# Flood Risk Management (Scotland) Act 2009:

## FINAL PROGRESS REPORT Local Flood Risk Management Plan (2016-2022)

## **Ayrshire Local Plan District**



#### **Published December 2022**











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#### **Foreword**

This Final Report for the Local Flood Risk Management Plan shows the progress made in delivering the actions to avoid and reduce the risk of flooding, to allow us to prepare and protect ourselves and our communities across the breadth of the local plan district. The report also marks the completion of Cycle 1 as we now transition into Cycle 2.

"The impacts of flooding experienced by individuals, communities and businesses can be devastating and long lasting. It is vital that we continue to reduce the risk of any such future events and improve Scotland's ability to manage and recover from any events which do occur."

(Avrshire Local Flood Risk Management Plan, June 2016)

The publication of this Final Report shows that the co-ordinated and collaborative efforts of public bodies can be brought together to deliver sustainable outcomes.

This Final Report is published by North Ayrshire Council as Lead Local Authority for the Ayrshire Local Plan District (LPD) - a partnership comprising of North Ayrshire Council, East Ayrshire Council and South Ayrshire Council as well as SEPA and Scottish Water.

Individuals are the first line of defence against flooding and have responsibilities to protect themselves from flooding. Through self-help and property level protection, awareness raising and signing up to Floodline (<a href="www.floodlinescotland.org.uk">www.floodlinescotland.org.uk</a>), individuals, businesses and communities can and have made key contributions to the delivery of the actions in the Local Flood Risk Management Plan (the 'Plan').

Since the publication of the Plan in June 2016, public sector finances in Scotland have continued to be under considerable pressure. This placed an even greater responsibility on SEPA, local authorities, Scottish Water and other responsible authorities to deliver their flood risk management responsibilities in an effective and sustainable way. During Cycle 1 we have also had to respond to the challenges of the COVID-19 pandemic.

SEPA, local authorities, Scottish Water, and other responsible authorities will continue to work collaboratively to implement the actions set out in the 2nd planning cycle to June 2028

## 1. Background

The Final Report is a legal requirement of the Flood Risk Management (Scotland) Act 2009 (Section 38). The Final Report presents:

- an assessment of the progress made towards implementing the Ayrshire LFRMP (the 'Plan');
- a summary of the planned actions that were not implemented, with reasons for their non-implementation; and
- a description of any other actions implemented since the plan was finalised that the lead authority considers to have contributed to the achievement of the objectives.

A copy of the Plan can be found at the follow link.

https://www.north-ayrshire.gov.uk/community-safety/flooding/flood-risk-management-plan.aspx

Further details on flood risk management responsibilities in Scotland and the legal requirement for the publication of this Final Report can be found in Appendix 1.

## 2. Review of the Ayrshire Local FRM Plan

This section presents a review of the Plan including progress highlights, a statement on the planned actions not implemented, the significant challenges faced and the next steps to be taken forward during the 2nd planning cycle.

#### **Progress Highlights**

A selection of progress highlights since publication of the First Ayrshire Local Flood Risk management Plan in June 2016 and the interim progress report in March 2019 are noted below to give a flavour of the work being undertaken across the Ayrshire Local Plan District to reduce flood risk. A summary of progress against every action in the Plan is presented in Section 4.

- The Upper Garnock Flood Protection Scheme has progressed to construction and is almost complete;
- The River Garnock Flood Warning scheme has been completed;
- The detailed design of the Millport Coastal Flood Protection Scheme has been completed and the construction of the scheme has been tendered;
- The prospective Upper and Lower Irvine Valley flood protection schemes were submitted for national prioritisation;
- The Mill Burn Scheme has progressed to detailed design stage;

- The Ayrshire Shoreline Management Plan is completed and was adopted by both North and South Ayrshire Councils;
- The Girvan Flood Risk Assessment Study and Options Appraisal phase are completed.
   The chosen option has been submitted for national prioritisation;
- The Troon Coastal Flood Study is ongoing and programmed to be completed in January 2023;
- The scoping phase for the Pow Burn Flood Risk Assessment has been completed and the study is scheduled to commence in Spring 2023;
- The Meadowhead Integrated Catchment Study Options Appraisal stage was completed in June 2021. Scottish Water are leading on detailed design for a phased approach to reduce surface water and sewer flooding in Prestwick. Scottish Water have created a multi-agency stakeholder group to assist the design and communication process for this project;
- The Stevenston Point Integrated Catchment Study has been completed;
- The Strategic Mapping and Modelling dataset for Largs, Cartineholm, Girvan, Underwood Cumnock and the Meadowhead Catchment completed by Scottish Water;
- The Brodick and Lamlash Flood Risk Assessments and the Option Appraisal has been completed;
- Surface Water Management Plans have been completed for Saltcoats, Ardrossan,
   Stevenston & Kilwinning (SASK); Irvine, Kilmarnock, Ayr, Prestwick and Dundonald; and
- Beach nourishment actions in Ayr and Troon continue to be successful in the propagation of natural sand dunes.

#### Significant Deviations from the Plan

The status of the planned actions is summarised in Figure 2 on page 11 of this report. Further details are included in the relevant PVA summary table in Section 4 of this report.

No significant deviations from the Plan are considered to have occurred.

#### Significant Challenges

Based on a review of the assessment of the progress of actions detailed in this Final Report, the following key challenges and issues have been identified, some of which have had an impact on the delivery of actions to manage flood risk. Where these challenges have had an impact on the delivery of specific actions, this impact is detailed in the relevant PVA Summary Table in Section 4 of this report.

Significant weather events

Whilst occasional flooding has occurred within the Ayrshire LPD over recent years, the area has

generally not experienced the exceptional flooding witnessed in other parts of Scotland e.g. Ballater and the Scottish Borders. Storms over the 2015/16 winter period, including Storm Frank, brought some flooding to the area. When flooding does occur, resources are directed away from strategic planning to respond to the incident.

#### COVID-19 Pandemic

The COVID pandemic has impacted the delivery of Cycle 1 actions including a requirement to suspend flood risk management construction works as part of the national effort to minimise the spread of the virus during the first national lockdown. The pandemic also disrupted flood risk management studies and flood modelling due to the transition to home working and the challenges of effectively consulting and engaging with flood vulnerable communities. These impacts have resulted in higher implementation costs and programme delays.

#### Resources

Whilst the majority of actions have either been progressed in line or have advanced further than set out in the Plan, the primary reason for actions not progressing as far as intended was a challenging resource environment. A range of resources were required to progress the actions set out in the Plan to reduce flood risk. These include the authorities responsible for progressing individual actions being able to allocate sufficient funding for that purpose.

The available human resource, with the necessary skills to manage and develop solutions to reduce flood risk, has also constrained progress. Much of this human resource pressure has arisen from the increased level of investment in flood risk management across Scotland and the wider UK, leading to challenging recruitment. This pressure is compounded by flood risk management demanding particular technical skills. This human resource pressure has been observed within the authorities responsible for progressing individual actions and the engineering consultants that these authorities seek to engage to support the development of solutions.

#### Technical Complexity

Developing an understanding of how flooding occurs and the most appropriate combination of solutions to reduce flood risk is technically challenging, including the need to build complex computer models to understand how storm events, tides, watercourse geometry, topography, land use and climate change all interact to cause flooding. This challenge has impacted progress on a number of actions which has delayed progress on subsequent actions. More appropriate technical solutions have also been identified for a number of actions, compared to the way forward envisaged when the Plan was prepared but these enhanced solutions, particularly in relation to strategic mapping and modelling, have taken longer to implement.

#### Cyber-attack on SEPA

On 24 December 2020, SEPA was subject to a serious and complex cyber-attack, which significantly impacted the organisation, staff, public and private partners, and the communities who rely on SEPA's services. Since the attack, SEPA has worked with Scottish Government, Police Scotland, the National Cyber Security Centre (NCSC) and the Scottish Business Resilience Centre (SBRC), to a clear recovery strategy. The incident has, however, temporarily impacted progress on a number of actions such as new flood warnings, mapping and modelling projects and some engagement activities. Many of these projects are still going ahead but the timescales for them have been adjusted.

#### The Next Planning Cycle

This report marks the completion of Cycle 1 and we are now transitioning into Cycle 2. The Flood Risk Management Plan for Cycle 2 can be accessed via the following link:

#### https://www2.sepa.org.uk/frmplans/documents/lpd12-ayrshire-frmp-2021.pdf

The Cycle 2 Local Flood Risk Management Plan was published in December 2022 and can be accessed via the following link:

https://www.north-ayrshire.gov.uk/community-safety/flooding/flood-risk-management-plan.aspx

Many of the Cycle 1 actions were to undertake studies that have led to the identification of further actions to be implemented in Cycle 2 and beyond. For example, a flood protection study may recommend that a community flood action group is set up to increase resilience to flooding, or that flood defences are constructed.

#### **Conclusions**

Overall, through partnership working, by delivering the actions set out in the Ayrshire LFRMP we have reduced flood risk and helped to inform future actions to further reduce flood risk that will be progressed during Cycle 2 and subsequent cycles. Whilst the majority of actions have either been progressed in line or have advanced further than set out in the Plan, a number of actions have not progressed as far as intended, primarily due to a lack of resources. Other actions have been delayed where they have been dependent on the results from earlier studies. Some actions have also been superseded by a change in approach that will deliver better outputs but at a later date.

## 3. Assessment of Progress

This section sets out an assessment of the progress towards implementing the actions set out in the Local Flood Risk Management Plan. There are actions that apply across the whole of the Ayrshire LPD and actions that are specific to each of the 19 Potentially Vulnerable Areas (as defined under Section 13 of the Act) in the Ayrshire LPD, which are shown below in Figure 1.



Figure 1: The Ayrshire Local Plan District with Potentially Vulnerable Areas identified [Reproduced from Ayrshire Local Plan District Flood Risk Management Strategy, SEPA (December 2015)]

A progress summary of the actions set out in the First Ayrshire Local Flood Risk Management Plan is shown overleaf in Figure 2.

Progress is shown using a traffic light system based on data collected during February 2022, where each item is marked as Red, Amber or Green (RAG) to describe the status of the action as follows:

Green - Action has been completed.

Amber – Action has commenced but has not progressed as far as envisaged in the Plan.

Red – Action has not commenced.

The distribution of actions by Potentially Vulnerable Area is shown in Figure 2. Further detail on specific actions can be found in the relevant Potentially Vulnerable Area section within Section 4.

Potentially Vulnerable Area	Flood protection schemes /works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping and modelling Scottish	Strategic mapping & modelling SEPA (coastal)	Strategic mapping and modelling SEPA (Surface Water)	Strategic mapping and modelling SEPA (Rivers)	Maintain flood protection scheme	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/01 Noddsdale Water				✓			✓						✓		✓	✓	✓	✓	✓	✓
12/02 Great Cumbrae Island				✓							✓	✓	✓			✓	✓	✓	✓	✓
12/03 Largs to Stevenston				✓		✓	✓				✓	✓	✓		✓	✓	✓	✓	✓	✓
12/04 Upper Garnock Catchment	✓		✓		✓		✓						✓			✓	✓	✓	✓	✓
12/05 Kilwinning			✓	✓		<b>✓</b>	✓						✓			$\checkmark$	✓	✓	✓	✓
12/06 River Irvine and Annick Water			✓	✓		✓	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓
12/07 Irvine to Troon		✓		✓		✓	✓				✓	✓	✓			✓	✓	✓	✓	✓
12/08 Isle of Arran				✓							✓	✓	✓			✓	✓	✓	✓	✓
12/09 Prestwick to Ayr		✓		✓		✓	✓				✓	✓	✓			✓	✓	✓	✓	✓
12/10 Pow Burn Catchment			✓			✓	✓						✓			✓	✓	✓	✓	✓
12/11 River Ayr			✓			✓	✓						✓			✓	✓	✓	✓	✓
12/12 Ayr east							✓					✓	✓			✓	✓	✓	✓	✓
12/13 Ayr south							✓						✓			✓	✓	✓	✓	✓
12/14 Cumnock and Catrine							✓						✓	✓		✓	✓	✓	✓	✓
12/15 Dalrymple and Patna				✓							✓		✓			✓	✓	✓	✓	✓
12/16 Straiton	_												✓			✓	✓	✓	✓	✓
12/17 Dailly													✓			✓	✓	✓	✓	✓
12/18 Girvan				✓			✓				✓	✓	✓			✓	✓	✓	✓	✓
12/19c Dalmellington				✓									✓			✓	✓	✓	✓	✓

Figure 2: Summary of progress of actions to manage flood risk in the Potentially Vulnerable Areas (PVAs) of the Ayrshire Local Plan District

Note: ticked boxes confirm that the action is complete or that it is envisaged to be complete by the publication date of this final progress report.

## 4. Progress with PVA-specific Actions

#### Actions applicable across the Local Plan District

Some flood risk management objectives and actions apply to all areas, whether designated as a Potentially Vulnerable Area or not. For example, flood risk can be managed through national planning policy or as part of ongoing statutory duties discharged by local authorities.

The Local Plan District-wide actions are reported in the following Summary of Progress Tables for each PVA but are denoted by an asterisk.

This section sets out an assessment of the progress towards implementing both the actions that are specific to each of the 19 Potentially Vulnerable Areas (PVAs) and the area-wide actions that apply to Ayrshire Local Plan District.

#### 4.1 Noddsdale Water (Potentially Vulnerable Area 12/01)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council	Noddsdale Water



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## Summary of Progress for Noddsdale Water

There are approximately 30 residential properties at risk of flooding. The Annual Average Damages are approximately £68,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/01 please click <a href="here">here</a>.

Progress has been made with the completion of the Flood Study for the Brisbane Glen Culvert, including natural flood management options and the viability of property level protection. Largs has not been exposed to any significant recent weather events.

## Overview of actions to manage flooding in Noddsdale Water

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/01				G			G		Α				G		G	G	G	G	G	G

## Summary of progress of actions to manage flood risk in the Noddsdale Water (PVA 12/01)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		The Council will assess the flood	01/01/2016-	A flood study with option appraisal for	N/A.
		mitigation options identified by the	31/12/2016	the culvert realignment was completed	
		Largs Culvert Realignment		in early 2016, which investigated the	
		Feasibility Report completed in early		feasibility of a flood protection scheme	
		2016 in order to determine the		focussing on realigning culverts in the	
		outline design work for a flood		Brisbane Glen Road area and property	
		protection scheme.		level protection. This study also	
				considered the potential for natural	
				flood management to reduce runoff to	
				the small burns in the area and other	
	G			actions to select the most sustainable	
				combination of actions. The Cost	
				Benefit Ratio is around 0.43	
				The completed study found that the	
				prospective options for improving the	
				culverts at Brisbane Glen Road would	
				not be economically viable. No further	
				studies are planned but the culverts	
				shall continue to be assessed by North	
Flood protection				Ayrshire Council for clearance and	
study				repair works to minimise flood risk.	

		Scottish Water will undertake further	01/01/2018-	The Scottish Water assessment of	N/A.
					IN/A.
		investigation and modelling in the	31/12/2020	flood risk within the sewer catchment	
		Largs sewer catchment to improve		has been completed. The assessment	
		knowledge and understanding of		is now completed and has been	
Strategic mapping		flood risk in this area as required		shared with the Local Authority.	
and modelling -		under Section 16 of the Flood Risk			
Section 16 assessment		Management (Scotland) Act 2009.			
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water flooding
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	modelling project will be completed
		mapping information into the flood		based on FEH99 methodology, this	in 2023. The outputs from this will
		maps to improve understanding of		has now been superseded by FEH22	be used to update SEPA maps
	,	flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	early in cycle 2 and will inform
	,	of improved data is currently		contains the latest science and	SEPA's flood risk assessments for
		available within this Local Plan		understanding of rainfall across	the next flood risk management
		District.		Scotland and represents a significant	cycle.
				change in rainfall amounts compared	
	Α			to FEH99 dataset, as such it is no	
	•			longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
	•			described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping				representing the latest scientific	
and modelling –				understanding.	
Surface Water				understanding.	

		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A.
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit		public. A beta version of this product	
	G	SEPA's website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
Flood forecasting*				the technical, resource and	

				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	North Ayrshire Council raised	N/A.
		protecting themselves and their	22/06/2022	awareness about flood risk via a	
		property from flooding. Property and		separate action noted for this PVA.	
		business owners can take simple		Specific awareness raising about flood	
		steps to reduce damage and		risk matters was achieved when the	
		disruption to their homes and		Council's flooding team responded to	
		businesses should flooding happen.		reported flood incidents, enquiries from	
		This includes preparing a flood plan		prospective developers & flood risk	
		and flood kit, installing property level		consultants and when responding to	
	_	protection, signing up to Floodline		planning application consultations.	
	G	The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public, to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Council's and Scottish			
Self help*		Flood Forum websites.			
		Although not part of a community	01/06/2016-	North Ayrshire Council engaged with	N/A.
		flood action group the public take an	22/06/2022	responsible authorities and all other	
Community flood	G	active interest in flooding issues		stakeholders, including community	
action groups		within Largs and inform the		groups and the public to raise	

		Council about debris in the		awareness of flood risk and how those	
		watercourse. North Ayrshire Council		affected can be better prepared.	
		will liaise with the group through			
		Community Council meetings and			
		directly to the public.			
		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		North Ayrshire Council raised	
	G	Across Scotland, SEPA will create		awareness about flood risk matters by	
		and share communication and		updating the Council's website and by	
		education resources with other		supporting Local Flood Emergency	
		responsible authorities. These		Groups.	
		resources will include awareness		Project related public consultations	
		campaigns, media and marketing		affecting Largs were carried out by	
		activity and promotion of SEPA's		North Ayrshire Council.	
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
Awareness raising*		communications for Scottish Water			

		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
		schedules of clearance and repair		1 <sup>st</sup> Local Flood Risk Management Plan	
		works and make these available for		cycle.	
		public inspection. Scottish Water			
	G	undertake risk based inspection,			
		maintenance 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			
Maintenance*		flood risk.			
		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
	G	authorities, the emergency services		centres within North Ayrshire that have	
Emergency		and SEPA. Effective management of		a notable flood risk. These plans were	
plans/response*		an emergency response relies on		completed in September 2020.	

		emergency plans that are prepared under the Civil Contingencies Act 2004 by Category 1 and 2 Responders. Scottish Water are a Category 2 responder under the Civil Contingencies Act 2004 and will support regional and local resilience partnerships as required. The emergency response by these organisations is coordinated through regional and local resilience partnerships. This response may be supported by the work of voluntary organisations.			
Planning policies*	G	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	01/06/2016- 01/06/2022	SEPA continues to exercise its planning functions with a view to reducing overall flood risk. We effectively contribute to the delivery of sustainable flood risk management and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to	N/A.

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.

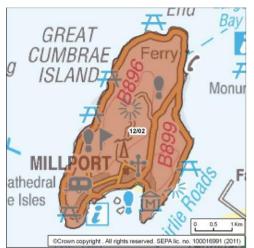
development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

North Ayrshire Council completed a Strategic Flood Risk Assessment for LDP2 in May 2018. In addition, the Ayrshire Shoreline Management Plan (SMP), which prompts land use, policy changes and further studies to allow physical protective measures to take place in the future was adopted by North Ayrshire Council and South Ayrshire Council in September 2018.

		National Planning Framework 4 is	
		expected to be adopted by the Scottish	
		Parliament later in 2022 and will	
		become part of the Development Plan,	
		ensuring national planning policies on	
		flooding are applied in local decision	
		making.	

#### 4.2 Great Cumbrae Island (Potentially Vulnerable Area 12/02)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council	Great Cumbrae coastal



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#### Summary of Progress for Great Cumbrae Island

Local studies have shown approximately 800 properties to be at risk. The Annual Average Damages are approximately £2.2 million. Further information can be found in Ayrshire Local FRMP under PVA 12/02, please click <u>here</u>.

Key progress has been made in Millport with the confirmation of the Millport Coastal Flood Protection Scheme and the Mill Burn Flood Protection Scheme. The Ayrshire Shoreline Management Plan was adopted by both North and South Ayrshire Councils in September/October 2018.

