the most sustainable solution.				
<b>Potential impacts</b>					
<b>Economic:</b>	The proposed flood protection works could achieve damages avoided of £18 million. The benefit-cost ratio of the proposed works is estimated to be 3.49				
<b>Social:</b>	Campbeltown has a higher than average proportion of vulnerable residents. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. Natural flood management actions can restore and enhance natural environments and create opportunities for recreation and				



<b>Social:</b>	tourism. A scheme could also benefit major transport links including the A83 and B842, two emergency services facilities and two energy production/electricity utility sites reducing disruption to the wider community.
<b>Environmental:</b>	Flood protection works can have both positive and negative impacts on the ecological quality of the environment depending on how they are designed. Natural flood management actions can have a positive impact by restoring and enhancing natural habitats. There is potential for impacts on habitats and channel morphology, however the lower sections of the burns are already culverted, and therefore impacts are likely to be limited. Opportunities to mitigate any environmental impacts should be identified as part of the study through the design and timing of works. There is a scheduled monument which may benefit from any future works. There are no environmentally designated sites nearby which could be impacted by future flood protection works.

<b>Action (ID):</b>	<b>FLOOD PROTECTION STUDY (1040020005)</b>		
<b>Objective (ID):</b>	Reduce risk in Campbeltown from coastal flooding (104002)		
<b>Delivery lead:</b>	Argyll and Bute Council		
<b>Priority:</b>	National:		Within local authority:
	<b>142 of 168</b>		<b>6 of 9</b>
<b>Status:</b>	<b>Not started</b>	Indicative delivery:	<b>2022-2027</b>
<b>Description:</b>	A study is recommended to further investigate the feasibility of a flood protection scheme for the coastal frontage of Campbeltown, focusing on direct defences. The study should look to confirm the existing defence levels of structures and the promenade to identify where structures need to be raised and where gaps in the defences need to be filled (i.e. at the piers). Other actions may also be considered to develop the most sustainable range of options.		
<b>Potential impacts</b>			
<b>Economic:</b>	The study could benefit 96 residential and 178 non-residential properties at risk of flooding in this location, with potential damages avoided of up to £1.1 million. There is potential for disruption to the operational areas of the harbour which would need to be considered and mitigated during the design of the works.		
<b>Social:</b>	Approximately 211 people may directly benefit from flood protection works. Campbeltown has a higher than average proportion of vulnerable residents. Local roads around the seafront would benefit from flood protection works. A reduction in flood risk would have a positive benefit to the health and wellbeing of the community and socially vulnerable people. Natural flood management actions can restore and enhance natural environments and create opportunities for recreation and tourism. Negative impacts through disturbance to the local community during the construction phase should be considered.		
<b>Environmental:</b>	Flood protection studies should consider the positive and negative impacts of proposed actions on the ecological quality of the environment. Opportunities to mitigate any environmental impacts		

<b>Environmental:</b>	may include design and timing of works. There is potential for impacts on coastal habitats through increased erosion and disruption of natural processes, and impacts on landscape and the conservation area through disruption of views of the loch and foreshore. Due to the presence of existing structures these impacts could be limited. There is a scheduled monument cultural heritage site which may benefit from any future works. There are no environmentally designated sites nearby which could be impacted by future flood protection works.
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<b>Action (ID):</b>	<b>SURFACE WATER PLAN/STUDY (1040050018)</b>		
<b>Objective (ID):</b>	Reduce risk from surface water flooding in Campbeltown (104005)		
<b>Delivery lead:</b>	Argyll and Bute Council		
<b>Status:</b>	<b>Ongoing</b>	<b>Indicative delivery:</b>	<b>2016-2021</b>
<b>Description:</b>	The area must be covered by a surface water management plan or plans that set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the objectives.		

<b>Action (ID):</b>	<b>STRATEGIC MAPPING AND MODELLING (1000020019)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Scottish Water		
<b>Status:</b>	<b>Not started</b>	<b>Indicative delivery:</b>	<b>2016-2021</b>
<b>Description:</b>	Scottish Water will review the assessment of flood risk within the highest risk sewer catchments to improve knowledge and understanding of surface water flood risk.		