## Overview of actions to manage flooding in Great Cumbrae Island

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/02	Α			G					Α		G	G	G			G	G	G	G	G

## Summary of progress of actions to manage flood risk in the Great Cumbrae Island (PVA 12/02)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		Future investigations will look to	01/06/2016-	North Ayrshire Council confirmed the	The scheme is planned to be
		identify the most sustainable flood	01/06/2022	Millport Coastal Flood Protection	implemented during the 2nd Local
		mitigation option to manage coastal		Scheme on the 10 <sup>th</sup> of November	Flood Risk Management Plan
		flooding in Millport. The current		2020. The detailed design is complete	cycle (2022-2028).
		option includes the creation of a		and the scheme is planned to be	
	Α	breakwater with flood walls. It is		implemented during the 2 <sup>nd</sup> Local	
		recommended that the options are		Flood Risk Management Plan cycle	
		further developed, including an		(2022-2028).	
		assessment of property level			
Flood protection		protection to supplement the primary			
scheme/works		actions.			
		It is recommended that the council	01/06/2016-	North Ayrshire Council confirmed the	The scheme is planned to be
		progress work on the proposed flood	01/06/2022	Mill Burn Flood Protection Scheme on	implemented during the 2nd Local
		protection work on the Mill Burn in		the 15 <sup>th</sup> of June 2021. The detailed	Flood Risk Management Plan
		Millport. The Mill Burn Flood Risk		design is underway and the scheme is	cycle (2022-2028).
	Α	Assessment has provided		planned to be implemented during the	
		information along with an economic		2nd Local Flood Risk Management	
		appraisal which identifies potential		Plan cycle (2022-2028).	
		options to mitigate flooding. Initial			
		remedial work has helped to reduce			

		the level of risk in the area however			
		further analysis should be carried			
Flood protection scheme/works		out to establish the remaining level			
scrienie, works		of risk and the most sustainable			
		combination of actions to manage			
		this risk.			
		A shoreline management plan is		The Ayrshire Shoreline Management	N/A.
		recommended, this study is not		Plan was completed and was adopted	
		limited to Potentially Vulnerable		by both North Ayrshire Council and	
		Areas but should cover the whole of		South Ayrshire Council in	
		the Ayrshire coastline and any areas		September/October 2018.	
		beyond this which may be			
		influenced by changes in coastal			
	G	processes. The study should			
		investigate flooding and coastal			
		erosion, wave overtopping and the			
		current coastal protection offered.			
		The study will help to develop an			
		understanding of coastal issues and			
Flood protection		identify where further work may be			
study		required to mitigate against flooding.			
		SEPA will update strategic surface	01/01/2016-	SEPA's current Surface water hazard	The national surface water
		water mapping in some parts of this	31/12/2016	maps use design rainfall estimates	flooding modelling project will be
	^	catchment to improve understanding		based on FEH99 methodology, this	completed in 2023. The outputs
	Α	of flood risk.		has now been superseded by FEH22	from this will be used to update
Strategic mapping and modelling –				methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
Surface Water				contains the latest science and	will inform SEPA's flood risk

				understanding of rainfall across	assessments for the next flood
				Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	nak management cycle.
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		North Ayrshire Council to continue	01/06/2016-	The Millport coastal flood defence	N/A.
		to inspect and maintain the existing	01/02/2022	structures were either inspected on an	
		Millport Coastal Flood defences,		annual basis throughout the 1st Local	
		which will continue to manage		Flood Risk Management Plan cycle	
	G	flooding according to the design		and were subject to a principal	
		standard at the time of construction.		inspection every three years or	
				were inspected in accordance with the	
				inspection schedule published by	
Maintain flood protection scheme				North Ayrshire Council.	
protection scheme		SEPA will continue to maintain the	22/12/2015-	SEPA has continued to operate the	N/A.
		Millport Seafront flood warning area,	22/06/2022	flood warning service.	
Maintain flood	G	which is part of the Firth of Clyde			
warning	3	coastal flood warning scheme.			
Millport Seafront		When flood events occur in an area			
flood warning area		Trion nood events sood in an area			

		with a flood warning service, SEPA			
		will seek to verify and validate the			
		warning service. SEPA will use			
		feedback and post-event data to			
		ensure that our flood warning			
		service is timely and accurate.			
		SEPA will continue to maintain the	22/12/2015-	SEPA continues to improve the	N/A
		the Millport Seafront flood warning	22/06/2022	Scottish Flood Forecasting Service	
		area, which is part of the Firth of		with the Met Office, with daily Flood	
		Clyde coastal flood warning		Guidance Statements and regional	
		scheme. When flood events occur in		Flood Alerts issued as required to	
		an area with a flood warning service,		enable communities and responders to	
		SEPA will seek to verify and validate		reduce the impacts of flooding. SEPA	
		the warning service.		in partnership with the Met Office has	
		SEPA will use feedback and post-		developed a public version of the daily	
		event data to ensure that our flood		Flood Guidance Statement, the	
	G	warning service is timely and		Scottish Flood Forecast, to provide	
		accurate.		better and earlier information to the	
				public. A beta version of this product	
				was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
Flood forecasting*				flooding have been published in 2022	

				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	North Ayrshire Council raised	N/A.
		protecting themselves and their	22/06/2022	awareness about flood risk via a	
		property from flooding. Property and		separate action noted for this PVA.	
		business owners can take simple		Specific awareness raising about flood	
		steps to reduce damage and		risk matters was achieved when the	
		disruption to their homes and		Council's flooding team responded to	
		businesses should flooding happen.		reported flood incidents, enquiries from	
		This includes preparing a flood plan		prospective developers & flood risk	
		and flood kit, installing property level		consultants and when responding to	
	G	protection, signing up to Floodline		planning application consultations.	
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
Self help*		prepared. Further detail can be			

		found in the Councils and Scottish			
		Flood Forum websites.			
		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		North Ayrshire Council raised	
		Across Scotland, SEPA will create		awareness about flood risk matters by	
	G	and share communication and		updating the Council's website and by	
		education resources with other		supporting Local Flood Emergency	
		responsible authorities. These		Groups.	
		resources will include awareness			
		campaigns, media and marketing		Project related public consultations	
		activity and promotion of SEPA's		affecting the Great Cumbrae PVA	
		flood forecasting and warning		were carried out by North Ayrshire	
		services (Floodline). Scottish		Council.	
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
Awareness raising*		supplying targeted information to the			

		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
		schedules of clearance and repair		1st Local Flood Risk Management	
		works and make these available for		Plan cycle.	
		public inspection. Scottish Water			
	G	undertake risk based inspection,			
		maintenance 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			
Maintenance*		flood risk.			
		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
		authorities, the emergency services		centres within North Ayrshire that have	
	G	and SEPA. Effective management of		a notable flood risk. These plans were	
		an emergency response relies on		completed in September 2020.	
		emergency plans that are prepared			
Emorgone		under the Civil Contingencies Act			
Emergency plans/response*		2004 by Category 1 and 2			

		Responders. Scottish Water are a			
		Category 2 responder under the			
		Civil Contingencies Act 2004 and			
		will support regional and local			
		resilience partnerships as required.			
		The emergency response by these			
		organisations is coordinated through			
		regional and local resilience			
		partnerships. This response may be			
		supported by the work of voluntary			
		organisations.			
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
	G	approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
		to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
Planning policies*		and islands. Under this approach,		development plan process and	

new development in areas with encourage planning authorities to medium to high likelihood of flooding undertake a Strategic Flood Risk should be avoided. Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach. North Ayrshire Council completed a Strategic Flood Risk Assessment for LDP2 in May 2018. In addition, the Ayrshire Shoreline Management Plan (SMP), which prompts land use, policy changes and further studies to allow physical protective measures to take place in the future was adopted by North Ayrshire Council and South Ayrshire Council in September 2018. National Planning Framework 4 is expected to be adopted by the Scottish Parliament later in 2022 and will become part of the Development Plan, ensuring national planning policies on

	flooding are applied in local decision	
	making.	

## 4.3 Largs to Stevenston (Potentially Vulnerable Area 12/03)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council	Saltcoats to Largs coastal



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## Summary of Progress for Largs to Stevenston

There are approximately 960 residential properties at risk of flooding. The Annual Average Damages are approximately £1.2 million. Further information can be found in the Ayrshire Local FRMP under PVA 12/03, please click <a href="https://example.com/here/by/here

Key progress has been made with the completion of the Stevenston Point ICS Study and the associated Saltcoats, Ardrossan, Stevenston & Kilwinning (SASK) Surface Water Management Plan. The Ayrshire Shoreline Management Plan was completed and adopted by both North and South Ayrshire Councils in September/October 2018.

The preferred option for the upgrade of the Keppen Burn culvert has been identified and the design of the Fairlie Flood Protection Scheme is an action in the published Cycle 2 Flood Risk Management Plan.

## Overview of actions to manage flooding in Largs to Stevenston

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/03	Α			G		G	G	Α	Α		G	G	G		G	G	G	G	G	G

## Summary of progress of actions to manage flood risk in the Largs to Stevenston (PVA 12/03)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned		
				deliverables and dates	actions to complete / address		
					delay		
		North Ayrshire Council, Transport	01/06/2016-	The preferred option for the Keppen	The design of the Fairlie Flood		
		Scotland and Network Rail are all	01/06/2022	Burn Culvert upgrade has been	Protection Scheme is		
		working in partnership on the		identified and design work is	programmed to be completed		
		Keppen Burn Culvert upgrade. All		programmed to be completed during	during the 2nd Local Flood Risk		
		three organisations have an		the 2 <sup>nd</sup> Local Flood Risk Management	Management Plan cycle (2022-		
		approved prioritised worklist for the		Plan cycle (2022-2028), depending on	2028), depending on the scheme		
	Α	next 3-5 years based on the		the scheme qualifying for Scottish	qualifying for Scottish		
		organisations own objectives and		Government capital grant funding.	Government capital grant funding.		
		funding availability. The Keppen					
		Burn Culvert upgrade will be					
		assessed by all three organisations					
Flood protection		separately and will fit into the					
Flood protection scheme/works		already prioritised worklist.					
		Network Rail will carry out civil	01/01/2019-	Network Rail repaired Saltcoats	N/A.		
		engineering work which will reduce	31/12/2024	Coastal Defence (asset ref. CD			
		flood risk to identified sections of the		200/433) in 2016. The works included			
	G	rail network within this PVA,		the filling of voids, wall toe protection			
Flood protection		including work to Saltcoats Coastal		and concrete repairs along 700m			
scheme/works		Defence.		length of wall to prevent water ingress.			
	_	A study is planned to further	01/06/2016-	The Gogo Water Flood Risk	N/A		
Flood protection study	G	investigate the river and coastal	01/06/2022	Assessment Update was completed in			

		flood risk in Largs and if there is		2020, the Largs Coastal Flood Risk	
		significant interaction between the		Appraisal was completed in 2019 the	
		two. The study will look at updating		Ayrshire Shoreline Management Plan	
		the existing modelling on the Gogo		was completed in 2018. A Natural	
		Water, and further investigate		Flood Management Study for the Gogo	
		enhancing and extending the		Water has been completed.	
		existing coastal defences.			
		A shoreline management plan is	01/06/2016-	The Ayrshire Shoreline Management	N/A.
		recommended, this study is not	01/06/2022	Plan was completed and was adopted	
		limited to Potentially Vulnerable		by both North Ayrshire Council and	
		Areas but should cover the whole of		South Ayrshire Council in	
		the Ayrshire coastline and any areas		September/October 2018.	
		beyond this which may be			
		influenced by changes in coastal			
	G	processes. The study should			
		investigate flooding and coastal			
		erosion, wave overtopping and the			
		current coastal protection offered.			
		The study will help to develop an			
		understanding of coastal issues and			
Flood protection		identify where further work may be			
study		required to mitigate against flooding.			
•		An integrated catchment study	01/06/2016-	The Integrated Catchment Study for	N/A.
		covering the Stevenston Point	01/06/2022	Stevenston Point has been completed.	
	G	catchment will be carried out. This		Outputs have been shared with local	
Surface water		study will help support the surface		authorities to inform Surface Water	
plan/study		water management planning		Management Plans.	

	process in Kilwinning, Saltcoats,			
	Ardrossan and Stevenston. The			
	study will improve knowledge and			
	understanding of the interactions			
	_			
	between the above ground and			
	below ground drainage network e.g.			
	with the sewer network,			
	watercourses and the sea.			
	North Ayrshire Council will develop	01/06/2016-	The Saltcoats, Ardrossan, Stevenston	N/A.
	a surface water management plan	01/06/2022	& Kilwinning (SASK) Surface Water	
	or plans to cover Kilwinning,		Management Plan was completed in	
	Saltcoats, Ardrossan and		2021.	
	Stevenston which set objectives for			
	the management of surface water			
	flood risk and identify the most			
	sustainable actions to achieve the			
	objectives. Scottish Water will			
	provide local knowledge and			
	understanding of the sewer network.			
	This includes Scottish Water			
	corporate data (as applicable) and			
	outputs of the Stevenston Point			
	integrated catchment study and			
	Section 16 modelling, to assist with			
	the surface water management			
Surface water	planning process.			
plan/study	F			

		Scottish Water will undertake further	01/01/2018-	The Scottish Water assessment of	N/A.
		investigation and modelling in the	31/12/2020	flood risk within the sewer catchment	
		Three Town sewer catchment to		has been completed.	
		improve knowledge and		·	
		understanding of flood risk in this			
Strategic mapping		area as required under Section 16 of			
and modelling -		the Flood Risk Management			
Section 16		(Scotland) Act 2009.			
assessment		SEPA will seek to develop flood	22/12/2015-	Work completed to date includes the	SEPA will complete a review of
		mapping in the Ayr to Ardrossan	22/06/2022	production of key data sets including	coastal flood hazard mapping in
		area to improve understanding of		extreme water levels and offshore	south west Scotland including in
		coastal flood risk. The extent and		wave and wind conditions to support	this area. This includes identifying
		timing of improvements will depend		future coastal modelling work.	where taking account of the
		on detailed scoping and data		G	impact of waves on flooding from
		availability. Where this work			the sea may be required. SEPA
		coincides with local authority			will collect the required coastal
		studies, SEPA will work			defence asset and other
	Α	collaboratively to ensure consistent			information necessary to progress
	, , , , , , , , , , , , , , , , , , ,	modelling approaches are applied.			with improved flood modelling and
		The coastal mapping and modelling			mapping in the highest priority
		process will start in 2016, with early			areas taking account of wave
		work focussing on methodology			overtopping where required.
		development and data collection.			SEPA will look for opportunities to
		Once this stage has been completed			progress future modelling work in
		a thorough review will be carried out			a way that best supports
Strategic mapping		to identify the final mapping			improvements to SEPA's Coastal
and modelling – Coastal					Flood Warning Schemes.

		improvements that can be made in			Expected to progress to the next
		the area.			stage around the middle of cycle
					2 and complete early in the
					following cycle, subject to funding.
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
	А			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping				representing the latest scientific	
and modelling – Surface water				understanding.	
		Largs Flood Protection Scheme was	01/06/2016-	The Largs coastal flood defence	N/A.
		constructed in 2002 and consists of	01/06/2022	structures were inspected on an	
Maintain flood	G	a concrete seawall from Old Fish		annual basis throughout the 1st Local	
protection scheme		Quay to Gogo Water. This scheme		Flood Risk Management Plan cycle	

		L. Milliana Chanacter Control the con-		and the first transition	<u> </u>
		built to provide protection to the area		and were subject to a principal	
		up to a 200-year flood.		inspection every three years.	
		The Gogo Street Flood Protection		Other flood risk management assets	
		Scheme was completed in 2013.		were inspected in accordance with the	
				inspection schedule published by	
				North Ayrshire Council.	
		Saltcoats Flood Protection Scheme	01/06/2016-	The Saltcoats flood defences were	N/A.
		was constructed in 2006 and	01/06/2022	either inspected on an annual basis	
		consists of breakwaters, seawalls		throughout the 1st Local Flood Risk	
		and flood banks at Outer Nebbock.		Management Plan cycle and were	
		This scheme provides protection to		subject to a principal inspection every	
		the area up to a 200-year flood.		three years or were inspected in	
				accordance with the inspection	
				schedule published by North Ayrshire	
Maintain flood				Council.	
protection scheme		SEPA will continue to maintain the	22/12/2015-	SEPA has continued to operate the	N/A.
		Largs Fort Street, Largs Seafront	22/06/2022	flood warning service.	1474
		and Saltcoats Harbour flood warning	22/00/2022	nood warning service.	
		areas, which are part of the Firth of			
		Clyde coastal flood warning			
	G	scheme. When flood events occur in			
Maintain flood	G	an area with a flood warning service,			
warning		SEPA will seek to verify and validate			
Largs Fort Street,		the warning service. SEPA will use			
Largs Seafront and		feedback and post-event data to			
Saltcoats Harbour		ensure that our flood warning			
flood warning areas		service is timely and accurate.			

		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A.
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The		reduce the impacts of flooding. SEPA	
		service also provides information		in partnership with the Met Office has	
		which allows SEPA to issue flood		developed a public version of the daily	
		warnings, giving people a better		Flood Guidance Statement, the	
		chance of reducing the impact of		Scottish Flood Forecast, to provide	
		flooding on their home or business.		better and earlier information to the	
		For more information please visit		public. A beta version of this product	
	G	SEPA's website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
Flood forecasting*				the technical, resource and	

				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/04/2016-	North Ayrshire Council raised	N/A.
		protecting themselves and their	22/06/2022	awareness about flood risk via a	
		property from flooding. Property and		separate action noted for this PVA.	
		business owners can take simple		Specific awareness raising about flood	
		steps to reduce damage and		risk matters was achieved when the	
		disruption to their homes and		Council's flooding team responded to	
		businesses should flooding happen.		reported flood incidents, enquiries from	
		This includes preparing a flood plan		prospective developers & flood risk	
		and flood kit, installing property level		consultants and when responding to	
		protection, signing up to Floodline		planning application consultations.	
	G	The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
·		Although not part of a community	01/06/2016-	North Ayrshire Council engaged with	N/A.
		flood action group the public take an	22/06/2022	responsible authorities and all other	
Community flood	G	active interest in flooding issues		stakeholders, including community	
action groups		within Largs and inform the		groups and the public to raise	

		Council about debris in the		awareness of flood risk and how those	
		watercourse. North Ayrshire Council		affected can be better prepared.	
		will liaise with the group through			
		Community Council meetings and			
		directly to the public.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
		schedules of clearance and repair		1st Local Flood Risk Management	
		works and make these available for		Plan cycle.	
	_	public inspection. Scottish Water			
	G	undertake risk based inspection,			
		maintenance 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			
Maintenance*		flood risk.			
		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
	G	authorities, the emergency services		centres within North Ayrshire that have	
Emergency		and SEPA. Effective management of		a notable flood risk. These plans were	
plans/response*		an emergency response relies on		completed in September 2020.	

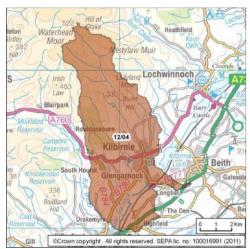
		emergency plans that are prepared			
		under the Civil Contingencies Act			
		2004 by Category 1 and 2			
		Responders. Scottish Water are a			
		Category 2 responder under the			
		Civil Contingencies Act 2004 and			
		will support regional and local			
		resilience partnerships as required.			
		The emergency response by these			
		organisations is coordinated through			
		regional and local resilience			
		partnerships. This response may be			
		supported by the work of voluntary			
		organisations.			
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
	G	terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
Planning policies*		management in our rural areas, and		framework set out in Scottish Planning	

Policy. We have and will continue to to address the long-term vulnerability of parts of our coasts engage from the start of the and islands. Under this approach, development plan process and new development in areas with encourage planning authorities to medium to high likelihood of flooding undertake a Strategic Flood Risk should be avoided. Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach. North Ayrshire Council completed a Strategic Flood Risk Assessment for LDP2 in May 2018. In addition, the Ayrshire Shoreline Management Plan (SMP), which prompts land use, policy changes and further studies to allow physical protective measures to take place in the future was adopted by North Ayrshire Council and South Ayrshire Council in September 2018. National Planning Framework 4 is expected to be adopted by the Scottish Parliament later in 2022 and will

	become part of the Development Plan,	
	ensuring national planning policies on	
	flooding are applied in local decision	
	making.	

#### 4.4 Upper Garnock Catchment (Potentially Vulnerable Area 12/04)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council, Renfrewshire Council	River Garnock Catchment



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### Summary of Progress for Upper Garnock Catchment

There are approximately 810 residential properties at risk of flooding. The Annual Average Damages are approximately £790,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/04, please click here.

Key progress has been made with the Upper Garnock Flood Protection Scheme, which is under construction and is projected to be completed by Autumn 2022. The scheme includes the creation of a dam and upstream reservoir north of Kilbirnie and some limited flood walls throughout Glengarnock and Dalry that will protect over 200 properties and businesses in the Garnock Valley.

## Overview of actions to manage flooding in Upper Garnock Catchment

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/04	Α		G		G		G		Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Upper Garnock Catchment (PVA 12/04)

Action	Status	Description	Dates	Progress in Delivery, including	Revised dates and planned
				key deliverables and dates	actions to complete / address
					delay
		North Ayrshire Council are progressing	01/06/2016-	North Ayrshire Council confirmed	The Upper Garnock Flood
		work on the proposed flood protection	01/06/2022	the Upper Garnock Flood	Protection Scheme is under
		scheme on the upper River Garnock. The		Protection Scheme on the 2 <sup>nd</sup> of	construction, which will be
		Outline design of the Upper Garnock		October 2018. The detailed	completed in the early part of 2nd
		Flood Protection Scheme and notification		design was completed and	Local Flood Risk Management Plan
		period completed in October 2015. A		construction of the scheme began	cycle (2022-2028).
	Α	total of five objections were received		in August 2020. Construction	
		during this period and the Council is		work is ongoing and is due to be	
		currently trying to resolve these		completed in 2022.	
		objections with the individuals before			
		making a decision to confirm the scheme			
Flood protection		either with or without an unresolved			
Flood protection scheme/works		objection.			
·		SEPA will continue with the development	22/12/2015-	SEPA has continued to operate	N/A.
		and implementation of a flood warning	31/12/2016	the flood warning service since it	
		scheme on the River Garnock. Detail of		was completed earlier in the FRM	
	G	communities that will benefit from the		cycle.	
New flood warning		warnings will be determined during			
River Garnock		scheme development.			

			T		T
		Further investigations will be undertaken	01/06/2016-	The Upper Garnock Natural Flood	N/A.
		which will focus on the potential benefits	01/06/2022	Management Study was	
		of natural flood management, including		completed in 2020.	
	G	runoff control and sediment, to the			
		tributaries of the River Garnock, and how			
Natural Flood		these combined actions may reduce			
Management Study		flood risk on the River Garnock.			
		Scottish Water will undertake further	01/01/16-	The Scottish Water assessment	The assessment is now completed
		investigation and modelling in the	31/12/2020	of flood risk within the sewer	and has been shared with Local
		Stevenson Point sewer catchment to		catchment has been completed.	Authority.
	G	improve knowledge and understanding of			
Strategic mapping		flood risk in this area as required under			
and modelling – Section 16		Section 16 if the Flood Risk Management			
assessment		(Scotland) Act 2009.			
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water	The national surface water flooding
		additional surface water hazard mapping	22/06/2022	hazard maps use design rainfall	modelling project will be completed
		information into the flood maps to		estimates based on FEH99	in 2023. The outputs from this will
		improve understanding of flood risk.		methodology, this has now been	be used to update SEPA maps
		Approximately 2,100km² of improved		superseded by FEH22	early in cycle 2 and will inform
		data is currently available within this		methodology. The FEH22 dataset	SEPA's flood risk assessments for
	А	Local Plan District.		contains the latest science and	the next flood risk management
				understanding of rainfall across	cycle.
				Scotland and represents a	
				significant change in rainfall	
				amounts compared to FEH99	
Strategic mapping				dataset, as such it is no longer	
and modelling – Surface water				consider appropriate to deliver	
			1		

				this action as originally intended.	
				This action will not be taken	
				forwards as described. A major	
				national update of the surface	
				water maps is underway which	
				will deliver updated surface water	
				flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		SEPA will continue with the development	22/12/2015-	SEPA continues to improve the	N/A
		and implementation of a flood warning	22/12/2013	Scottish Flood Forecasting	IV/A
		scheme on the River Garnock. Detail of	22/12/2022	Service with the Met Office, with	
		communities that will benefit from the			
				daily Flood Guidance Statements	
		warnings will be determined during		and regional Flood Alerts issued	
		scheme development.		as required to enable	
				communities and responders to	
				reduce the impacts of flooding.	
	G			SEPA in partnership with the Met	
	O			Office has developed a public	
				version of the daily Flood	
				Guidance Statement, the Scottish	
				Flood Forecast, to provide better	
				and earlier information to the	
				public. A beta version of this	
				product was launched in May	
				2022. It will be refined in the wake	
Flood forecasting*				of user feedback. A more	

				focussed version of the product,	
				producing guidance at a local	
				level, is planned for the next flood	
				risk management cycle. Options	
				for developing forecasts of	
				surface water flooding have been	
				published in 2022 to help urban	
				areas and the transport network	
				improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of	
				this service is being considered	
				alongside the technical, resource	
				and communication challenges	
				associated with providing surface	
				water flooding guidance.	
		Everyone is responsible for protecting	01/04/2016-	North Ayrshire Council raised	N/A.
		themselves and their property from	22/06/2022	awareness about flood risk via a	
		flooding. Property and business owners		separate action noted for this	
		can take simple steps to reduce damage		PVA. Specific awareness raising	
		and disruption to their homes and		about flood risk matters was	
	G	businesses should flooding happen. This		achieved when the Council's	
		includes preparing a flood plan and		flooding team responded to	
		flood kit, installing property level		reported flood incidents, enquiries	
		protection, signing up to Floodline		from prospective developers &	
		The Councils, SEPA and Scottish Water		flood risk consultants and when	
Calf hala*		will continue to engage with responsible			
Self help*		2 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3			

		Authorities and all other stakeholders,		responding to planning application	
		including community groups and the		consultations.	
		public to raise awareness of flood risk			
		and how those affected can be better			
		prepared. Further detail can be found in			
		the Councils and Scottish Flood Forum			
		websites.			
		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with	N/A
		Scottish Water collectively work to raise	22/06/2022	others to raise awareness of flood	
		awareness of flood risk and how those		risk and its flood warning service.	
		affected can be better prepared. Through		It has participated in local	
		the continued development of flood		activities including school /	
		schemes and studies at higher risk		education and community	
		locations, officers from the Council's		resilience activities when able.	
		Flood Risk Management Team attend		Some planned activities notably in	
		community council events to discuss		person joint events have been	
		elements of flood risk management.		limited or delayed due to Covid	
	G	Across Scotland, SEPA will create and		19.	
		share communication and education			
		resources with other responsible		North Ayrshire Council's general	
		authorities. These resources will include		awareness raising was a	
		awareness campaigns, media and		continuous activity via updates to	
		marketing activity and promotion of		the Council's website.	
		SEPA's flood forecasting and warning		Supporting Local Flood	
		services (Floodline). Scottish Water will		Emergency Groups was an	
		provide targeted flooding		occasional activity in the Upper	
Awareness raising*		communications for Scottish Water		Garnock PVA.	

		specific activities and raise awareness by			
		producing and supplying targeted		Project related public	
		information to the public on large capital		consultations affecting the Upper	
		projects and detailed local studies.		Garnock PVA were carried out.	
		Local authorities have a duty to assess	01/06/2016-	North Ayrshire Council inspected	N/A.
		watercourses and carry out clearance	01/06/2022	trash screens, watercourses and	
		and repair works where such works		coastal flood protection structures	
		would substantially reduce flood risk.		in accordance with the published	
		They produce schedules of clearance		inspection programme throughout	
		and repair works and make these		the 1st Local Flood Risk	
		available for public inspection. Scottish		Management Plan cycle.	
	G	Water undertake risk-based inspection,			
		maintenance 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			
Maintenance*		help to reduce flood risk.			
		Providing an emergency response to	01/06/2016-	North Ayrshire Council	N/A.
		flooding is the responsibility of many	01/06/2022	commissioned emergency plans,	
		organisations, including local authorities,		aimed at Category 1 and 2	
		the emergency services and SEPA.		responders, for population centres	
	G	Effective management of an emergency		within North Ayrshire that have a	
		response relies on emergency plans that		notable flood risk. These plans	
		are prepared under the Civil		were completed in September	
		Contingencies Act 2004 by Category 1		2020.	
Emergency plans/response*		and 2 Responders. Scottish Water are a			

		Category 2 responder under the Civil			
		Contingencies Act 2004 and will support			
		regional and local resilience partnerships			
		as required. The emergency response by			
		these organisations is coordinated			
		through regional and local resilience			
		partnerships. This response may be			
		supported by the work of voluntary			
		organisations.			
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A
		accompanying Planning Advice Notes set	01/06/2022	planning functions with a view to	
		out Scottish Ministers' priorities for the		reducing overall flood risk. We	
		operation of the planning system and for		effectively contribute to the	
		the development and use of land. In		delivery of sustainable flood risk	
		terms of flood risk management, the		management and we support the	
		policy supports a catchment-scale		delivery of FRM Plans and Local	
		approach to sustainable flood risk		FRM Plans. In line with the	
		management and aims to build the		management actions that accord	
	G	resilience of our cities and towns,		with national planning policies, we	
		encourage sustainable land management		have and will continue to object to	
		in our rural areas, and to address the		development at medium to high	
		long-term vulnerability of parts of our		risk of flooding when it is contrary	
		coasts and islands. Under this approach,		to the risk framework set out in	
		new development in areas with medium		Scottish Planning Policy. We have	
		to high likelihood of flooding should be		and will continue to engage from	
		avoided.		the start of the development plan	
Planning policies*				process and encourage planning	

	T	authorities to undertake a	
		Strategic Flood Risk Assessment	
		to inform their spatial strategy. We	
		remain committed to exercising	
		our planning functions with a view	
		to reducing overall flood risk, and	
		when a new national planning	
		policy context is finalised later in	
		2022 via the National Planning	
		Framework 4, we will take the	
		same approach.	
		North Ayrshire Council completed	
		a Strategic Flood Risk	
		Assessment for LDP2 in May	
		2018.	
		National Planning Framework 4 is	
		expected to be adopted by the	
		Scottish Parliament later in 2022	
		and will become part of the	
		Development Plan, ensuring	
		·	
		national planning policies on	
		flooding are applied in local	
		decision making.	

#### 4.5 Kilwinning (Potentially Vulnerable Area 12/05)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council	River Garnock



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## Summary of Progress for Kilwinning

There are approximately 170 residential properties at risk of flooding. The Annual Average Damages is approximately £400,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/05, please click <a href="here">here</a>.

Key progress has been made with the completion of the Stevenston Point Integrated Catchment Study and the Saltcoats, Ardrossan, Stevenston & Kilwinning (SASK) Surface Water Management Plan.

## Overview of actions to manage flooding in Kilwinning

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/05			G	G		G	G		Α				G			G	G	G	G	G

## Summary of progress of actions to manage flood risk in the Kilwinning (PVA 12/05)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		SEPA will continue with the	22/12/2015-	SEPA has continued to operate the	N/A.
		development and implementation of	22/06/2022	flood warning service since it was	
		a flood warning scheme on the River		completed earlier in the FRM cycle.	
		Garnock. Detail of communities that			
		will benefit from the warnings will be			
		determined during scheme			
		development.			
		Once implemented SEPA will			
	_	continue to maintain the flood			
	G	warning scheme. When flood events			
		occur in an area with a flood			
		warning service, SEPA will seek to			
		verify and validate the warning			
		service.			
		SEPA will use feedback and post-			
		event data to ensure that our flood			
		warning service is timely and			
New flood warning		accurate.			
9		An integrated catchment study	22/12/2015-	The Meadowhead ICS has been	N/A.
		covering the Meadowhead	31/12/2021	completed. No areas within this PVA	
Surface water		catchment was carried out in SR10		were included to be taken forwards for	
plan/study		2010-2015 to support the surface			

		water management planning		optioneering as priority areas under	
		process in Kilmarnock, Greenholme,		the ICS.	
		Irvine, Prestwick and Ayr. The study		110 100.	
		will improve knowledge and			
		understanding of the interactions			
		•			
		between the above ground and			
		below ground drainage network e.g.			
		with the sewer network,			
		watercourses and the sea.			
		North Ayrshire Council will develop	01/06/2016-	The Irvine surface water management	N/A.
		a surface water management plan	01/06/2022	plan was completed in 2020 and the	
		or plans to cover Irvine and		Saltcoats, Ardrossan, Stevenston &	
		Kilwinning which set objectives for		Kilwinning (SASK) Surface Water	
	G	the management of surface water		Management Plan was completed in	
		flood risk and identify the most		2021.	
		sustainable actions to achieve the			
Surface water plan/study		objectives.			
pianyouary		An integrated catchment study	01/06/2016-	The Integrated Catchment Study for	N/A
		covering the Stevenston Point	01/06/2022	Stevenston Point has been completed.	
		catchment will be carried out to		Outputs have been shared with local	
		support the surface water		authorities to inform Surface Water	
		management planning process in		Management Plans.	
	G	Kilwinning, Saltcoats, Ardrossan and		- -	
		Stevenston. The study will improve			
		knowledge and understanding of the			
		interactions between the above			
Surface water		ground and below ground drainage			
plan/study		ground and bolow ground ardinage			

		network e.g. with the sewer network,			
		watercourses and the sea.			
		North Ayrshire Council will develop	01/06/2016-	The Saltcoats, Ardrossan, Stevenston	N/A.
		a surface water management plan	01/06/2022	& Kilwinning (SASK) Surface Water	107.0
		or plans to cover Kilwinning,	01/00/2022	Management Plan was completed in	
		Saltcoats, Ardrossan and		2021.	
		·		2021.	
		Stevenston which set objectives for			
		the management of surface water			
		flood risk and identify the most			
		sustainable actions to achieve the			
	0	objectives. Scottish Water will			
	G	provide local knowledge and			
		understanding of the sewer network.			
		This includes Scottish Water			
		corporate data (as applicable) and			
		outputs of the Stevenston Point			
		integrated catchment study and			
		Section 16 modelling, to assist with			
		the surface water management			
Surface water		planning process.			
plan/study		Scottish Water will undertake further	01/01/2016-	The Scottish Water assessment of	The assessment is now completed
		investigation and modelling in the	31/12/2020	flood risk within the sewer catchment	and has been shared with the Local
		Three Town sewer catchment to	31/12/2020	has been completed.	Authority.
Strategic mapping	G			nas been completed.	Addionty.
and modelling -		improve knowledge and			
Section 16		understanding of flood risk in this			
assessment		area as required under Section 16 of			

		the Flood Risk Management			
		(Scotland) Act 2009.			
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water flooding
	,	additional surface water hazard	22/06/2022	maps use design rainfall estimates	modelling project will be completed
		mapping information into the flood		based on FEH99 methodology, this	in 2023. The outputs from this will
		maps to improve understanding of		has now been superseded by FEH22	be used to update SEPA maps
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	early in cycle 2 and will inform
	•	of improved data is currently		contains the latest science and	SEPA's flood risk assessments for
	•	available within this Local Plan		understanding of rainfall across	the next flood risk management
	•	District.		Scotland and represents a significant	cycle.
				change in rainfall amounts compared	
	Α			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping and modelling –				representing the latest scientific	
surface water				understanding.	
		SEPA has continued to operate the	22/12/2015-	SEPA continues to improve the	N/A
		Scottish Flood Forecasting Service	22/06/2022	Scottish Flood Forecasting Service	
		(SFFS) Partnership with the Met		with the Met Office, with daily Flood	
	G	Office with daily, national flood		Guidance Statements and regional	
		guidance statements issued to		Flood Alerts issued as required to	
Flood forecasting*		Category 1 and 2 agencies (such as		enable communities and responders to	

		emergency responders, local		reduce the impacts of flooding. SEPA	
		authorities and other organisations		in partnership with the Met Office has	
		with flooding management duties).		developed a public version of the daily	
		Each daily statement gives an		Flood Guidance Statement, the	
		assessment of the risk of flooding		Scottish Flood Forecast, to provide	
		for the next five days to help enable		better and earlier information to the	
		these organisations to put		public. A beta version of this product	
		preparations in place to reduce the		was launched in May 2022. It will be	
		impact of flooding. SEPA's Flood		refined in the wake of user feedback. A	
		Alert service is freely available to		more focussed version of the product,	
		everyone and helps enable		producing guidance at a local level, is	
		communities to be aware and		planned for the next flood risk	
		prepared to reduce the impacts of		management cycle. Options for	
		flooding.		developing forecasts of surface water	
		nocarig.		flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
			0.4/0.4/55.15	guidance.	
		Everyone is responsible for	01/04/2016-	North Ayrshire Council raised	N/A.
	G	protecting themselves and their	22/06/2022	awareness about flood risk via a	
Self help*		property from flooding. Property and		separate action noted for this PVA.	

		business owners can take simple		Specific awareness raising about flood	
		steps to reduce damage and		risk matters was achieved when the	
		disruption to their homes and		Council's flooding team responded to	
		businesses should flooding happen.		reported flood incidents, enquiries from	
		This includes preparing a flood plan		prospective developers & flood risk	
		and flood kit, installing property level		consultants and when responding to	
		protection, signing up to Floodline		planning application consultations.	
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
	G	development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
Awareness raising*		community council events to discuss			

		elements of flood risk management.		North Ayrshire Council raised	
		Across Scotland, SEPA will create		awareness about flood risk matters by	
		and share communication and		updating the Council's website and by	
		education resources with other		supporting Local Flood Emergency	
		responsible authorities. These		Groups.	
		resources will include awareness			
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
	G	schedules of clearance and repair		1st Local Flood Risk Management	
		works and make these available for		Plan cycle.	
		public inspection. Scottish Water			
		undertake risk based inspection,			
Maintenance*		maintenance 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.			
		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
		authorities, the emergency services		centres within North Ayrshire that have	
		and SEPA. Effective management of		a notable flood risk. These plans were	
		an emergency response relies on		completed in September 2020.	
		emergency plans that are prepared			
		under the Civil Contingencies Act			
		2004 by Category 1 and 2			
		Responders. Scottish Water are a			
	G	Category 2 responder under the			
		Civil Contingencies Act 2004 and			
		will support regional and local			
		resilience partnerships as required.			
		The emergency response by these			
		organisations is coordinated through			
		regional and local resilience			
		partnerships. This response may be			
Emergency		supported by the work of voluntary			
plans/response*		organisations.			

		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
	G	to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
				a view to reducing overall flood risk,	
				and when a new national planning	
				policy context is finalised later in 2022	
				via the National Planning Framework	
				4, we will take the same approach.	
Planning policies*					

#### 4.6 River Irvine and Annick Water (Potentially Vulnerable Area 12/06)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council, East Renfrewshire	River Irvine
	Council, North Ayrshire Council, South Ayrshire Council,	



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### Summary of Progress for River Irvine and Annick Water

There are approximately 2,900 residential properties at risk of flooding. The Annual Average Damages are approximately £7.1 million. Further information can be found in the Ayrshire Local FRMP under PVA 12/06, please click here.

Key progress has been made with the completion of the Upper and Lower Irvine Valley Flood Protection Studies, including option appraisal.

The River Irvine Catchment has been exposed to a number of significant recent weather events during Storm Edmund and Storm Frank in 2016.

## Overview of actions to manage flooding in River Irvine and Annick Water

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/06			G	G		G	G		Α	G	G	G	G		G	G	G	G	G	G

## Summary of progress of actions to manage flood risk in the River Irvine and Annick Water (PVA 12/06)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		The scope of a new flood warning	20/03/2016	The River Irvine flood forecasting	N/A.
		for the River Irvine is currently being	-	system has been updated in	
		examined. The area under	19/06/2020	Kilmarnock to include an operational	
		consideration for a new flood		warning at Burnside and a new flood	
		warning includes properties in		warning area on the Kilmarnock Water	
		Newmilns affected by flooding from		in Kilmarnock and continues to cover	
		the River Irvine. The risk to Galston		the Queens drive, New Mill Road and	
		will be reviewed using the councils		Samson Avenue area.	
		new flood study for the River Irvine.			
		This could impact on the potential		A new flood warning service for the	
	G	for provision of warnings at Galston.		Annick Water has been completed,	
		For areas where the risk is from the		with three new flood warning areas	
		Irvine an update to the flood		provided for Stewarton, Perceton and	
		forecasting system will be required.		the Annick Water in Irvine.	
		Another area under consideration			
		includes properties in Kilmarnock		New flood warning areas have also	
		affected by flooding from the		been provided for Shewalton and	
New Flood		Kilmarnock Water and River Irvine.		Springbank industrial estates, as well	
Warning		An update to the existing flood		as updating the Low Green (previously	
Newmilns, Galston, Kilmarnock, Irvine		forecasting system will be required		waterside) flood warning area.	
and Stewarton		to deliver flood warning in this			

		location. Flood warning is also			
		required for properties mainly in			
		Irvine and Stewarton affected by			
		flooding from the Annick Water. Full			
		scoping, infrastructure and a flood			
		forecasting system will be required			
		to develop a new flood warning			
		scheme in this area.			
		Upper Irvine Valley Flood Study and	01/06/2016-	The Upper River Irvine Valley Flood	Awaiting outcome of Scottish
	•	option appraisal	01/06/2022	Study including fluvial modelling is	Government Prioritisation of Flood
	•			complete. The option appraisal is	Schemes and Funding Review.
	•			complete and a Scheme was	
	•			submitted for prioritisation in	
	•			December 2018.	
	G				
	·			The submitted scheme offers a 1:100	
	·			year level of protection and was valued	
	·			at £27M at time of submission.	
Flood protection study					
study		An integrated catchment study	01/06/2016-	Pre Optioneering Catchment Plan and	N/A.
		covering the Meadowhead	01/06/2022	prioritisation stages completed.	
		catchment was carried out in SR10		The Optioneering Phase was	
		(2010-2015). This study will help to		completed. The implementation of the	
		support the surface water		findings will be considered in	
Surface water plan/study		management planning process in			
planystady					

		Kilmarnock, Greenholm, Irvine,		coordination with Scottish Water in the	
		Prestwick and Ayr. The study has		next cycle of FRM Plan.	
		improved knowledge and			
		understanding of flood risk and			
		interactions between the above			
		ground and below ground drainage			
		network e.g. with the sewer network			
		and watercourses. The Optioneering			
		phase of this study, to establish the			
		preferred solution(s) to the flooding			
		issues, is now being progressed.			
		North and East Ayrshire Council will	01/06/2016-	The Irvine Surface Water Management	N/A.
		develop a surface water	01/06/2022	Plan was completed in 2020.	
		management plan		The report was issued to Scottish	
		or plans to cover Irvine and		Water and SEPA.	
	G	Kilmarnock which set objectives for		Most issues are for either Scottish	
		the management of surface water		Water or East Ayrshire Council and	
		flood risk and identify the most		both authorities will action as	
Surface water		sustainable actions to achieve the		appropriate.	
plan/study		objectives.			
		SEPA will work with East Ayrshire	01/01/2016-	Action complete. Updated river flood	N/A
		Council to improve the	31/12/2020	hazard mapping for the River Irvine	
Strategic mapping		understanding of flood risk along the		was published on the SEPA website in	
and modelling -	G	River Irvine. The Council are leading		November 2020.	
River Irvine mapping		on the production of the River Irvine			
improvements		modelling with SEPA providing			

		advice and reviewing information			
		during the process. SEPA will			
		update strategic surface water			
		mapping in some parts of this			
		catchment to improve understanding			
		of flood risk. The inclusion of			
		additional surface water hazard data			
		resulting from the completion of			
		local authority surface water			
		management plans will be			
		considered as these projects are			
		completed.			
		SEPA will update strategic surface	01/01/2016-	SEPA's current surface water hazard	The national surface water
		water mapping in some parts of this	31/12/2020	maps use design rainfall estimates	flooding modelling project will be
		catchment to improve understanding		based on FEH99 methodology, this	completed in 2023. The outputs
		of flood risk. The inclusion of		has now been superseded by FEH22	from this will be used to update
		additional surface water hazard data		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		resulting from the completion of		contains the latest science and	will inform SEPA's flood risk
		local authority surface water		understanding of rainfall across	assessments for the next flood
	Α	management plans will be		Scotland and represents a significant	risk management cycle.
		considered as these projects are		change in rainfall amounts compared	
		completed.		to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
Strategic mapping				described. A major national update of	
and modelling - surface water				the surface water maps is underway	
			l		

				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		Scottish Water will undertake further	01/01/2016-	The Meadowhead ICS has been	N/A
		investigation and modelling in the	31/12/2020	completed. No areas within this PVA	
		Meadowhead Point sewer		were included to be taken forwards for	
		catchment to improve knowledge		optioneering as priority areas under	
		and understanding of flood risk in		the ICS.	
Strategic mapping		this area as required under Section			
and modelling -		16 of the Flood Risk Management			
Section 16 Assessment		(Scotland) Act 2009.			
		The Kilmarnock Flood Protection	01/06/2016-	East Ayrshire Council continues to	N/A.
		Scheme was designed to mitigate	01/06/2022	carry out its maintenance contracts.	
		flooding from the River Irvine in the		The Council will continue to inspect	
		Riccarton and Crookedholm areas		and maintain the flood protection	
		of Kilmarnock. The scheme has a		structures within the catchment.	
		standard of protection of 100 years.			
		The schemes currently constructed			
	G	form two main types:			
		Walled structures maintained under			
		the Annual Flap valve and Penstock			
		Maintenance Contract; and earth			
		embankments maintained by Panel			
		engineers and supported by the			
Maintain fland		annual grass cutting contract (to			
Maintain flood protection scheme		allow inspection).			