<b>Action (ID):</b>	<b>MAINTAIN FLOOD WARNING (1000020030)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	<b>Existing</b>	<b>Indicative delivery:</b>	<b>Ongoing</b>
<b>Description:</b>	Continue to maintain the 'Campbeltown Hall Street and Esplanade' flood warning area which is part of the Firth of Clyde coastal flood warning scheme.		

<b>Action (ID):</b>	<b>FLOOD FORECASTING (1000020009)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	SEPA		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<p>The Scottish Flood Forecasting Service is a joint initiative between SEPA and the Met Office that produces daily, national flood guidance statements which are issued to Category 1 and 2 Responders. The service also provides information which allows SEPA to issue flood warnings, giving people a better chance of reducing the impact of flooding on their home or business. For more information please visit SEPA's website.</p> <p>The Potentially Vulnerable Area is within the 'Argyll and Bute' flood alert area.</p>		

<b>Action (ID):</b>	<b>SELF HELP (1000020011)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	—		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<p>Everyone is responsible for protecting themselves and their property from flooding. Property and business owners can take simple steps to reduce damage and disruption to their homes and businesses should flooding happen. This includes preparing a flood plan and flood kit, installing property level protection, signing up to Floodline and Resilient Communities initiatives, and ensuring that properties and businesses are insured against flood damage.</p>		

<b>Action (ID):</b>	<b>AWARENESS RAISING (1000020013)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Responsible authorities		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	<p>SEPA and the responsible authorities have a duty to raise public awareness of flood risk. Improved awareness of flood risk and actions that prepare individuals, homes and businesses for flooding can reduce the overall impact.</p> <p>From 2016 SEPA will engage with the community through local participation in national initiatives, including partnership working with Neighbourhood Watch Scotland. In addition, SEPA will engage with local authorities and community resilience groups where possible. Local authorities will be undertaking additional awareness raising activities. Further details will be set out in the Local FRM Plan.</p>		

<b>Action (ID):</b>	<b>MAINTENANCE (1000020007)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Argyll and Bute Council, asset / land managers		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	Local authorities have a duty to assess watercourses and carry out clearance and repair works where such works would substantially reduce flood risk. They produce schedules of clearance and repair works and make these available for public inspection. Scottish Water undertake inspection and repair on the public sewer network. Asset owners and riparian landowners are responsible for the maintenance and management of their own assets including those which help to reduce flood risk.		

<b>Action (ID):</b>	<b>EMERGENCY PLANS/RESPONSE (1000020014)</b>		
<b>Objective (ID):</b>	Reduce overall flood risk (100002)		
<b>Delivery lead:</b>	Category 1 and 2 Responders		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	Providing an emergency response to flooding is the responsibility of many organisations, including local authorities, the emergency services and SEPA. Effective management of an emergency response relies on emergency plans that are prepared under the Civil Contingencies Act 2004 by Category 1 and 2 Responders. The emergency response by these organisations is co-ordinated through regional and local resilience partnerships. This response may be supported by the work of voluntary organisations.		

<b>Action (ID):</b>	<b>PLANNING POLICIES (1000010001)</b>		
<b>Objective (ID):</b>	Avoid an overall increase in flood risk (100001)		
<b>Delivery lead:</b>	Planning authority		
<b>Status:</b>	<b>Existing</b>	Indicative delivery:	<b>Ongoing</b>
<b>Description:</b>	Scottish Planning Policy and accompanying Planning Advice Notes set out Scottish Ministers' priorities for the operation of the planning system and for the development and use of land. In terms of flood risk management, the policy supports a catchment-scale approach to sustainable flood risk management and aims to build the resilience of our cities and towns, encourage sustainable land management in our rural areas, and to address the long-term vulnerability of parts of our coasts and islands. Under this approach, new development in areas with medium to high likelihood of flooding should be avoided. For further information on the application of national planning policies see Annex 2.		