		Defences along the banks of the	01/06/2016-	The flood defences at Waterside,	N/A.
				•	IN/A.
		Irvine River protect properties in the	01/06/2022	Irvine were inspected by North	
		Waterside up to a 20 year flood.		Ayrshire Council in accordance with	
		North Ayrshire Council will continue		the Council's published inspection	
		to inspect and maintain the River		schedule.	
		Irvine flood defences at Waterside,			
		which will continue to manage			
		flooding according to the design			
		standard at the time of construction.			
		Given the relatively minor nature of			
		the structures, the inspection works			
		will be scheduled as part of the			
	G	Council`s duties in accordance with			
		Sections 18 of the Flood Risk			
		Management (Scotland) Act 2009.			
		In 2014 the River embankment			
		stabilisation was carried out, and			
		recently the surface water outfall			
		valves were inspected and proposed			
		to be lowered/replaced as part of the			
		surface water flood mitigation effort			
		for the area. If the defences remain			
		the same, levels of flood risk are			
		likely to increase over time as a			
Maintain flood protection scheme		consequence of climate change.			
		SEPA will continue to maintain the	22/12/2015-	The River Irvine flood forecasting	N/A
Maintain flood warning	G	Irvine Waterside/Low Green flood	22/06/2022	system has been updated in	

Irvine		warning area in Irvine and the		Kilmarnock to include an operational	
Waterside/Low		Queen's Drive, New Mill Road and		warning at Burnside and a new flood	
Green flood		Samson Avenue flood warning		warning area on the Kilmarnock Water	
warning areas in Irvine and the		areas in Kilmarnock which are part		in Kilmarnock and continues to cover	
Queen's Drive,		of the Irvine river flood warning		the Queens Drive, New Mill Road and	
New Mill Road and		scheme. When flood events occur in		Samson Avenue area.	
Samson Avenue flood warning		an area with a flood warning service,			
areas in Kilmarnock		SEPA will seek to verify and validate		A new flood warning service for the	
		the warning service. SEPA will use		Annick Water has been completed,	
		feedback and post-event data to		with three new flood warning areas	
		ensure that our flood warning		provided for Stewarton, Perceton and	
		service is timely and accurate.		the Annick Water in Irvine.	
				New flood warning areas have also	
				been provided for Shewalton and	
				Springbank industrial estates, as well	
				as updating the Low Green (previously	
				waterside) flood warning area.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
	G	guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
Flood forecasting*		SEPA to issue flood warnings,		developed a public version of the daily	

		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Although not part of a community	01/06/2016-	East Ayrshire Council, SEPA and	N/A.
		flood action group the public take an	22/06/2022	Scottish Water will continue to engage	
		active interest in flooding issues		with responsible authorities and all	
	G	within Galston and inform the		other stakeholders, including	
Community flood		Council about debris in the		community groups and the public to	
action groups		watercourse. East Ayrshire Council		raise awareness of flood risk and how	

		will liaise with the group through		those affected can be better prepared.	
		Community Council meetings and		EAC will continue the ongoing support	
		directly to the public.		for the Community Flood Group.	
		Everyone is responsible for	01/04/2016-	North Ayrshire Council and East	N/A.
		protecting themselves and their	22/06/2022	Ayrshire Council raised awareness	
		property from flooding. Property and		about flood risk via a separate action	
		business owners can take simple		noted for this PVA. Specific awareness	
		steps to reduce damage and		raising about flood risk matters was	
		disruption to their homes and		achieved when the Councils' flooding	
		businesses should flooding happen.		teams responded to reported flood	
		This includes preparing a flood plan		incidents, enquiries from prospective	
		and flood kit, installing property level		developers & flood risk consultants	
		protection, signing up to Floodline		and when responding to planning	
	G	The Councils, SEPA and Scottish		application consultations.	
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
·		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
	G	raise awareness of flood risk and		flood warning service. It has	
Awareness raising*		how those affected can be better		participated in local activities including	

prepared. Through the continued school / education and community development of flood schemes and resilience activities when able. Some studies at higher risk locations, planned activities notably in person officers from the Council's Flood ioint events have been limited or delayed due to Covid 19. Risk Management Team attend community council events to discuss elements of flood risk management. North Ayrshire Council raised Across Scotland, SEPA will create awareness about flood risk matters by and share communication and updating the Council's website and by supporting Local Flood Emergency education resources with other responsible authorities. These Groups. resources will include awareness campaigns, media and marketing activity and promotion of SEPA's flood forecasting and warning services (Floodline). Scottish Water will provide targeted flooding communications for Scottish Water specific activities and raise awareness by producing and supplying targeted information to the public on large capital projects and detailed local studies. Further Information is provided on North Ayrshire Council, SEPA, Scottish Awareness raising\* Water websites.

		East Ayrshire Council, SEPA and	01/04/2016-	East Ayrshire Council and SEPA has	East Ayrshire Council and SEPA
		Scottish Water collectively work to	22/06/2022	delivered a range of awareness raising	will continue to raise awareness
		raise awareness of flood risk and		activities through campaigning,	of flood risk through campaigning,
		how those affected can be better		education activities and partnership	developing education and
		prepared.		delivery. We have run national and	engagement tools, creating new
		Across Scotland, SEPA will create		local digital and direct engagement	partnerships and improving the
		and share communication and		campaigns to raise awareness of flood	flood warning and forecasting
		education resources with other		risk and SEPA's flood warning service,	service. Many of our awareness
		responsible authorities. These		Floodline. We publish and publicise an	raising activities currently
		resources will include awareness		electronic newsletter (Flooding	underway will continue. Our
		campaigns, media and marketing		Gateway) four times a year which is	focus will be on promoting flood
		activity and promotion of SEPA's		distributed to a wide audience. SEPA	warning and forecasting service,
		flood forecasting and warning		are working with Education Scotland	innovation, education and
	G	services (Floodline).		and Scottish Government Resilience	engagement with partners,
		Scottish Water will provide targeted		team to embed flooding awareness	customers and the public.
		flooding communications for		within the Curriculum for Excellence,	
		Scottish Water specific activities and		and resilience partners in Safer	
		raise awareness by producing and		Communities programmes. We have	
		supplying targeted information to the		also developed an online tool that	
		public on large capital projects and		helps everyone share information on	
		detailed local studies.		current flooding issues (Report-a-	
		Further Information is provided on		Flood). We have worked in partnership	
		East Ayrshire Council, SEPA,		with local authorities, emergency	
		Scottish Water and Ayrshire Road		services and community organisations	
		Alliance websites.		(e.g. Neighbourhood Watch Scotland,	
				Citizens Advice Scotland and others)	
Awareness raising*				to share our resources and help to	

				promote preparedness and	
				understanding of how we manage	
				flood risk in Scotland. We have	
				actively supported the Scottish Flood	
				Forum and worked closely with UK	
				agencies to develop joint flooding	
				information.	
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
		schedules of clearance and repair		1st Local Flood Risk Management	
		works and make these available for		Plan cycle.	
		public inspection. Scottish Water			
	G	undertake risk based inspection,			
		maintenance and repair on the			
		public sewer network. Asset owners			
		and riparian landowners are			
		responsible for the maintenance and			
		management of their own assets			
Maintenance –		including those which help to reduce			
North Ayrshire Council*		flood risk.			
Council		East Ayrshire Council in accordance	01/06/2016-	High risk locations such as those with	The Council will continue to
		with Section 18 of the FR Scotland	01/06/2022	screens and smaller culverts are	inspect and maintain
Maintenance –	G	Act 2009 undertake assessment of		inspected in a scheduled basis. The	watercourses, screens and other
East Ayrshire Council*		water bodies to determine whether		majority of inspections are to be	relevant Council assets.
					<u>.                                    </u>

		works of clearance and repair would		undertaken in the winter months when	
		substantially reduce risk of flooding.		flows are higher and water born debris	
		This information is used to produce		can be an issue.	
		a schedule of works, which is			
		available for the public to inspect			
		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
		authorities, the emergency services		centres within North Ayrshire that have	
		and SEPA. Effective management of		a notable flood risk. These plans were	
		an emergency response relies on		completed in September 2020.	
		emergency plans that are prepared			
		under the Civil Contingencies Act			
		2004 by Category 1 and 2			
		Responders. Scottish Water are a			
	G	Category 2 responder under the			
		Civil Contingencies Act 2004 and			
		will support regional and local			
		resilience partnerships as required.			
		The emergency response by these			
		organisations is coordinated through			
		regional and local resilience			
		partnerships. This response may be			
Emergency		supported by the work of voluntary			
plans/response*		organisations.			
·	0	Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
Planning policies*	G	accompanying Planning Advice	01/06/2022	planning functions with a view to	

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.

reducing overall flood risk. We effectively contribute to the delivery of sustainable flood risk management and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

North Ayrshire Council completed a
Strategic Flood Risk Assessment for
LDP2 in May 2018.
National Planning Framework 4 is
expected to be adopted by the Scottish
Parliament later in 2022 and will
become part of the Development Plan,
ensuring national planning policies on
flooding are applied in local decision
making.
East Ayrshire Council are Planning to
update their LDP in 2022 – 23.
East Ayrshire Council has prepared
and consulted on its Proposed Plan
LDP2. As part of the preparation of the
Plan, the Council engaged early with
SEPA on sites it was considering
allocating and took on board
comments from SEPA. In addition, The
Council has worked extensively with
SEPA and the KAG on issues
pertaining to flooding in Kilmarnock
and has undertaken a series of flood
workshops with the Key Agencies. The
new proposed plan contains flood

		policies reflective of SEPA's stance	
		and of NPF4.	

### 4.6 Irvine to Troon (Potentially Vulnerable Area 12/07)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council, South Ayrshire Council	Monkton to Irvine coastal



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### Summary of Progress for Irvine to Troon

There are approximately 1,000 residential properties at risk of flooding. The Annual Average Damages are approximately £1.3 million. Further information can be found in the Ayrshire Local FRMP under PVA 12/07, please click here.

The Ayrshire Shoreline Management Plan was completed and adopted by both North and South Ayrshire Councils in September 2018. The Meadowhead Integrated Catchment Study and the Irvine Surface Water Management Plan were also completed. Natural flood risk measures in South Ayrshire in the form of sand dune propagation have successfully continued throughout the reporting period.

## Overview of actions to manage flooding in Irvine to Troon

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/07		G		G		G	G	А	Α		G	G	G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Irvine to Troon (PVA 12/07)

Action	Status	Description	Dates	Progress in Delivery,	Revised dates and planned
				including key deliverables and	actions to complete / address
				dates	delay
		South Ayrshire Council are currently	22/12/2015-	This work continues to be	The Council will continue to
		undertaking sand dune propagation	22/06/2022	carried out on an annual basis.	undertake sand dune
		in Troon, and some of the benefits			propagation.
	G	of these actions are to help reduce			
		the risk of coastal erosion and			
		flooding. It is recommended that this			
Natural flood management works		should continue.			
anagomom mome		A shoreline management plan is	01/06/2016-	The Ayrshire Shoreline	N/A.
		recommended, this study is not	01/06/2022	Management Plan was	
		limited to Potentially Vulnerable		completed and was adopted by	
		Areas but should cover the whole of		both North Ayrshire Council and	
		the Ayrshire coastline and any areas		South Ayrshire Council in	
		beyond this which may be		September/October 2018.	
		influenced by changes in coastal			
	G	processes. The study should			
		investigate flooding and coastal			
		erosion, wave overtopping and the			
		current coastal protection offered.			
		The study will help to develop an			
		understanding of coastal issues and			
Flood protection		identify where further work may be			
study		required to mitigate against flooding.			

		An integrated catchment study	01/06/2016-	The Meadowhead ICS has been	N/A.
	•	covering the Meadowhead	01/06/2022	completed. No areas of this PVA	
	•	catchment was carried out in SR10		were included to be taken	
	•	(2010-2015). This study will help to		forwards for optioneering as	
	•	support the surface water		priority areas under the ICS.	
	•	management planning process in			
		Kilmarnock, Greenholm, Irvine,			
	•	Prestwick and Ayr. The study has			
	_	improved knowledge and			
	G	understanding of flood risk and			
		interactions between the above			
		ground and below ground drainage			
		network e.g. with the sewer network			
		and watercourses. The Optioneering			
		phase of this study, to establish the			
		preferred solution(s) to the flooding			
Surface Water		issues, is now being progressed.			
Management Plan					
		North Ayrshire Council will develop	01/06/2016-	The Irvine Surface Water	N/A.
		a surface water management plan	01/06/2022	Management Plan was	
		or plans to cover Irvine town which		completed in 2020.	
	G	set objectives for the management			
		of surface water flood risk and			
Surface water		identify the most sustainable actions			
plan/study		to achieve the objectives.			
, ,		SEPA will seek to develop flood	22/12/2016 –	Work completed to date includes	SEPA will complete a review of
	Α	mapping in the Ayr to Ardrossan	01/06/2022	the production of key data sets	coastal flood hazard mapping in

		area to improve understanding of		including extreme water levels	south west Scotland including in
		coastal flood risk. The extent and		and offshore wave and wind	this area. This includes identifying
					, ,
		timing of improvements will depend		conditions to support future	where taking account of the
		on detailed scoping and data		coastal modelling work.	impact of waves on flooding from
		availability. The coastal mapping			the sea may be required. SEPA
		and modelling process will start in			will collect the required coastal
		2016, with early work focussing on			defence asset and other
		methodology development and data			information necessary to progress
		collection. Once this stage has been			with improved flood modelling and
		completed a thorough review will be			mapping in the highest priority
		carried out to identify the final			areas taking account of wave
		mapping improvements that can be			overtopping where required.
		made in the area. Where this work			SEPA will look for opportunities to
		coincides with local authority			progress future modelling work in
Strategic mapping		studies, SEPA will work			a way that best supports
and modelling -		collaboratively to ensure consistent			improvements to SEPA's Coastal
coastal		modelling approaches are applied.			Flood Warning Schemes.
					Expected to progress to the next
					stage around the middle of cycle
					2 and complete early in the
					following cycle, subject to funding.
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water	The national surface water
		additional surface water hazard	22/06/2022	hazard maps use design rainfall	flooding modelling project will be
		mapping information into the flood		estimates based on FEH99	completed in 2023. The outputs
	Α	maps to improve understanding of		methodology, this has now been	from this will be used to update
Strategic mapping		flood risk. Approximately 2,100km²		superseded by FEH22	SEPA maps early in cycle 2 and
and modelling – Surface water		of improved data is currently		methodology. The FEH22	will inform SEPA's flood risk

		available within this Local Plan		dataset contains the latest	assessments for the next flood
		District.		science and understanding of	risk management cycle.
				rainfall across Scotland and	
				represents a significant change	
				in rainfall amounts compared to	
				FEH99 dataset, as such it is no	
				longer consider appropriate to	
				deliver this action as originally	
				intended. This action will not be	
				taken forwards as described. A	
				major national update of the	
				surface water maps is underway	
				which will deliver updated	
				surface water flooding maps for	
				Scotland representing the latest	
				scientific understanding.	
		Scottish Water will undertake further	01/01/2016-	The Meadowhead ICS has been	N/A.
		investigation and modelling in the	31/12/2020	completed. No areas within this	
		Meadowhead sewer catchment to		PVA were included to be taken	
		improve knowledge and		forwards for optioneering as	
		understanding of flood risk in this		priority areas under the ICS.	
Strategic mapping		area as required under Section 16 of			
and modelling-		the Flood Risk Management			
Section 16 assessment		(Scotland) Act 2009.			
		In Troon there are sections of	01/06/2016-	This work continues to be	N/A.
Maintain flood	G	seawalls, rock armour and gabion	01/06/2022	carried out on an annual basis.	
protection scheme		mattresses running from the golf			

		club to the harbour and north of the		South Ayrshire Council will	
		harbour to Beach Road. These		continue to inspect and maintain	
		defences offer some level of		the flood protection structures	
		protection to the properties in this		within the catchment.	
		area. These defences will be			
		maintained and will continue to			
		manage flooding according to the			
		design standard at the time of			
		construction.			
		SEPA will continue to maintain the	22/12/2015-	SEPA has continued to operate	N/A
		Troon Coastal, Troon Central and	22/06/2022	the flood warning service.	
		Prestwick Links Road flood warning			
	•	areas which are part of the Firth of			
	•	Clyde coastal flood warning			
		scheme. When flood events occur in			
	G	an area with a flood warning service,			
Maintain flood		SEPA will seek to verify and validate			
warning Troon Coastal,		the warning service. SEPA will use			
Troon Central and		feedback and post-event data to			
Prestwick Links		ensure that our flood warning			
Road flood warning areas		service is timely and accurate.			
dicus		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting	
		SEPA and the Met Office that		Service with the Met Office, with	
	G	produces daily, national flood		daily Flood Guidance	
		guidance statements which are		Statements and regional Flood	
Flood forecasting*		issued to Category 1 and 2		Alerts issued as required to	
1 1000 TOTCCGStillig			1		

Responders. The service also enable communities and provides information which allows responders to reduce the SEPA to issue flood warnings, impacts of flooding. SEPA in giving people a better chance of partnership with the Met Office reducing the impact of flooding on has developed a public version their home or business. For more of the daily Flood Guidance information please visit SEPA's Statement, the Scottish Flood website. Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. It will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding. The development and wider roll-out of this service is being considered alongside the technical, resource and

				communication challenges	
				associated with providing	
				surface water flooding guidance.	
		Everyone is responsible for	01/04/2016-	North Ayrshire Council and	N/A.
		protecting themselves and their	22/06/2022	South Ayrshire Council raised	
		property from flooding. Property and		awareness about flood risk via a	
		business owners can take simple		separate action noted for this	
		steps to reduce damage and		PVA. Specific awareness raising	
		disruption to their homes and		about flood risk matters was	
		businesses should flooding happen.		achieved when the Councils'	
		This includes preparing a flood plan		flooding team responded to	
		and flood kit, installing property level		reported flood incidents,	
		protection, signing up to Floodline		enquiries from prospective	
	G	The Councils, SEPA and Scottish		developers & flood risk	
		Water will continue to engage with		consultants and when	
		responsible Authorities and all other		responding to planning	
		stakeholders, including community		application consultations.	
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
		North Ayrshire Council, South	22/12/2015-	SEPA continues to work with	N/A.
		Ayrshire Council, SEPA and	22/06/2022	others to raise awareness of	
	G	Scottish Water collectively work to		flood risk and its flood warning	
Awareness raising*		raise awareness of flood risk and		service. It has participated in	

		how those affected can be better		local activities including school /	
		prepared. Through the continued		education and community	
		development of flood schemes and		resilience activities when able.	
		studies at higher risk locations,		Some planned activities notably	
		officers from the Council's Flood		in person joint events have been	
		Risk Management Team attend		limited or delayed due to Covid	
		community council events to discuss		19.	
		elements of flood risk management.			
		Across Scotland, SEPA will create		North Ayrshire Council raised	
		and share communication and		awareness about flood risk	
		education resources with other		matters by updating the	
		responsible authorities. These		Council's website and by	
		resources will include awareness		supporting Local Flood	
		campaigns, media and marketing		Emergency Groups.	
		activity and promotion of SEPA's			
		flood forecasting and warning		Awareness raising is a	
		services (Floodline). Scottish Water		continuous activity for South	
		will provide targeted flooding		Ayrshire Council which is	
		communications for Scottish Water		actioned by updating the	
		specific activities and raise		Council's website, working with	
		awareness by producing and		partners and engagement with	
		supplying targeted information to the		relevant stakeholders as	
		public on large capital projects and		appropriate.	
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council	N/A.
	G	assess watercourses and carry out	01/06/2022	inspected trash screens,	
Maintenance*		clearance and repair works where		watercourses and coastal flood	

		such works would substantially		protection structures in	
		reduce flood risk. They produce		accordance with the published	
		schedules of clearance and repair		inspection programme	
		works and make these available for		throughout the 1st Local Flood	
		public inspection. Scottish Water		Risk Management Plan cycle.	
		undertake risk-based inspection,			
		maintenance and repair on the		South Ayrshire Council carry out	
		public sewer network. Asset owners		monthly inspections and	
		and riparian landowners are		clearance work where	
		responsible for the maintenance and		necessary on 17 debris screens	
		management of their own assets		where there is a known flood	
		including those which help to reduce		risk from blockage. Watercourse	
		flood risk.		inspections are carried out on a	
				regular basis where there are	
				known flood risk issues. 25km of	
				coastal protection structures are	
				inspected annually.	
		In Troon there are sections of	01/06/2016-	This work continues to be	N/A.
		seawalls, rock armour and gabion	01/06/2022	carried out on an annual basis.	
		mattresses running from the golf			
		club to the harbour and north of the		The Council will continue to	
		harbour to Beach Road. These		inspect and maintain the flood	
	G	defences offer some level of		protection structures within the	
		protection to the properties in this		catchment.	
		area. These defences will be			
Maintain flood		maintained and will continue to			
Protection Schemes		manage flooding according to the			
Juleilles		= -			

		design standard at the time of			
		construction.			
		Providing an emergency response	01/06/2016-	North Ayrshire Council	N/A.
	1	to flooding is the responsibility of	01/06/2022	commissioned emergency	
		many organisations, including local		plans, aimed at Category 1 and	
		authorities, the emergency services		2 responders, for population	
		and SEPA. Effective management of		centres within North Ayrshire	
		an emergency response relies on		that have a notable flood risk.	
		emergency plans that are prepared		These plans were completed in	
		under the Civil Contingencies Act		September 2020.	
		2004 by Category 1 and 2			
		Responders. Scottish Water are a		The Ayrshire Civil Contingency	
	G	Category 2 responder under the		Team has developed	
		Civil Contingencies Act 2004 and		emergency plans for major	
		will support regional and local		flooding incidents in the South	
		resilience partnerships as required.		Ayrshire Council area in	
		The emergency response by these		partnership with Category 1 and	
		organisations is coordinated through		2 responders.	
		regional and local resilience			
		partnerships. This response may be			
Emergency		supported by the work of voluntary			
plans/response*		organisations.			
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
	G	Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the	
Planning policies*		planning system and for the		delivery of sustainable flood risk	

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.

management and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

North Ayrshire Council
completed a Strategic Flood
Risk Assessment for LDP2 in
May 2018. In addition, the
Ayrshire Shoreline Management
Plan (SMP), which prompts land
use, policy changes and further
studies to allow physical
protective measures to take
place in the future was adopted
by North Ayrshire Council and
South Ayrshire Council in
September 2018.
National Planning Framework 4
is expected to be adopted by the
Scottish Parliament later in 2022
and will become part of the
Development Plan, ensuring
national planning policies on
flooding are applied in local
decision making.
decision making.
The South Ayrshire Council
Local Development Plan
recognises the importance of
recognises the importance of

sustainable flood risk
management in both urban and
rural developments and is in
alignment with Scottish Planning
Policy. The Local Development
Plan was published in February
2022.

## 4.8 Isle of Arran (Potentially Vulnerable Area 12/08)

Local Plan District	Local authority	Main catchment
Ayrshire	North Ayrshire Council	Brodick to Kilmory – Arran coastal



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### Summary of Progress for Isle of Arran

There are approximately 120 residential properties at risk of flooding. The Annual Average Damages are approximately £390,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/08, please click <a href="here">here</a>.

Key progress has been made with the completion of the Ayrshire Shoreline Management Plan and the completion of the flood study at Brodick and Lamlash. The design of the Brodick Flood Protection Scheme, which also includes measures in Lamlash is an action in the published Cycle 2 Flood Risk Management Plan.

## Overview of actions to manage flooding in Isle of Arran

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/08				G					Α		G	G	G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Isle of Arran (PVA 12/08)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		A study will be undertaken to further	01/04/2018-	The study identified a preferred option	N/A.
		investigate river flood risk combined	13/03/2020	for the Brodick Flood Protection	
		with coastal flood risk to Brodick and		Scheme, which includes measures in	
		Lamlash. This study should build on		the neighbouring village of Lamlash.	
		the work within the shoreline			
	G	management plan to provide a		The design of the Brodick Flood	
		detailed investigation of the current		Protection Scheme is an action	
		and future risk. The study should		identified in the Flood Risk	
		examine the most sustainable		Management Plan, published by SEPA	
Flood protection		combination of actions to manage		in 2021.	
study		flooding.			
		A shoreline management plan is	01/06/2016-	The Ayrshire Shoreline Management	N/A.
		recommended, this study is not	01/06/2022	Plan was completed and was adopted	
		limited to Potentially Vulnerable		by both North Ayrshire Council and	
		Areas but should cover the whole of		South Ayrshire Council in	
		the Ayrshire coastline and any areas		September/October 2018.	
		beyond this which may be			
	G	influenced by changes in coastal			
		processes. The study should			
		investigate flooding and coastal			
		erosion, wave overtopping and the			
Flood protection		current coastal protection offered.			
study		The study will help to develop an			

		understanding of coastal issues and			
		identify where further work may be			
		required to mitigate against flooding.			
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
	Α			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
Strategic				water flooding maps for Scotland	
mapping and modelling –				representing the latest scientific	
surface water				understanding.	
		There are a range of formal and	01/06/2016-	The coastal flood defence structures in	N/A.
		informal coastal defences in Brodick	01/06/2022	Brodick and Lamlash were either	
	G	and Lamlash. These defences offer		inspected on an annual basis	
Maintain flood		some level of protection to the		throughout the 1st Local Flood Risk	
protection scheme		properties in this area. North		Management Plan cycle and were	

		Ayrshire Council will continue to		subject to a principal inspection every	
		inspect and maintain the Brodick		three years or were inspected in	
		and Lamlash coastal flood defences,		accordance with the inspection	
		which will continue to manage		schedule published by North Ayrshire	
		flooding according to the design		Council.	
		standard at			
		the time of construction.			
Maintain flood		SEPA will continue to maintain the	22/12/2015-	SEPA has continued to operate the	N/A
warning		Arran Lamlash Cordon and the	22/06/2022	flood warning service.	
Arran Lamlash Cordon and Arran		Arran Seafront and Montrose			
Seafront and	G	Terrace flood warning areas which			
Montrose Terrace		are part of the Firth of Clyde coastal			
flood warning		flood warning scheme.			
areas		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A.
				'	N/A.
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
	G	provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
Flood forecasting*		website.		was launched in May 2022. It will be	

				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/04/2016-	North Ayrshire Council raised	N/A.
		protecting themselves and their	22/06/2022	awareness about flood risk via a	
		property from flooding. Property and		separate action noted for this PVA.	
		business owners can take simple		Specific awareness raising about flood	
		steps to reduce damage and		risk matters was achieved when the	
	G	disruption to their homes and		Council's flooding team responded to	
		businesses should flooding happen.		reported flood incidents, enquiries from	
		This includes preparing a flood plan		prospective developers & flood risk	
		and flood kit, installing property level		consultants and when responding to	
Self help*		protection, signing up to Floodline		planning application consultations.	

		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		North Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
	G	Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		North Ayrshire Council raised	
		Across Scotland, SEPA will create		awareness about flood risk matters by	
		and share communication and		updating the Council's website and by	
		education resources with other		supporting Local Flood Emergency	
		responsible authorities. These		Groups.	
		resources will include awareness			
Awareness raising*		campaigns, media and marketing			

		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish Water			
		will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	North Ayrshire Council inspected trash	N/A.
		assess watercourses and carry out	01/06/2022	screens, watercourses and coastal	
		clearance and repair works where		flood protection structures in	
		such works would substantially		accordance with the published	
		reduce flood risk. They produce		inspection programme throughout the	
		schedules of clearance and repair		1st Local Flood Risk Management	
		works and make these available for		Plan cycle.	
		public inspection. Scottish Water			
	G	undertake risk-based inspection,			
		maintenance 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.			
Maintenance*		11000 115K.			

		Providing an emergency response	01/06/2016-	North Ayrshire Council commissioned	N/A.
		to flooding is the responsibility of	01/06/2022	emergency plans, aimed at Category 1	
		many organisations, including local		and 2 responders, for population	
		authorities, the emergency services		centres within North Ayrshire that have	
		and SEPA. Effective management of		a notable flood risk. These plans were	
		an emergency response relies on		completed in September 2020.	
		emergency plans that are prepared		·	
		under the Civil Contingencies Act			
		2004 by Category 1 and 2			
		Responders. Scottish Water are a			
	G	Category 2 responder under the			
		Civil Contingencies Act 2004 and			
		will support regional and local			
		resilience partnerships as required.			
		The emergency response by these			
		organisations is coordinated through			
		regional and local resilience			
		partnerships. This response may be			
Emergency		supported by the work of voluntary			
plans/response*		organisations.			
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
	G	priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
Planning policies*		terms of flood risk management, the		Plans and Local FRM Plans. In line	

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.

with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

North Ayrshire Council completed a Strategic Flood Risk Assessment for LDP2 in May 2018. In addition, the Ayrshire Shoreline Management Plan (SMP), which prompts land use, policy changes and further studies to allow physical protective measures to take

		place in the future was adopted by
		North Ayrshire Council and South
		Ayrshire Council in September 2018.
		National Planning Framework 4 is
		expected to be adopted by the Scottish
		Parliament later in 2022 and will
		become part of the Development Plan,
		ensuring national planning policies on
		flooding are applied in local decision
		making.

#### 4.9 Prestwick to Ayr (Potentially Vulnerable Area 12/09)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	Doonfoot to Monkton coastal



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### Summary of Progress for Prestwick to Ayr

There are approximately 300 residential properties at risk of flooding. The Annual Average Damages are approximately £240,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/09, please click <a href="here">here</a>.

The Ayrshire Shoreline Management Plan has been completed and was adopted by both North and South Ayrshire Councils in September/October 2018. The Meadowhead Integrated Catchment Study and Surface Water Management Plans for Ayr and Prestwick are complete.

Natural flood risk measures in South Ayrshire in the form of sand dune propagation have successfully continued through the reporting period.

## Overview of actions to manage flooding in Prestwick to Ayr

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/09		G		G		G	G	Α	Α		G	G	G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Prestwick to Ayr (PVA 12/09)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		South Ayrshire Council are currently	22/12/2015-	This work continues to be carried out	N/A.
		undertaking sand dune propagation	22/06/2022	on an annual basis.	
		at Prestwick North Beach and Ayr			
		South Beach. Some of the benefits		The Council will continue to undertake	
	G	of these actions are to help reduce		sand dune propagation.	
		the risk of coastal erosion and			
		flooding. It is recommended that this			
Natural flood		should continue.			
management works					
		A shoreline management plan is	01/06/2016-	The Ayrshire Shoreline Management	N/A.
		recommended; this study is not	01/06/2022	Plan is completed and adopted by both	
		limited to Potentially Vulnerable		North and South Ayrshire Councils in	
		Areas but should cover the whole of		September/October 2018.	
		the Ayrshire coastline and any areas			
		beyond this which may be		The Ayrshire Shoreline Management	
	G	influenced by changes in coastal		Plan will be reviewed every 6 years.	
		processes. The study should			
		investigate flooding and coastal			
		erosion, wave overtopping and the			
		current coastal protection offered.			
		The study will help to develop an			
Flood protection study		understanding of coastal issues and			

		identify where further work may be			
		required to mitigate against flooding.			
		An integrated catchment study	01/06/2016-	Pre Optioneering Catchment Plan and	N/A.
		covering the Meadowhead	01/06/2022	prioritisation stages completed.	
		catchment was carried out in SR10			
		(2010-2015). This study will help to		The Optioneering Phase was	
		support the surface water		completed in June 2021.	
		management planning process in			
		Kilmarnock, Greenholm, Irvine,		The implementation of the findings are	
		Prestwick and Ayr. The study has		currently being considered in	
	_	improved knowledge and		coordination with Scottish Water and	
	G	understanding of flood risk and		detailed design has commenced. This	
		interactions between the above		will continue in the next cycle of the	
		ground and below ground drainage		FRM Plan.	
		network e.g. with the sewer network			
		and watercourses. The Optioneering			
		phase of this study, to establish the			
		preferred solution(s) to the flooding			
C . C		issues, is now being progressed.			
Surface water plan/study					
p.a.i, stady		South Ayrshire Council will develop	01/06/2016-	The Surface water management Plan	N/A.
		a surface water management plan	01/06/2022	for South Ayrshire Council catchments	
		or plans to cover Prestwick and Ayr		was completed in November 2021.	
	G	which set objectives for the		The implementation of the findings will	
Confood		management of surface water flood		be considered in the next cycle of FRM	
Surface water plan/study		risk and identify the most		Plan.	

		sustainable actions to achieve the			
		objectives.			
		Scottish Water will undertake further	01/01/2016-	The Optioneering phase of the ICS	N/A.
		investigation and modelling in the	31/12/2020	has been completed. This has	
		Prestwick and Ayr sewer catchment		identified potential solutions to reduce	
		to improve knowledge and		surface water flood risk in priority	
		understanding of flood risk in this		areas within Prestwick.	
Strategic mapping		area as required under Section 16 of			
and modelling		the Flood Risk Management			
Section 16 Assessment		(Scotland) Act 2009.			
7.00000		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
	А			change in rainfall amounts compared	
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
Strategic mapping				which will deliver updated surface	
and modelling – surface water				water flooding maps for Scotland	

				representing the latest scientific	
				understanding.	
		SEPA will seek to develop flood	01/06/2016-	Work completed to date includes the	SEPA will complete a review of
		mapping in the Ayr to Ardrossan	01/06/2022	production of key data sets including	coastal flood hazard mapping in
		area to improve understanding of		extreme water levels and offshore	south west Scotland including in
		coastal flood risk. The extent and		wave and wind conditions to support	this area. This includes identifying
		timing of improvements will depend		future coastal modelling work.	where taking account of the
		on detailed scoping and data		_	impact of waves on flooding from
	•	availability. Where this work			the sea may be required. SEPA
	•	coincides with local authorities.			will collect the required coastal
	•				defence asset and other
	•				information necessary to progress
	•				with improved flood modelling and
	Α				mapping in the highest priority
					areas taking account of wave
					overtopping where required.
					SEPA will look for opportunities to
	,				progress future modelling work in
	,				a way that best supports
					improvements to SEPA's Coastal
					Flood Warning Schemes.
					Expected to progress to the next
					stage around the middle of cycle
Strategic mapping					2 and complete early in the
and modelling - coastal					following cycle, subject to funding.

		The South Dier protects the	01/06/2016-	The coastal protection structures are	N/A.
		The South Pier protects the		The coastal protection structures are	IN/A.
		entrance of Ayr Harbour from the	01/06/2022	on a scheduled inspection and	
		action of waves while also reducing		maintenance programme.	
		siltation in the channel. An existing			
		seawall runs from the South Pier to		The Council will continue to inspect	
		the mouth of the River Doon, the		and maintain the flood protection	
		purpose of which is to protect		structures within the catchment.	
		coastal erosion however it also			
	G	provides a limited level of flood			
		protection to the area. There are			
		similar coastal defences in			
		Prestwick. These will be maintained,			
		and will continue to manage flooding			
		according to the design standard at			
		the time of construction. An annual			
		inspection is carried out on all			
Maintain flood protection scheme					
protection seneme		SEPA will continue to maintain the		SEPA has continued to operate the	N/A
		Ayr Seafield the Prestwick Links	22/12/2015	flood warning service.	
		Road flood warning areas which are	-	-	
		part of the Firth of Clyde coastal	22/06/2022		
		flood warning scheme. When flood			
	G	events occur in an area with a flood			
Maintain flood warning		warning service, SEPA will seek to			
Ayr Seafield and		verify and validate the warning			
Prestwick Links		service. SEPA will use feedback and			
Road flood warning		post-event data to ensure that our			
areas		post event data to ensure that our			

		flood warning service is timely and			
		accurate.			
		The Scottish Flood Forecasting	22/12/2015	SEPA continues to improve the	N/A
		Service is a joint initiative between	-	Scottish Flood Forecasting Service	
		SEPA and the Met Office that	22/06/2022	with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
	G	information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
Flood forecasting*				development and wider roll-out of this	

				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/04/2016-	Community Engagement includes,	Ongoing community support, PLP
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	training, Flood Warden and
		property from flooding. Property and		and appropriate and relevant	resilience group promotion.
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		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			
	G	The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
·		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
Awareness raising*	G	Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	

		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
Maintenance*	G	assess watercourses and carry out	01/06/2022	monthly inspections and clearance	

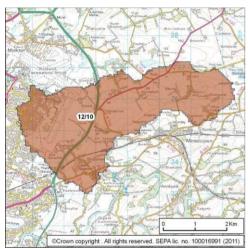
		Talanaman and manada and a dis-			
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a	
		works and make these available for		regular basis where there are known	
		public inspection. Scottish Water		flood risk issues. 25km of coastal	
		undertake risk based inspection,		protection structures are inspected	
		maintenance and repair on the		annually.	
		public sewer network. Asset owners			
		and riparian landowners are		The Council will continue to inspect	
		responsible for the maintenance and		and maintain watercourses, screens	
		management of their own assets		and other relevant Council assets.	
		including those which help to reduce			
		flood risk.			
		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	N/A.
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	
		many organisations, including local		and update all emergency response	
	•	authorities, the emergency services		plans. These are updated every 3	
	•	and SEPA. Effective management of		years or as required after an incident.	
	•	an emergency response relies on		This is done in conjunction with the	
	G	emergency plans that are prepared		relevant department and external	
		under the Civil Contingencies Act		agency.	
		2004 by Category 1 and 2			
		Responders. Scottish Water are a		The Ayrshire Civil Contingencies team	
		Category 2 responder under the		is responsible for producing the Civil	
_		Civil Contingencies Act 2004 and		Contingencies Plan, which outlines the	
Emergency plans/response*		will support regional and local		management and operational	
piaris/Tesponse					

	resilience partnerships as required.		arrangements that the Councils will	
	The emergency response by these		follow in the event of an emergency as	
	organisations is coordinated through		well as encouraging other agencies to	
	regional and local resilience		prepare for their role. The Councils will	
			• •	
	partnerships. This response may be		contribute to the production and review	
	supported by the work of voluntary		of the Civil Contingencies Plan and the	
	organisations.		Emergency Plan for Severe Weather	
			and Flooding, as required. This	
			response may be supported by the	
			work of voluntary organisations.	
	Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
	accompanying Planning Advice	01/06/2022	planning functions with a view to	
	Notes set out Scottish Ministers'		reducing overall flood risk. We	
	priorities for the operation of the		effectively contribute to the delivery of	
	planning system and for the		sustainable flood risk management	
	development and use of land. In		and we support the delivery of FRM	
	terms of flood risk management, the		Plans and Local FRM Plans. In line	
	policy supports a catchment-scale		with the management actions that	
G	approach to sustainable flood risk		accord with national planning policies,	
	management and aims to build the		we have and will continue to object to	
	resilience of our cities and towns,		development at medium to high risk of	
	encourage sustainable land		flooding when it is contrary to the risk	
	management in our rural areas, and		framework set out in Scottish Planning	
	to address the long-term		Policy. We have and will continue to	
	vulnerability of parts of our coasts		engage from the start of the	
	and islands. Under this approach,		development plan process and	
	new development in areas with		encourage planning authorities to	
			3 - 3 - 1 - 3 - 3 - 3 - 3 - 3 - 3 - 3 -	

	medium to high likelihood of flooding	undertake a Strategic Flood Risk	
Planning policies*	should be avoided.	Assessment to inform their spatial	
		strategy. We remain committed to	
		exercising our planning functions with	
		a view to reducing overall flood risk,	
		and when a new national planning	
		policy context is finalised later in 2022	
		via the National Planning Framework	
		4, we will take the same approach.	
		The South Ayrshire Council Local	
		Development Plan recognises the	
		importance of sustainable flood risk	
		management in both urban and rural	
		developments and is in alignment with	
		Scottish Planning Policy. The Local	
		Development Plan was published in	
		February 2022.	

#### 4.10 Pow Burn Catchment (Potentially Vulnerable Area 12/10)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	Pow Burn



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### Summary of Progress for Pow Burn Catchment

The Meadowhead Integrated Catchment study and Surface Water Management Plans for Ayr and Prestwick are complete.

# Overview of actions to manage flooding in Pow Burn Catchment

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/10			G			G	G		Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Pow Burn Catchment (PVA 12/10)

Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
			deliverables and dates	actions to complete / address
				delay
	The area under consideration	01/01/2016-	Action not progressed (action not	N/A
	includes properties in Prestwick	31/12/2016	going ahead after initial scoping).	
	affected by flooding from the Pow			
G	Burn. Further feasibility			
	assessment will be required to			
	assess the delivery potential of a			
	flood warning			
	scheme in this location.			
	An integrated catchment study	01/06/2016-	Pre Optioneering Catchment Plan and	N/A.
	covering the Meadowhead	01/06/2022	prioritisation stages completed. The	
	catchment was carried out in SR10		Optioneering Phase was completed in	
	(2010-2015). This study will help to		June 2021.	
	support the surface water			
	management planning process in		The implementation of the findings are	
	Kilmarnock, Greenholm, Irvine,		currently being considered in	
G	Prestwick and Ayr. The study has		coordination with Scottish Water.	
	improved knowledge and			
	understanding of flood risk and			
	interactions between the above			
	ground and below ground drainage			
	network e.g. with the sewer network			
	and watercourses. The Optioneering			
		The area under consideration includes properties in Prestwick affected by flooding from the Pow Burn. Further feasibility assessment will be required to assess the delivery potential of a flood warning scheme in this location.  An integrated catchment study covering the Meadowhead catchment was carried out in SR10 (2010-2015). This study will help to support the surface water management planning process in Kilmarnock, Greenholm, Irvine, Prestwick and Ayr. The study has improved knowledge and understanding of flood risk and interactions between the above ground and below ground drainage network e.g. with the sewer network	The area under consideration includes properties in Prestwick affected by flooding from the Pow Burn. Further feasibility assessment will be required to assess the delivery potential of a flood warning scheme in this location.  An integrated catchment study covering the Meadowhead catchment was carried out in SR10 (2010-2015). This study will help to support the surface water management planning process in Kilmarnock, Greenholm, Irvine, Prestwick and Ayr. The study has improved knowledge and understanding of flood risk and interactions between the above ground and below ground drainage network e.g. with the sewer network	The area under consideration includes properties in Prestwick affected by flooding from the Pow  Burn. Further feasibility assessment will be required to assess the delivery potential of a flood warning scheme in this location.  An integrated catchment study covering the Meadowhead catchment was carried out in SR10 (2010-2015). This study will help to support the surface water management planning process in Kilmarnock, Greenholm, Irvine, Prestwick and Ayr. The study has improved knowledge and understanding of flood risk and interactions between the above ground and below ground drainage network e.g. with the sewer network  O1/01/2016- Action not progressed (action not going ahead after initial scoping).  Action not progressed (action not going ahead after initial scoping).  Pre Optioneering Catchment Plan and prioritisation stages completed. The Optioneering Phase was completed in June 2021.  The implementation of the findings are currently being considered in coordination with Scottish Water.

		phase of this study, to establish the			
		preferred solution(s) to the flooding			
		issues, is now being progressed.			
		South Ayrshire Council will develop	01/06/2016-	The Surface water management Plan	N/A.
		a surface water management plan	01/06/2022	for South Ayrshire Council catchments	
		or plans to cover Prestwick and Ayr		was completed in November 2021.	
		which set objectives for the		The implementation of the findings will	
	G	management of surface water flood		be considered in the next cycle of FRM	
		risk and identify the most		Plan	
		sustainable actions to achieve the			
Surface water plan/study		objectives.			
pianystady		SEPA will seek to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water data into	01/06/2022	maps use design rainfall estimates	flooding modelling project will be
		the flood maps to improve		based on FEH99 methodology, this	completed in 2023. The outputs
		understanding of flood risk.		has now been superseded by FEH22	from this will be used to update
		Approximately 1,300km <sup>2</sup> of		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		improved surface water data is		contains the latest science and	will inform SEPA's flood risk
		currently available within this Local		understanding of rainfall across	assessments for the next flood
	А	Plan District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
Strategic mapping				described. A major national update of	
and modelling – surface water				the surface water maps is underway	

				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		Scottish Water will undertake further	01/01/2016-	The Meadowhead ICS has been	
		investigation and modelling in the	31/12/2020	completed. No areas within this PVA	
		Meadowhead sewer catchment to		were included to be taken forwards for	
	_	improve knowledge and		optioneering as priority areas under	
	G	understanding of flood risk in this		the ICS.	
Strategic mapping		area and as required under Section			
and modelling Section 16		16 of the Flood Risk Management			
Assessment		(Scotland) Act 2009.			
		The potential benefits and feasibility	01/01/2016	Scoping was completed by SEPA in	No further actions will be carried
		of a new flood warning scheme for	- 2017	2017. Actions carried out along the	out.
		the Pow Burn in Prestwick will be		Pow Burn meant that a new flood	
	G	assessed in 2016.		warning scheme was no longer	
				beneficial. This decision was	
New flood warning				discussed and agreed with the local	
Prestwick				authority.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
	G	guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
Flood forecasting*		provides information which allows		in partnership with the Met Office has	

		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	Community Engagement includes,	Ongoing community PLP training,
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	Flood Warden and resilience
	G	property from flooding. Property and		and appropriate and relevant	group promotion.
		business owners can take simple		information to enable clients to make	
Self help*		steps to reduce damage and		the right decisions.	

		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			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and	22,00,2022	flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
	G	studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss		, <del></del>	
		elements of flood risk management.		Awareness raising is a continuous	
A		Across Scotland, SEPA will create		activity for South Ayrshire Council	
Awareness raising*				, ,	

		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
	G	schedules of clearance and repair		inspections are carried out on a	
	G	works and make these available for		regular basis where there are known	
		public inspection. Scottish Water		flood risk issues. 25km of coastal	
		undertake risk based inspection,		protection structures are inspected	
		maintenance and repair on the		annually.	
		public sewer network. Asset owners			
Maintenance*		and riparian landowners are			

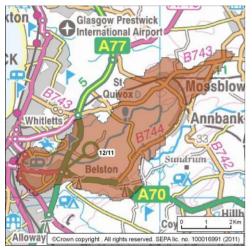
		responsible for the maintenance and		The Council will continue to inspect	
		management of their own assets		and maintain watercourses, screens	
		including those which help to reduce		and other relevant Council assets.	
		flood risk.			
		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	N/A.
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	
		many organisations, including local		and update all emergency response	
		authorities, the emergency services		plans. These are updated every 3	
		and SEPA. Effective management of		years or as required after an incident.	
		an emergency response relies on		This is done in conjunction with the	
		emergency plans that are prepared		relevant department and external	
		under the Civil Contingencies Act		agency.	
		2004 by Category 1 and 2			
		Responders. Scottish Water are a		The Ayrshire Civil Contingencies team	
		Category 2 responder under the		is responsible for producing the Civil	
	G	Civil Contingencies Act 2004 and		Contingencies Plan, which outlines the	
		will support regional and local		management and operational	
		resilience partnerships as required.		arrangements that the Councils will	
		The emergency response by these		follow in the event of an emergency as	
		organisations is coordinated through		well as encouraging other agencies to	
		regional and local resilience		prepare for their role. The Councils will	
		partnerships. This response may be		contribute to the production and review	
		supported by the work of voluntary		of the Civil Contingencies Plan and the	
		organisations.		Emergency Plan for Severe Weather	
				and Flooding, as required. This	
F				response may be supported by the	
Emergency plans/response*				work of voluntary organisations.	

		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
	G	to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
				a view to reducing overall flood risk,	
				and when a new national planning	
				policy context is finalised later in 2022	
				via the National Planning Framework	
				4, we will take the same approach.	
Planning policies*					

		The South Ayrshire Council Local	
		Development Plan recognises the	
		importance of sustainable flood risk	
		management in both urban and rural	
		developments and is in alignment with	
		Scottish Planning Policy. The Local	
		Development Plan was published in	
		February 2022	

#### 4.11 River Ayr (Potentially Vulnerable Area 12/11)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	River Ayr



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### Summary of Progress for River Ayr

There are approximately 90 residential properties at risk of flooding. The Annual Average Damages are approximately £72,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/11, please click <u>here</u>.

The Meadowhead Integrated Catchment study and Surface Water Management Plans for Ayr and Prestwick are complete, which has identified surface water flood risk in the area.

# Overview of actions to manage flooding in River Ayr

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/11			G			G	G		Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the River Ayr (PVA 12/11)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
_				deliverables and dates	actions to complete / address
					delay
		The area under consideration for a	01/06/2016-	A new flood warning service for the	N/A
_		new flood warning includes	30/09/2018	River Ayr has been delivered, with	
_		properties affected by flooding from		three new flood warning areas	
		the River Ayr. Full scoping,		provided in Sorn, Catrine and Failford.	
		infrastructure and a flood forecasting		SEPA has continued to operate the	
	G	system will be required before a		flood warning service since it was	
		flood warning service can be		completed.	
		delivered in this area. Communities			
		that will benefit from a warning will			
New flood warning		be identified during development of			
River Ayr		the scheme.			
		An integrated catchment study	01/06/2016-	Pre Optioneering Catchment Plan and	N/A.
_		covering the Meadowhead	01/06/2022	prioritisation stages completed. The	
		catchment was carried out in SR10		Optioneering Phase was completed in	
		(2010-2015). This study will help to		June 2021.	
		support the surface water			
	G	management planning process in		The implementation of the findings are	
		Kilmarnock, Greenholm, Irvine,		currently being considered in	
		Prestwick and Ayr. The study has		coordination with Scottish Water.	
		improved knowledge and			
Surface water		understanding of flood risk and			
plan/study		interactions between the above			

		ground and below ground drainage network e.g. with the sewer network and watercourses. The Optioneering phase of this study, to establish the preferred solution(s) to the flooding issues, is now being progressed.			
	G	South Ayrshire Council will develop a surface water management plan or plans to cover Prestwick and Ayr which set objectives for the management of surface water flood risk and identify the most sustainable actions to achieve the	01/06/2016- 01/06/2022	The Surface water management Plan for South Ayrshire Council catchments was completed in November 2021.  The implementation of the findings will be considered in the next cycle of FRM Plan.	N/A.
Surface water plan/study		objectives.			
Strategic mapping and modelling – Section 16 assessment	G	Scottish Water will undertake further investigation and modelling in the Meadowhead sewer catchment to improve knowledge and understanding of flood risk in this area and as required under Section 16 of the Flood Risk Management (Scotland) Act 2009.	01/01/2016-31/12/2020	The Scottish Water assessment of flood risk within the sewer catchment has been completed.	The assessment is now completed and has been shared with Local Authority.
Strategic mapping and modelling – Surface water	А	SEPA will be seeking to incorporate additional surface water hazard mapping information into the flood maps to improve understanding of	01/06/2016- 22/06/2022	SEPA's current Surface water hazard maps use design rainfall estimates based on FEH99 methodology, this has now been superseded by FEH22	The national surface water flooding modelling project will be completed in 2023. The outputs from this will be used to update

		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
	G	Responders. The service		reduce the impacts of flooding. SEPA	
				in partnership with the Met Office has	
				developed a public version of the daily	
				Flood Guidance Statement, the	
				Scottish Flood Forecast, to provide	
Flood forecasting*				better and earlier information to the	

				public. A beta version of this product	
				was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/04/2016-	Community Engagement includes,	Ongoing community PLP training,
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	Flood Warden and resilience
		property from flooding. Property and		and appropriate and relevant	group promotion.
		business owners can take simple		information to enable clients to make	
	G	steps to reduce damage and		the right decisions.	
		disruption to their homes and			
		businesses should flooding happen.			
Self help*		This includes preparing a flood plan			

		and flood kit, installing property level			
		protection, signing up to Floodline			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
	G	officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
Awareness raising*		responsible authorities. These			

		resources will include awareness		partners and engagement with	
		campaigns, media and marketing		relevant stakeholders as appropriate.	
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a	
		works and make these available for		regular basis where there are known	
	G	public inspection. Scottish Water		flood risk issues. 25km of coastal	
		undertake risk based inspection,		protection structures are inspected	
		maintenance and repair on the		annually.	
		public sewer network. Asset owners			
		and riparian landowners are		South Ayrshire Council will continue to	
		responsible for the maintenance and		maintain watercourses, screens and	
		management of their own assets		other relevant Council assets.	
Maintenance*					

		including those which help to reduce			
		flood risk.			
		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	N/A.
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	
		many organisations, including local		and update all emergency response	
		authorities, the emergency services		plans. These are updated every 3	
		and SEPA. Effective management of		years or as required after an incident.	
		an emergency response relies on		This is done in conjunction with the	
		emergency plans that are prepared		relevant department and external	
		under the Civil Contingencies Act		agency.	
		2004 by Category 1 and 2			
		Responders. Scottish Water are a		The Ayrshire Civil Contingencies team	
		Category 2 responder under the		is responsible for producing the Civil	
	G	Civil Contingencies Act 2004 and		Contingencies Plan, which outlines the	
		will support regional and local		management and operational	
		resilience partnerships as required.		arrangements that the Councils will	
		The emergency response by these		follow in the event of an emergency as	
		organisations is coordinated through		well as encouraging other agencies to	
		regional and local resilience		prepare for their role. The Councils will	
		partnerships. This response may be		contribute to the production and review	
		supported by the work of voluntary		of the Civil Contingencies Plan and the	
		organisations.		Emergency Plan for Severe Weather	
				and Flooding, as required. This	
Emergency				response may be supported by the	
plans/response*				work of voluntary organisations.	
, , ,		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
Planning policies*	G	accompanying Planning Advice	01/06/2022	planning functions with a view to	

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.

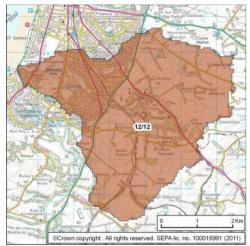
reducing overall flood risk. We effectively contribute to the delivery of sustainable flood risk management and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

The South Ayrshire Council Local Development Plan recognises the

		importance of sustainable flood risk	
		management in both urban and rural	
		developments and is in alignment with	
		Scottish Planning Policy. The Local	
		Development Plan was published in	
		February 2022.	

#### 4.12 Ayr East (Potentially Vulnerable Area 12/12)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	River Ayr



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# Summary of Progress for Ayr East

There are approximately 290 residential properties at risk of flooding. The Annual Average Damages are approximately £720,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/12, please click <a href="here">here</a>.

The Meadowhead Integrated Catchment study and Surface Water Management Plans for Ayr and Prestwick are complete. A new 'Ayr to Troon' flood warning area was added to the existing Firth of Clyde coastal flood warning scheme.

# Overview of actions to manage flooding in Ayr East

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/12							G	Α	Α			G	G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Ayr East (PVA 12/12)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		SEPA will update strategic coastal	01/01/2016-	Work completed to date includes the	SEPA will complete a review of
		mapping in the Ayr to Ardrossan	31/12/2018	production of key data sets including	coastal flood hazard mapping in
		area to improve understanding of		extreme water levels and offshore	south west Scotland including in
		flood risk. The extent and timing of		wave and wind conditions to support	this area. This includes identifying
		improvements will depend on		future coastal modelling work.	where taking account of the
		detailed scoping and data		Although this work has not been	impact of waves on flooding from
		availability. Where this work		completed to the timescale described	the sea may be required. SEPA
		coincides with local authority		in the plan, the work that will be	will collect the required coastal
		studies, SEPA will work		progressed will deliver a more	defence asset and other
		collaboratively to ensure consistent		comprehensive update of the coastal	information necessary to progress
	А	modelling approaches are applied.		flood hazard maps across the whole	with improved flood modelling and
		The coastal mapping and modelling		area.	mapping in the highest priority
		process will start in 2016, with early			areas taking account of wave
		work focussing on methodology			overtopping where required.
		development and data collection.			SEPA will look for opportunities to
		Once this stage has been completed			progress future modelling work in
		a thorough review will be carried out			a way that best supports
		to identify the final mapping			improvements to SEPA's Coastal
		improvements that can be made in			Flood Warning Schemes.
Strategic mapping		the area.			Expected to progress to the next
and modelling - coastal					stage around the middle of cycle

					2 and complete early in the
					following cycle, subject to funding.
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
	А			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping and modelling –				representing the latest scientific	
surface water				understanding.	
		Scottish Water will undertake further	01/01/2016-	The Scottish Water assessment of	The assessment is now
		investigation and modelling in the	31/12/2020	flood risk within the sewer catchment	completed and has been shared
		Meadowhead sewer catchment to		has been completed.	with Local Authority.
Strategic mapping		improve knowledge and			
and modelling -		understanding of flood risk in this			
Section 16		area and as required under Section			
Assessment					

		16 of the Flood Risk Management			
		(Scotland) Act 2009.			
		SEPA will continue to maintain the	22/12/2015-	SEPA has recently reviewed and	SEPA will continue to operate the
		Ayr Seafield flood warning area	22/06/2022	recalibrated the Firth of Clyde flood	flood warning service.
		which is part of the Firth of Clyde		forecasting model. SEPA has	
		coastal flood warning scheme.		continued to maintain the Ayr Seafield	
		When flood events occur in an area		flood warning area within a new 'Ayr to	
	G	with a flood warning service, SEPA		Troon' flood warning area which is part	
		will seek to verify and validate the		of the Firth of Clyde coastal flood	
		warning service. SEPA will use		warning scheme.	
Maintain Flood		feedback and post-event data to			
Warning		ensure that our flood warning			
Ayr Seafield flood warning area		service is timely and accurate.			
-		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
	G	provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
Flood forecasting*		website.		was launched in May 2022. It will be	

				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	Community Engagement includes,	Ongoing community PLP training,
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	Flood Warden and resilience
		property from flooding. Property and		and appropriate and relevant	group promotion.
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
	G	disruption to their homes and			
		businesses should flooding happen.			
		This includes preparing a flood plan			
		and flood kit, installing property level			
Self help*		protection, signing up to Floodline			

		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
	G	Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
Awareness raising*		campaigns, media and marketing			

		activity and promotion of SEPA's			1
		flood forecasting and warning			
		services (Floodline). Scottish Water			
		will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2010-	monthly inspections and clearance	IVA.
		·	01/00/2022	·	
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a	
		works and make these available for		regular basis where there are known	
		public inspection. Scottish Water		flood risk issues. 25km of coastal	
	G	undertake risk based inspection,		protection structures are inspected	
		maintenance and repair on the		annually.	
		public sewer network. Asset owners		South Ayrshire Council will continue to	
		and riparian landowners are		inspect and maintain watercourses,	
		responsible for the maintenance and		screens and other relevant Council	
		management of their own assets		assets.	
		including those which help to reduce			
Maintenance*		flood risk.			
ividiffice					

		Providing an emergency response	01/06/2016-	For SAC Ayrshire Civil Contingencies	N/A.
		to flooding is the responsibility of	01/06/2022	maintain and update all emergency	
		many organisations, including local		response plans. These are updated	
		authorities, the emergency services		every 3 years or as required after an	
		and SEPA. Effective management of		incident. This is done in conjunction	
		an emergency response relies on		with the relevant department and	
		emergency plans that are prepared		external agency.	
		under the Civil Contingencies Act			
		2004 by Category 1 and 2		The Ayrshire Civil Contingencies team	
		Responders. Scottish Water are a		is responsible for producing the Civil	
		Category 2 responder under the		Contingencies Plan, which outlines the	
	G	Civil Contingencies Act 2004 and		management and operational	
		will support regional and local		arrangements that the Councils will	
		resilience partnerships as required.		follow in the event of an emergency as	
		The emergency response by these		well as encouraging other agencies to	
		organisations is coordinated through		prepare for their role. The Councils will	
		regional and local resilience		contribute to the production and review	
		partnerships. This response may be		of the Civil Contingencies Plan and the	
		supported by the work of voluntary		Emergency Plan for Severe Weather	
		organisations.		and Flooding, as required. This	
Emergency				response may be supported by the	
plans/response*				work of voluntary organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
	G	Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
Planning policies*		planning system and for the		sustainable flood risk management	

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.

and we support the delivery of FRM Plans and Local FRM Plans. In line with the management actions that accord with national planning policies, we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

The South Ayrshire Council Local
Development Plan recognises the
importance of sustainable flood risk
management in both urban and rural
developments and is in alignment with

	Scottish Planning Policy. The Local	
	Development Plan was published in	
	February 2022.	

#### 4.13 Ayr South (Potentially Vulnerable Area 12/13)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	River Doon



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#### Summary of Progress for Ayr South

There are approximately 20 residential properties at risk of flooding. The Annual Average Damages are approximately £40,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/13, please click <a href="here">here</a>.

Throughout the period South Ayrshire Council have carried out inspection and maintenance works at known high flood risk locations such as debris screens and small culverts.

The Meadowhead Integrated Catchment study and Surface Water Management Plans for Ayr and Prestwick are complete.

### Overview of actions to manage flooding in Ayr South

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/13							G		Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Ayr South (PVA 12/13)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		Scottish Water will undertake further	01/01/2016-	The Scottish Water assessment of	The assessment is now completed
,		investigation and modelling in the	31/12/2020	flood risk within the sewer catchment	and has been shared with Local
		Meadowhead sewer catchment to		has been completed.	Authority.
		improve knowledge and			
	G	understanding of flood risk in this			
Strategic mapping		area and as required under Section			
and modelling -		16 of the Flood Risk Management			
Section 16 Assessment		(Scotland) Act 2009.			
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water flooding
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	modelling project will be completed
		mapping information into the flood		based on FEH99 methodology, this	in 2023. The outputs from this will
		maps to improve understanding of		has now been superseded by FEH22	be used to update SEPA maps
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	early in cycle 2 and will inform
		of improved data is currently		contains the latest science and	SEPA's flood risk assessments for
		available within this Local Plan		understanding of rainfall across	the next flood risk management
	А	District.		Scotland and represents a significant	cycle.
				change in rainfall amounts compared	
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
Strategic mapping and modelling –				action will not be taken forwards as	
surface water				described. A major national update of	

				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
	G	their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
Flood forecasting*				to help urban areas and the transport	

				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	Community Engagement includes,	Ongoing community PLP training,
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	Flood Warden and resilience group
		property from flooding. Property and		and appropriate and relevant	promotion.
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		disruption to their homes and			
		businesses should flooding happen.			
		This includes preparing a flood plan			
		and flood kit, installing property level			
	G	protection, signing up to Floodline			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
Self help*		prepared. Further detail can be			

		found in the Councils and Scottish			
		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
	G	and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
Awareness raising*		supplying targeted information to the			

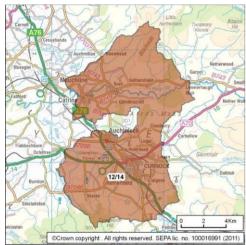
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a	
		works and make these available for		regular basis where there are known	
		public inspection. Scottish Water		flood risk issues.	
	G	undertake risk based inspection,			
		maintenance and repair on the		South Ayrshire Council will continue to	
		public sewer network. Asset owners		inspect and maintain watercourses,	
		and riparian landowners are		screens and other relevant Council	
		responsible for the maintenance and		Assets.	
		management of their own assets		, , , , , , , , , , , , , , , , , , , ,	
		including those which help to reduce			
<b>.</b>		flood risk.			
Maintenance*		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	N/A.
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	107.0
		many organisations, including local	01/00/2022	and update all emergency response	
		authorities, the emergency services		plans. These are updated every 3	
		and SEPA. Effective management of		years or as required after an incident.	
,	G	an emergency response relies on		This is done in conjunction with the	
		emergency plans that are prepared		relevant department and external	
		under the Civil Contingencies Act		agency.	
Emergency		2004 by Category 1 and 2		agency.	
plans/response*		2004 by Calegory 1 and 2			

		Responders. Scottish Water are a		The Ayrshire Civil Contingencies team	
		·		,	
		Category 2 responder under the		is responsible for producing the Civil	
		Civil Contingencies Act 2004 and		Contingencies Plan, which outlines the	
		will support regional and local		management and operational	
		resilience partnerships as required.		arrangements that the Councils will	
		The emergency response by these		follow in the event of an emergency as	
		organisations is coordinated through		well as encouraging other agencies to	
		regional and local resilience		prepare for their role. The Councils will	
		partnerships. This response may be		contribute to the production and review	
		supported by the work of voluntary		of the Civil Contingencies Plan and the	
				Emergency Plan for Severe Weather	
				and Flooding, as required. This	
				response may be supported by the	
				work of voluntary organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
	G	terms of flood risk management, the		Plans and Local FRM Plans. In line	
	9	policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
Planning policies*		management in our rural areas, and		framework set out in Scottish Planning	

to address the long-term Policy. We have and will continue to vulnerability of parts of our coasts engage from the start of the and islands. Under this approach, development plan process and new development in areas with encourage planning authorities to medium to high likelihood of flooding undertake a Strategic Flood Risk Assessment to inform their spatial should be avoided. strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach. The South Ayrshire Council Local Development Plan recognises the importance of sustainable flood risk management in both urban and rural developments and is in alignment with Scottish Planning Policy. The Local Development Plan was published in February 2022.

#### 4.14 Cumnock and Catrine (Potentially Vulnerable Area 12/14)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council	River Ayr



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#### Summary of Progress for Cumnock and Catrine

There are approximately 330 residential properties and 240 non-residential properties at risk of flooding. The Annual Average Damages are approximately £970,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/14, please click here.

Key progress has been made with the installation of River Monitors on the Lugar and Glaisnock Waters. These are being used in conjunction with the SEPA monitor on the River Ayr at Catrine, to gather hydraulic data to inform the planned combined Flood study (2020 -2023) for these watercourses. The Flood study will inform Cycle 2 flooding actions for these locations.

## Overview of actions to manage flooding in Cumnock and Catrine

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies	
12/14				Α			G		Α				G	G		G	G	G	G	G	

# Summary of progress of actions to manage flood risk in the Cumnock and Catrine (PVA 12/14)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		A study will investigate the feasibility	01/06/2016-	Progress has been made with the	Additional resourcing is required
		of a flood protection scheme along	22/06/2022	installation of River Monitors on the	in order procure these works out
		the River Ayr at Sorn/Catrine and		Lugar and Glaisnock Waters. These	to tender. These works are
		further investigate any measures		are being used in conjunction with the	expected to progress on
		required in Cumnock.		SEPA monitor on the River Ayr at	schedule.
	Α			Catrine, to gather hydraulic data to	
				inform the planned combined Flood	
				study (2020 -2022) for these	
				watercourses. The Flood study will	
				inform Cycle 2 flooding actions for	
Flood protection study				these locations.	
,		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
	Α	of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
Strategic mapping and modelling –				change in rainfall amounts compared	
surface water				to FEH99 dataset, as such it is no	

				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
Strategic mapping	G	Scottish Water will undertake further	01/01/2016-	The Scottish Water assessment of	The assessment is now
and modelling -		investigation and modelling in the	31/12/2019	flood risk within the sewer catchment	completed and has been shared
Section 16 assessment		Catrineholm and Underwood		has been completed.	with Local Authority.
assessment		Cumnock sewer catchment to			
		improve knowledge and			
		understanding of flood risk in this			
		area as required under Section 16 of			
		the Flood Risk Management			
		(Scotland) Act 2009.			
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
	G	guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
Flood forecasting*		SEPA to issue flood warnings,		developed a public version of the daily	
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		giving people a better chance of		Flood Guidance Statement, the	
		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		East Ayrshire Council is currently	01/06/2016-	The Flood Study for the River Ayr for	N/A.
		procuring suitable flow and level	22/06/2022	Catrine and Lugar and Glaisnock in	
		monitoring installations on		Cumnock informed property level	
	G	appropriate watercourses identified		protection requirements for the area	
Dranarty laval		for studies, with the intention of		and the monitors will form the basis for	
Property level protection scheme		informing those studies in areas			

		known to have little or no		a Flood Warning scheme to support	
		information currently available.		the placement.	
		Information gaps and proposed		East Ayrshire Council made PLP	
		locations are being identified in co-		available to all residents in EAC, who	
		operation with SEPA. Once this in		would benefit from there use, and will	
		place the Flood Study for the River		continue to do so.	
		Ayr will inform any property level			
		protection requirements for the area			
		and the monitors will form the basis			
		for a Flood Warning scheme to			
		support the placement.			
		Everyone is responsible for	01/04/2016-	Community Engagement included,	N/A.
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	
		property from flooding. Property and		and appropriate and relevant	
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		disruption to their homes and		Ongoing community PLP training,	
		businesses should flooding happen.		Flood Warden and resilience group	
	0	This includes preparing a flood plan		promotion will continue to be	
	G	and flood kit, installing property level		supported.	
		protection, signing up to Floodline.			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
Self help*		awareness of flood risk and how			

		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		East Ayrshire Council, SEPA and	01/04/2016-	Ayr & Annick Flood Warning Scheme,	East Ayrshire Council and SEPA
		Scottish Water collectively work to	22/06/2022	which includes the communities of	will continue to raise awareness
		raise awareness of flood risk and		Catrine and Sorn, launched in 2020. It	of flood risk through campaigning,
		how those affected can be better		was a soft launch due to Covid-19	developing education and
		prepared.		pandemic but awareness raising to	engagement tools, creating new
		Across Scotland, SEPA will create		promote the new service was carried	partnerships and improving the
		and share communication and		out in February 2022.	flood warning and forecasting
		education resources with other			service. Many of our awareness
		responsible authorities. These		Ayr & Annick Flood Warning Scheme,	raising activities currently
		resources will include awareness		which includes the communities of	underway will continue. Our
		campaigns, media and marketing		Catrine and Sorn, launched in 2020. It	focus will be on promoting flood
	G	activity and promotion of SEPA's		was a soft launch due to Covid-19	warning and forecasting service,
		flood forecasting and warning		pandemic but awareness raising to	innovation, education and
		services (Floodline).		promote the new service was carried	engagement with partners,
		Scottish Water will provide targeted		out in February 2022.	customers and the public.
		flooding communications for			
		Scottish Water specific activities and		East Ayrshire Council and SEPA has	
		raise awareness by producing and		delivered a range of awareness raising	
		supplying targeted information to the		activities through campaigning,	
		public on large capital projects and		education activities and partnership	
		detailed local studies.		delivery. We have run national and	
		Further Information is provided on		local digital and direct engagement	
Awareness raising*		East Ayrshire Council, SEPA,		campaigns to raise awareness of flood	

Scottish Water and Ayrshire Road	risk and SEPA's flood warning service,
Alliance websites.	Floodline. We publish and publicise an
	electronic newsletter (Flooding
	Gateway) four times a year which is
	distributed to a wide audience. SEPA
	are working with Education Scotland
	and Scottish Government Resilience
	team to embed flooding awareness
	within the Curriculum for Excellence,
	and resilience partners in Safer
	Communities programmes. We have
	also developed an online tool that
	helps everyone share information on
	current flooding issues (Report-a-
	Flood). We have worked in partnership
	with local authorities, emergency
	services and community organisations
	(e.g. Neighbourhood Watch Scotland,
	Citizens Advice Scotland and others)
	to share our resources and help to
	promote preparedness and
	understanding of how we manage
	flood risk in Scotland. We have
	actively supported the Scottish Flood
	Forum and worked closely with UK
	agencies to develop joint flooding
	information.

		<u> </u>	2.12.12.12		T 2.//2
		East Ayrshire Council in accordance	01/04/2016-	High risk locations such as those with	N/A.
		with Section 18 of the Flood	22/06/2022	screens and some smaller culverts	
		Risk Management (Scotland) Act		were inspected on a scheduled basis.	
		2009 undertake assessment of		The majority of inspections tended to	
		water bodies to determine whether		be undertaken in the winter months	
		works of clearance and repair		when flows are higher, and leaves and	
		would substantially reduce the risk		other waterborne debris can be an	
		of flooding. This information is		issue.	
		used to produce a schedule of		Works of clearance were carried out	
		works which is available for the		during these inspections which	
		public		are not specifically "scheduled". The	
	G	to inspect.		main water bodies, and other	
				water bodies, within urban areas were	
				subject to an annual visual	
				inspection and any works were	
				undertaken where it would be	
				expedient and in the interests of good	
				flood risk management to do so.	
				East Ayrshire Council will continue to	
				inspect and maintain watercourses,	
				screens and other relevant Council	
Maintenance*				assets.	
ivialification.		The Civil Contingencies Team	01/04/2016-	Emergency Response Planning is	N/A.
		ensures that the Council will be able	22/06/2022	carried out by Ayrshire Civil	
	G	to respond speedily and effectively	, 00, 2022	Contingencies Team (ACCT) this is an	
Emergency		in a major emergency. North,		all Ayrshire shared service. ACCT	
plans/response*		in a major omorgonoy. North,		an Ayronnio onaroa sorvico. Accor	

South and East Ayrshire teams are a shared service team known as the Ayrshire Civil Contingencies Team. If disaster strikes, or if emergencies develop in Ayrshire, communities will look to the Council for support and advice. The Ayrshire Civil Contingencies Team ensures that the Council will be able to respond speedily and effectively in a major emergency in accordance with the Civil Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005. Our responsibilities include preparing comprehensive and robust contingency plans and procedures irrespective of the nature of the emergency. The main aim is to preserve life and property. Every emergency plan also sets out to: Mitigate the harmful effects of the emergency on the environment; bring about a swift return to normal life in the communities and

update and co-ordinate (all Emergency Responders) the emergency response plans (ERP) as required (in direct consultation with ARA, where appropriate). In addition to the ERP, EAC has implemented a system of river monitors in known areas and a rota of Flood Scouts (FS) is maintained who are tasked to monitor and report back on status on receipt of any alarm. 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. Scottish Water are a Category 2 responder under the Civil Contingencies Act 2004 and will support regional and local resilience partnerships as required. The emergency response by these organisations is coordinated through

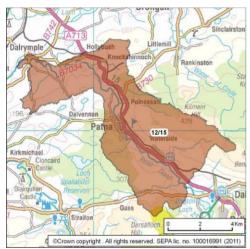
environment affected; and

		encourage all agencies and		regional and local resilience	
		organisations to prepare for their		partnerships. This response may be	
		role.		supported by the work of voluntary	
				organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	22/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
	G	encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
		to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
				a view to reducing overall flood risk,	
Planning policies*				and when a new national planning	

	policy context is finalised later in 2022
	via the National Planning Framework
	4, we will take the same approach.
	4, we will take the same approach.
	East Ayrshire Council has prepared
	and consulted on its Proposed Plan
	LDP2. As part of the preparation of the
	Plan, the Council engaged early with
	SEPA on sites it was considering
	allocating and took on board
	comments from SEPA. In addition, The
	Council has worked extensively with
	SEPA and the KAG on issues
	pertaining to flooding in Kilmarnock
	and has undertaken a series of flood
	workshops with the Key Agencies. The
	new proposed plan contains flood
	policies reflective of SEPA's stance
	and of NPF4.
	National Planning Framework 4 is
	expected to be adopted by the Scottish
	Parliament later in 2022 and will
	become part of the Development Plan,
	ensuring national planning policies on
	flooding are applied in local decision
	making.

#### 4.15 Dalrymple and Patna (Potentially Vulnerable Area 12/15)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council, South Ayrshire Council	River Doon



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#### Summary of Progress for Dalrymple and Patna

There are approximately 90 residential properties at risk of flooding. The Annual Average Damages are approximately £120,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/15, please click <u>here</u>.

Key progress has been made with the installation of River Monitors on the Taiglum and Primpton Burns and on the River Doon at Dalrymple Bridge, to gather hydraulic data to inform the completed combined Flood study (2020 -2022) for these watercourses. The Flood study has informed Cycle 2 flooding actions for these locations.

## Overview of actions to manage flooding in Dalrymple and Patna

PVA	Flood protection scheme / works	Naturalflood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/15				G					Α		G		G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Dalrymple and Patna (PVA 12/15)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned		
				deliverables and dates	actions to complete / address		
					delay		
		A study will investigate the feasibility	01/06/2016-	Progress has been made with the	N/A.		
		of a flood protection scheme,	22/06/2022	installation of River Monitors on the			
		including modification of		Taiglum and Primpton Burns and the			
		conveyance through a historic		River Doon, to gather hydraulic data to			
		bridge and Construction of direct		inform the completed combined Flood			
		defences. The study will also		study (2020 -2022) for these			
		examine the current operating		watercourses. The Flood study will			
		procedure of Loch Doon to increase		inform Cycle 2 flooding actions for			
Flood protection	G	the level of storage, this will be		these locations.			
study		carried out in coordination with		Additional resourcing was required in			
		Scottish Power		order to procure these works.			
				This study has now been completed.			
				The anticipated rescheduling is not			
				envisaged to affect the ability to report			
				as intended in Cycle 2.			
		SEPA will seek to incorporate	01/01/2016-	SEPA's current surface water hazard	The national surface water		
		additional surface water data into	31/12/2016	maps use design rainfall estimates	flooding modelling project will be		
	Α	the flood maps to improve		based on FEH99 methodology, this	completed in 2023. The outputs		
Strategic mapping and modelling -		understanding of flood risk.		has now been superseded by FEH22	from this will be used to update		
surface water		Approximately		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and		

		1,300km² of improved surface water		contains the latest science and	will inform SEPA's flood risk
		data is currently available within this		understanding of rainfall across	assessments for the next flood
		Local Plan District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
				to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
				representing the latest scientific	
				understanding.	
		An existing overflow channel on the	01/06/2016-	Local authorities have a duty to assess	N/A.
		Primpton Burn reduces the flood risk	22/06/2022	watercourses and carry out clearance	
		from the watercourse. The Council		and repair works where such works	
		should investigate the current		would substantially reduce flood risk.	
		benefit which is offered by the		They produce schedules of clearance	
		scheme. This channel will be		and repair works and make these	
	G	maintained and will continue to		available for public inspection. Scottish	
		manage flooding according to the		Water undertake risk based inspection,	
		design standard at the time of		maintenance and repair on the public	
		construction. Levels of flood risk are		sewer network. Asset owners and	
Maintain flood		likely to increase over time as a		riparian landowners are responsible for	
protection scheme*		consequence of climate change.		the maintenance and management of	

		The Primpton Burn is particularly		their own assets including those which	
		prone to high water levels in the		help to reduce flood risk.	
		River Doon. East Ayrshire			
		Council/ACCT have held meetings		The Council will continue to inspect	
		with Scottish Power to liaison on the		and maintain the flood protection	
		operating protocols of the Doon		structures within the Catchment.	
		Dam. Scottish Power have agreed			
		to release more water earlier to			
		mitigate against the need to open			
		the gates only in an emergency.			
		This earlier release is intended to			
		lessen the impact during heavy			
		rainfall events. This section of the			
		Doon is an area that has been			
		I identified for a future study (2016-			
		2021) to establish any further works			
		required here.			
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
	G	issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
Flood forecasting*		giving people a better chance of		Flood Guidance Statement, the	

		reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
		information please visit SEPA's		public. A beta version of this product	
		website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	Community Engagement included,	N/A.
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	
		property from flooding. Property and		and appropriate and relevant	
	G	business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		disruption to their homes and		Responsible Authorities shall continue	
Self help*		businesses should flooding happen.		to provide ongoing community PLP	

		This includes preparing a flood plan		training, Flood Warden and resilience	
		and flood kit, installing property level		group promotion.	
		protection, signing up to Floodline			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		East Ayrshire Council, South	01/06/2016-	SEPA continues to work with others to	N/A.
		Ayrshire Council, SEPA and	22/06/2022	raise awareness of flood risk and its	
		Scottish Water collectively work to		flood warning service. It has	
		raise awareness of flood risk and		participated in local activities including	
		how those affected can be better		school / education and community	
		prepared.		resilience activities when able. Some	
				planned activities notably in person	
	G			joint events have been limited or	
				delayed due to Covid 19.	
				East Ayrshire Council and SEPA has	
				delivered a range of awareness raising	
				activities through campaigning,	
Awareness raising*				education activities and partnership	

delivery. We have run national and
local digital and direct engagement
campaigns to raise awareness of flood
risk and SEPA's flood warning service,
Floodline. We publish and publicise an
electronic newsletter (Flooding
Gateway) four times a year which is
distributed to a wide audience. SEPA
are working with Education Scotland
and Scottish Government Resilience
team to embed flooding awareness
within the Curriculum for Excellence,
and resilience partners in Safer
Communities programmes. We have
also developed an online tool that
helps everyone share information on
current flooding issues (Report-a-
Flood). We have worked in partnership
with local authorities, emergency
services and community organisations
(e.g. Neighbourhood Watch Scotland,
Citizens Advice Scotland and others)
to share our resources and help to
promote preparedness and
understanding of how we manage
flood risk in Scotland. We have
actively supported the Scottish Flood
actively supported the Scottish Flood

				Forum and worked closely with UK	
				agencies to develop joint flooding	
				information.	
				Awareness raising is a continuous	
				activity for South Ayrshire Council	
				which is actioned by updating the	
				Council's website, working with	
				partners and engagement with	
				relevant stakeholders as appropriate.	
		East Ayrshire Council in accordance	01/06/2016-	High risk locations such as those with	N/A.
		with Section 18 of the Flood Risk	22/06/2022	screens and some smaller culverts	
		Management (Scotland) Act 2009		were inspected on a scheduled basis.	
		undertake assessment of water		The majority of	
		bodies to determine whether works		inspections tended to be undertaken in	
		of clearance and repair would		the winter months when flows are	
		substantially reduce the risk of		higher, and leaves and other	
		flooding. This information is used to		waterborne debris can be an issue.	
	G	produce a schedule of works which		Works of clearance were carried out	
		is available for the public to inspect.		during these inspections which are not	
				specifically "scheduled". The main	
				water bodies, and other water bodies,	
				within urban areas were subject to an	
				annual visual inspection and any	
				works were undertaken where it would	
				be expedient and in the interests of	
Maintenance*				good flood risk management to do so.	

				East Ayrshire Council will continue to	
				inspect and maintain watercourses,	
				screens and other relevant Council	
				assets.	
		The Civil Contingencies Team	01/06/2016-	Emergency Response Planning is	N/A.
		ensures that the Council will be able	22/06/2022	carried out by Ayrshire Civil	
		to respond speedily and effectively		Contingencies Team (ACCT) this is an	
		in a major emergency. North,		all Ayrshire shared service.	
		South and East Ayrshire teams are		ACCT update and co-ordinate (all	
		a shared service team known as the		Emergency Responders) the	
		Ayrshire Civil Contingencies Team.		emergency response plans (ERP) as	
		If disaster strikes, or if		required (in direct consultation with	
		emergencies develop in Ayrshire,		ARA, where appropriate).	
		communities will look to the			
		Council for support and advice. The		In addition to the ERP EAC has	
	G	Ayrshire Civil Contingencies Team		implemented a system of river	
		ensures that the Council will be able		monitors in known areas and a rota of	
		to respond speedily and		Flood Scouts (FS). Is maintained who	
		effectively in a major emergency in		are tasked to monitor and report back	
		accordance with the Civil		on status on receipt of any alarm.	
		Contingencies Act 2004			
		(Contingency Planning) (Scotland)		Providing an emergency response to	
		Regulations 2005. Our		flooding is the responsibility of many	
		responsibilities include preparing		organisations, including local	
		comprehensive and robust		authorities, the emergency services	
F		contingency plans and procedures		and SEPA. Effective management of	
Emergency plans/response*		irrespective of the nature of the		an emergency response relies on	

		emergency. The main aim is to		omorgancy plane that are prepared	
		• •		emergency plans that are prepared	
		preserve life and property. Every		under the Civil Contingencies Act 2004	
		emergency plan also sets out to:		by Category 1 and 2 Responders.	
		Mitigate the harmful effects of the		Scottish Water are a Category 2	
		emergency on the environment;		responder under the Civil	
		bring about a swift return to normal		Contingencies Act 2004 and will	
		life in the communities and		support regional and local resilience	
		environment affected; and		partnerships as required. The	
		encourage all agencies and		emergency response by these	
		organisations to prepare for their		organisations is coordinated through	
		role.		regional and local resilience	
				partnerships. This response may be	
				supported by the work of voluntary	
				organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
	G	terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
Diametra de l'attent		management in our rural areas, and		framework set out in Scottish Planning	
Planning policies*		2. 2 G 2 2 2 2 3 3 3 3 3 3 3			

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.

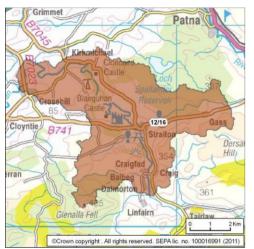
Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

East Ayrshire Council has prepared and consulted on its Proposed Plan LDP2. As part of the preparation of the Plan, the Council engaged early with SEPA on sites it was considering allocating and took on board comments from SEPA. In addition, The Council has worked extensively with SEPA and the KAG on issues pertaining to flooding in Kilmarnock and has undertaken a series of flood workshops with the Key Agencies. The new proposed plan contains flood

	policies reflective of SEPA's stance
	and of NPF4.
	and of the Fa.
	N. C. I.B. C. F. LAC
	National Planning Framework 4 is
	expected to be adopted by the Scottish
	Parliament later in 2022 and will
	become part of the Development Plan,
	ensuring national planning policies on
	flooding are applied in local decision
	making.
	The South Ayrshire Council Local
	Development Plan recognises the
	importance of sustainable flood risk
	management in both urban and rural
	developments and is in alignment with
	Scottish Planning Policy. The Local
	Development Plan was published in
	February 2022.

#### 4.16 Straiton (Potentially Vulnerable Area 12/16)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council, South Ayrshire Council	Water of Girvan



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# Summary of Progress for Straiton

There are approximately 20 residential properties at risk of flooding. The Annual Average Damages are approximately £45,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/16, please click <u>here</u>.

Key progress has been made with the installation of River Monitors on the Muck Water along with others in the Doon Valley, to gather hydraulic data to inform the planned combined Flood study (2020-2022) for these watercourses. The Flood study will inform Cycle 2 flooding actions for these locations

# Overview of actions to manage flooding in Straiton

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/16									Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Straiton (PVA 12/16)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
	Α			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping and modelling –				representing the latest scientific	
surface water				understanding.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
Flood forecasting*		SEPA and the Met Office that		with the Met Office, with daily Flood	

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.

Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. It will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding. The development and wider roll-out of this service is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.

		Everyone is responsible for	01/06/2016-	Community Engagement included,	N/A.
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	
		property from flooding. Property and		and appropriate and relevant	
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		disruption to their homes and			
		businesses should flooding happen.		Responsible Authorities shall continue	
		This includes preparing a flood plan		to support Ongoing community PLP	
		and flood kit, installing property level		training, Flood Warden and resilience	
	_	protection, signing up to Floodline		group promotion.	
	G	The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
	G	how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
Awareness raising*		studies at higher risk locations,		planned activities notably in person	

		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss		•	
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies.			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
	G	clearance and repair works where		work where necessary on 17 debris	
	G	such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
Maintenance*		schedules of clearance and repair		inspections are carried out on a	

		works and make these available for		regular basis where there are known	
		public inspection. Scottish Water		flood risk issues.	
		undertake risk based inspection,			
		maintenance and repair on the		South Ayrshire Council will continue to	
		public sewer network. Asset owners		inspect and maintain the flood	
		and riparian landowners are		protection structures within the	
		responsible for the maintenance and		Catchment.	
		management of their own assets			
		including those which help to reduce			
		flood risk.			
		Providing an emergency response	01/06/2016-	For SAC Ayrshire Civil Contingencies	N/A.
		to flooding is the responsibility of	01/06/2022	maintain and update all emergency	
		many organisations, including local		response plans. These are updated	
		authorities, the emergency services		every 3 years or as required after an	
		and SEPA. Effective management of		incident. This is done in conjunction	
		an emergency response relies on		with the relevant department and	
		emergency plans that are prepared		external agency.	
		under the Civil Contingencies Act			
	G	2004 by Category 1 and 2		The Ayrshire Civil Contingencies team	
		Responders. Scottish Water are a		is responsible for producing the Civil	
		Category 2 responder under the		Contingencies Plan, which outlines the	
		Civil Contingencies Act 2004 and		management and operational	
		will support regional and local		arrangements that the Councils will	
		resilience partnerships as required.		follow in the event of an emergency as	
		The emergency response by these		well as encouraging other agencies to	
Emergency		organisations is coordinated through		prepare for their role. The Councils will	
plans/response*		regional and local resilience		contribute to the production and review	

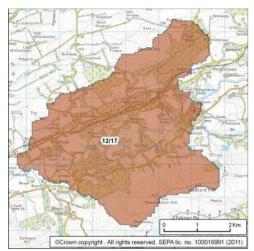
		partnerships. This response may be		of the Civil Contingencies Plan and the	
		supported by the work of voluntary		Emergency Plan for Severe Weather	
		organisations.		and Flooding, as required. This	
				response may be supported by the	
				work of voluntary organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
	G	encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
		to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
Planning policies*				a view to reducing overall flood risk,	

	and when a new national planning	
	policy context is finalised later in 2022	
	via the National Planning Framework	
	4, we will take the same approach.	
	East Ayrshire Council has prepared	
	and consulted on its Proposed Plan	
	LDP2. As part of the preparation of the	
	Plan, the Council engaged early with	
	SEPA on sites it was considering	
	allocating and took on board	
	comments from SEPA. In addition, The	
	Council has worked extensively with	
	SEPA and the KAG on issues	
	pertaining to flooding in Kilmarnock	
	and has undertaken a series of flood	
	workshops with the Key Agencies. The	
	new proposed plan contains flood	
	policies reflective of SEPA's stance	
	and of NPF4.	
	National Planning Framework 4 is	
	expected to be adopted by the Scottish	
	Parliament later in 2022 and will	
	become part of the Development Plan,	
	ensuring national planning policies on	
	flooding are applied in local decision	
	making.	

	The South Ayrshire Council Local
	Development Plan recognises the
	importance of sustainable flood risk
	management in both urban and rural
	developments and is in alignment with
	Scottish Planning Policy. The Local
	Development Plan was published in
	February 2022.

### 4.17 Dailly (Potentially Vulnerable Area 12/17)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	Water of Girvan



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## Summary of Progress for Dailly

There are fewer than ten residential properties at risk of flooding. The Annual Average Damages are approximately £38,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/17, please click <a href="here">here</a>.

Throughout the reporting period South Ayrshire Council have carried out inspection and maintenance works at known high flood risk locations such as debris screens and small culverts.

## Overview of actions to manage flooding in Dailly

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/17									Α				G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Dailly (PVA 12/17)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water flooding
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	modelling project will be completed
		mapping information into the flood		based on FEH99 methodology, this	in 2023. The outputs from this will
		maps to improve understanding of		has now been superseded by FEH22	be used to update SEPA maps
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	early in cycle 2 and will inform
		of improved data is currently		contains the latest science and	SEPA's flood risk assessments for
		available within this Local Plan		understanding of rainfall across	the next flood risk management
		District.		Scotland and represents a significant	cycle.
				change in rainfall amounts compared	
	Α			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping and modelling –				representing the latest scientific	
surface water				understanding.	
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
	G	Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
Flood forecasting*		SEPA and the Met Office that		with the Met Office, with daily Flood	

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.

Guidance Statements and regional Flood Alerts issued as required to enable communities and responders to reduce the impacts of flooding. SEPA in partnership with the Met Office has developed a public version of the daily Flood Guidance Statement, the Scottish Flood Forecast, to provide better and earlier information to the public. A beta version of this product was launched in May 2022. It will be refined in the wake of user feedback. A more focussed version of the product, producing guidance at a local level, is planned for the next flood risk management cycle. Options for developing forecasts of surface water flooding have been published in 2022 to help urban areas and the transport network improve their resilience to and preparedness for flooding. The development and wider roll-out of this service is being considered alongside the technical, resource and communication challenges associated with providing surface water flooding guidance.

		Everyone is responsible for	01/06/2016-	Community Engagement includes,	N/A.
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	
		property from flooding. Property and		and appropriate and relevant	
		business owners can take simple		information to enable clients to make	
		steps to reduce damage and		the right decisions.	
		disruption to their homes and			
		businesses should flooding happen.		Ongoing community PLP training,	
		This includes preparing a flood plan		Flood Warden and resilience group	
		and flood kit, installing property level		promotion.	
	_	protection, signing up to Floodline			
	G	The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
Self help*		Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
	G	how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
Awareness raising*		studies at higher risk locations,		planned activities notably in person	

		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to discuss			
		elements of flood risk management.		Awareness raising is a continuous	
		Across Scotland, SEPA will create		activity for South Ayrshire Council	
		and share communication and		which is actioned by updating the	
		education resources with other		Council's website, working with	
		responsible authorities. These		partners and engagement with	
		resources will include awareness		relevant stakeholders as appropriate.	
		campaigns, media and marketing			
		activity and promotion of SEPA's			
		flood forecasting and warning			
		services (Floodline). Scottish			
		Water will provide targeted flooding			
		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to the			
		public on large capital projects and			
		detailed local studies			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
		clearance and repair works where		work where necessary on 17 debris	
	G	such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a	
Maintenance*		works and make these available for			

		public inspection. Scottish Water		regular basis where there are known	
		undertake risk based inspection,		flood risk issues.	
		maintenance and repair on the			
		public sewer network. Asset owners		South Ayrshire Council will continue to	
		and riparian landowners are		inspect and maintain watercourses,	
		responsible for the maintenance and		screens and other relevant Council	
		management of their own assets		assets.	
		including those which help to reduce			
		flood risk.			
		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	
		many organisations, including local		and update all emergency response	
		authorities, the emergency services		plans. These are updated every 3	
		and SEPA. Effective management of		years or as required after an incident.	
		an emergency response relies on		This is done in conjunction with the	
		emergency plans that are prepared		relevant department and external	
		under the Civil Contingencies Act		agency.	
		2004 by Category 1 and 2			
	G	Responders. Scottish Water are a		The Ayrshire Civil Contingencies team	
		Category 2 responder under the		is responsible for producing the Civil	
		Civil Contingencies Act 2004 and		Contingencies Plan, which outlines the	
		will support regional and local		management and operational	
		resilience partnerships as required.		arrangements that the Councils will	
		The emergency response by these		follow in the event of an emergency as	
		organisations is coordinated through		well as encouraging other agencies to	
Emergency		regional and local resilience		prepare for their role. The Councils will	
plans/response*		partnerships. This response may be		contribute to the production and review	

		supported by the work of voluntary		of the Civil Contingencies Plan and the	
		organisations.		Emergency Plan for Severe Weather	
				and Flooding, as required. This	
				response may be supported by the	
				work of voluntary organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
	G	encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
		to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
Planning policies*				a view to reducing overall flood risk,	

		and when a new national planning policy context is finalised later in 2022
		via the National Planning Framework
	4	4, we will take the same approach.
		Γhe South Ayrshire Council Local
		Development Plan recognises the
	ir	mportance of sustainable flood risk
	l n	management in both urban and rural
	d	developments and is in alignment with
	s	Scottish Planning Policy. The Local
	D	Development Plan was published in
	F	February 2022.

### 4.18 Girvan (Potentially Vulnerable Area 12/18)

Local Plan District	Local authority	Main catchment
Ayrshire	South Ayrshire Council	Girvan to Lendalfoot coastal



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## Summary of Progress for Girvan

The Ayrshire Shoreline Management Plan has been completed and adopted by both North and South Ayrshire Councils in September/October 2018.

The Mill Burn and Girvan Water Flood Study has been completed.

## Overview of actions to manage flooding in Girvan

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies
12/18				G			G	Α	Α		G	G	G			G	G	G	G	G

# Summary of progress of actions to manage flood risk in the Girvan (PVA 12/18)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		A shoreline management plan is	01/06/2016-	The Ayrshire Shoreline Management	N/A.
		recommended; this study is not	01/06/2022	Plan is completed and adopted by both	
		limited to Potentially Vulnerable		North and South Ayrshire Councils in	
		Areas but should cover the whole		September/October 2018.	
		of the Ayrshire coastline and any			
		areas beyond this which may be		The Ayrshire Shoreline Management	
		influenced by changes in coastal		Plan will be reviewed every 6 years.	
	_	processes. The study should			
	G	investigate flooding and coastal			
		erosion, wave overtopping and the			
		current coastal protection offered.			
		The study will help to develop an			
		understanding of coastal issues			
		and identify where further work			
Flood protection		may be required to mitigate			
study		against flooding.			
,		A flood study will be carried out to	01/06/2016-	Mill Burn & Girvan Water Flood Study	N/A.
		further investigate river flood risk	01/06/2022	including fluvial modelling has been	
		combined with coastal flood risk to		completed. The options appraisal has	
		Girvan. This study will build on the		been completed and a flood scheme	
Flood protection		work within the shoreline		was submitted for national prioritisation	
study		management plan to provide a		in December 2018. The submitted	

		detailed investigation of the current		flood scheme would provide a 1 in 200	
		and future flood risk. The study		year level of flood protection and was	
		should examine the most		valued at £3M at the time of	
		sustainable combinations of		submission.	
		actions to manage flooding.			
				Awaiting the outcome of the Scottish	
				Government prioritisation process and	
				scheme funding review.	
		SEPA will seek to develop flood	01/01/2016-	Work completed to date includes the	SEPA will complete a review of
		mapping in the Ayr to Ardrossan	31/12/2018.	production of key data sets including	coastal flood hazard mapping in
		area to improve understanding of		extreme water levels and offshore	south west Scotland including in
		coastal flood risk. The extent and		wave and wind conditions to support	this area. This includes identifying
		timing of improvements will		future coastal modelling work.	where taking account of the
		depend on detailed scoping and		Although this work has not been	impact of waves on flooding from
		data availability. Where this work		completed to the timescale described	the sea may be required. SEPA
		coincides with local authority		in the plan, the work that will be	will collect the required coastal
		studies, SEPA will work		progressed will deliver a more	defence asset and other
	Α	collaboratively to ensure consistent		comprehensive update of the coastal	information necessary to progress
		modelling approaches are applied.		flood hazard maps across the whole	with improved flood modelling and
		The coastal mapping and		area.	mapping in the highest priority
		modelling process will start in			areas taking account of wave
		2016, with early work focussing on			overtopping where required.
		methodology development and			SEPA will look for opportunities to
		data collection. Once this stage			progress future modelling work in
		has been completed a thorough			a way that best supports
Strategic mapping		review will be carried out to identify			improvements to SEPA's Coastal
and modelling - coastal					Flood Warning Schemes.

		the final mapping improvements			Expected to progress to the next
		that can be made in the area.			stage around the middle of cycle
					2 and complete early in the
					following cycle, subject to funding.
		SEPA will be seeking to	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		incorporate additional surface	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		water hazard mapping information		based on FEH99 methodology, this	completed in 2023. The outputs
		into the flood maps to improve		has now been superseded by FEH22	from this will be used to update
		understanding of flood risk.		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		Approximately 2,100km <sup>2</sup> of		contains the latest science and	will inform SEPA's flood risk
		improved data is currently		understanding of rainfall across	assessments for the next flood
		available within this Local Plan		Scotland and represents a significant	risk management cycle.
		District.		change in rainfall amounts compared	
	А			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
				water flooding maps for Scotland	
Strategic mapping				representing the latest scientific	
and modelling – surface water				understanding.	
		Scottish Water will undertake	01/01/2018 –	The Scottish Water assessment of	The assessment is now
Strategic mapping		further investigation and modelling	31/12/2020	flood risk within the sewer catchment	completed and has been shared
and modelling		in the Girvan sewer catchment to		has been completed.	with Local Authority.
Section 16 Assessment		improve knowledge and			

		understanding of flood risk in this			
		area as required under Section 16			
		of the Flood Risk Management			
		(Scotland0 Act 2009.			
		There are a number of sections of	01/06/2016-	This work continues to be carried out	N/A.
		coastal defences in Girvan which	01/06/2022	on an annual basis.	
		provide some protection to the			
		area. These defences will be		South Ayrshire Council will continue to	
		maintained, and will continue to		inspect and maintain the flood	
		manage flooding according to the		protection structures within the	
		design standard at the time of		catchment.	
		construction. An annual inspection			
	_	is carried out on all coastal			
	G	protection structures in South			
		Ayrshire with maintenance works			
		carried out on a priority basis			
		within available resources.			
		Additional inspections are carried			
		out in response to external defect			
		reports or following severe storm			
Maintain flood		events.			
protection scheme					
p. c.c.c.		SEPA will continue to maintain the	22/12/2015-	SEPA has continued to operate the	N/A.
		Girvan Esplanade flood warning	22/06/2022	flood warning service.	
Maintain flood	G	area which is part of the Firth of			
warning		Clyde coastal flood warning			
Girvan Esplanade flood warning area		scheme. When flood events occur			

		in an area with a flood warning			
		service, SEPA will seek to verify			
		and validate the warning service.			
		SEPA will use feedback and post-			
		event data to ensure that our flood			
		warning service is timely and			
		accurate.			
		The Scottish Flood Forecasting	22/12/2015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	01/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The service also		reduce the impacts of flooding. SEPA	
		provides information which allows		in partnership with the Met Office has	
		SEPA to issue flood warnings,		developed a public version of the daily	
		giving people a better chance of		Flood Guidance Statement, the	
	G	reducing the impact of flooding on		Scottish Flood Forecast, to provide	
		their home or business. For more		better and earlier information to the	
	•	information please visit SEPA's		public. A beta version of this product	
	•	website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
Flood forecasting*				developing forecasts of surface water	

				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
				service is being considered alongside	
				the technical, resource and	
				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		Everyone is responsible for	01/06/2016-	Community Engagement includes,	Ongoing community PLP training,
		protecting themselves and their	01/06/2022	PLP exhibitions, selection, surveys and	Flood Warden and resilience
		property from flooding. Property		appropriate and relevant information to	group promotion.
		and business owners can take		enable clients to make the right	
		simple steps to reduce damage		decisions.	
		and disruption to their homes and			
		businesses should flooding			
		happen. This includes preparing a			
	G	flood plan and flood kit, installing			
		property level protection, signing			
		up to Floodline. The Councils,			
		SEPA and Scottish Water will			
		continue to engage with			
		responsible Authorities and all			
		other stakeholders, including			
		community groups and the public			
Self help*		to raise awareness of flood risk			

		and how those affected can be			
		better prepared. Further detail can			
		be found in the Councils and			
		Scottish Flood Forum websites.			
		South Ayrshire Council, SEPA and	22/12/2015-	SEPA continues to work with others to	N/A.
		Scottish Water collectively work to	22/06/2022	raise awareness of flood risk and its	
		raise awareness of flood risk and		flood warning service. It has	
		how those affected can be better		participated in local activities including	
		prepared. Through the continued		school / education and community	
		development of flood schemes and		resilience activities when able. Some	
		studies at higher risk locations,		planned activities notably in person	
		officers from the Council's Flood		joint events have been limited or	
		Risk Management Team attend		delayed due to Covid 19.	
		community council events to			
		discuss elements of flood risk		Awareness raising is a continuous	
	G	management. Across Scotland,		activity for South Ayrshire Council	
		SEPA will create and share		which is actioned by updating the	
		communication and education		Council's website, working with	
		resources with other responsible		partners and engagement with relevant	
		authorities. These resources will		stakeholders as appropriate.	
		include awareness campaigns,			
		media and marketing activity and			
		promotion of SEPA's flood			
		forecasting and warning services			
		(Floodline). Scottish Water will			
Awareness raising*		provide targeted flooding			

		communications for Scottish Water			
		specific activities and raise			
		awareness by producing and			
		supplying targeted information to			
		the public on large capital projects			
		and detailed local studies			
		Local authorities have a duty to	01/06/2016-	South Ayrshire Council carry out	N/A.
		assess watercourses and carry out	01/06/2022	monthly inspections and clearance	
		clearance and repair works where		work where necessary on 17 debris	
		such works would substantially		screens where there is a known flood	
		reduce flood risk. They produce		risk from blockage. Watercourse	
		schedules of clearance and repair		inspections are carried out on a regular	
		works and make these available		basis where there are known flood risk	
		for public inspection. Scottish		issues.	
	G	Water undertake risk based			
		inspection, maintenance and repair		South Ayrshire Council will continue to	
		on the public sewer network. Asset		inspect and maintain watercourses,	
		owners and riparian landowners		screens and other Council assets.	
		are responsible for the			
		maintenance and management of			
		their own assets including those			
Maintenance*		which help to reduce flood risk.			
		Providing an emergency response	01/06/2016-	For South Ayrshire Council, the	N/A.
		to flooding is the responsibility of	01/06/2022	Ayrshire Civil Contingencies maintain	
	G	many organisations, including local		and update all emergency response	
Emergency		authorities, the emergency		plans. These are updated every 3	
plans/response*		services and SEPA. Effective		years or as required after an incident.	

		management of an emergency		This is done in conjunction with the	
		response relies on emergency		relevant department and external	
		plans that are prepared under the		agency.	
		Civil Contingencies Act 2004 by			
		Category 1 and 2 Responders.		The Ayrshire Civil Contingencies team	
		Scottish Water are a Category 2		is responsible for producing the Civil	
		responder under the Civil		Contingencies Plan, which outlines the	
		Contingencies Act 2004 and will		management and operational	
		support regional and local		arrangements that the Councils will	
		resilience partnerships as required.		follow in the event of an emergency as	
		The emergency response by these		well as encouraging other agencies to	
		organisations is coordinated		prepare for their role. The Councils will	
		through regional and local		contribute to the production and review	
		resilience partnerships. This		of the Civil Contingencies Plan and the	
		response may be supported by the		Emergency Plan for Severe Weather	
		work of voluntary organisations.		and Flooding, as required. This	
				response may be supported by the	
				work of voluntary organisations.	
		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	01/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
	G	planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management,		Plans and Local FRM Plans. In line	
		the policy supports a catchment-		with the management actions that	
Planning policies*		scale approach to sustainable		accord with national planning policies,	

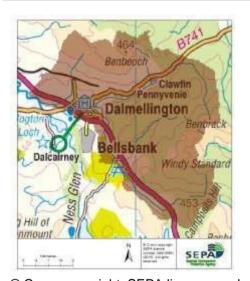
flood risk management and aims to build the resilience of our cities and towns, encourage sustainable land management in our rural areas, and to address the long-term vulnerability of parts of our coasts and islands. Under this approach, new development in areas with medium to high likelihood of flooding should be avoided.

we have and will continue to object to development at medium to high risk of flooding when it is contrary to the risk framework set out in Scottish Planning Policy. We have and will continue to engage from the start of the development plan process and encourage planning authorities to undertake a Strategic Flood Risk Assessment to inform their spatial strategy. We remain committed to exercising our planning functions with a view to reducing overall flood risk, and when a new national planning policy context is finalised later in 2022 via the National Planning Framework 4, we will take the same approach.

The South Ayrshire Council Local
Development Plan recognises the
importance of sustainable flood risk
management in both urban and rural
developments and is in alignment with
Scottish Planning Policy. The Local
Development Plan was published in
February 2022.

### 4.19 Dalmellington (Potentially Vulnerable Area 12/19c)

Local Plan District	Local authority	Main catchment
Ayrshire	East Ayrshire Council	East Ayrshire Council Muck Water



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## Summary of Progress for Dalmellington

There are approximately 50 residential properties at risk of flooding. The total Annual Average Damages are approximately £140,000. Further information can be found in the Ayrshire Local FRMP under PVA 12/019c, please click <a href="here">here</a>.

Key progress has been made with the installation of River Monitors on the Muck Water along with others in the Doon Valley to gather hydraulic data to inform the completed combined Flood study (2020 -2022) for these watercourses. The Flood study will inform Cycle 2 flooding actions for these locations

## Overview of actions to manage flooding in Dalmellington

PVA	Flood protection scheme / works	Natural flood management works	New flood warning	Flood protection study	Natural flood management study	Surface water plan / study	Strategic mapping & modelling (Scottish Water)	Strategic mapping & modelling (Coastal)	Strategic mapping & modelling (Surface Water)	Strategic mapping & modelling (Rivers)	Maintain flood protection scheme*	Maintain flood warning	Flood forecasting	Property level protection scheme	Community flood action groups	Self help	Awareness raising	Maintenance	Emergency plans / response	Planning policies	
12/19c				G					Α				G			G	G	G	G	G	

# Summary of progress of actions to manage flood risk in the Dalmellington (PVA 12/19c)

Action	Status	Description	Dates	Progress in Delivery, including key	Revised dates and planned
				deliverables and dates	actions to complete / address
					delay
		A study will investigate the feasibility	01/06/2016-	Progress has been made with the	N/A.
		of a flood protection scheme along	22/06/2022	installation of River Monitors on the	
		the Muck Water. East Ayrshire		Muck Water along with others in the	
		Council is currently procuring		Doon Valley, to gather hydraulic data	
		suitable flow and level monitoring		to inform the planned combined Flood	
		installations on appropriate		study (2020 -2022) for these	
		watercourses identified for studies,		watercourses. The Flood study will	
		with the intention of informing those		inform Cycle 2 flooding actions for	
		studies in areas known to have little		these locations.	
		or no information currently available.		Additional resourcing was required in	
	G	Information gaps and proposed		order to procure these works.	
		locations are being identified in co-		This study has now been completed.	
		operation with SEPA. Once this		The anticipated rescheduling is not	
		information is available the study will		envisaged to affect the ability to report	
		look to refine understanding of the		as intended in Cycle 2.	
		current and future flood risk in the			
		area and investigate the feasibility of			
		actions to reduce flooding, as			
		prioritised in the Ayrshire Flood Risk			
		Management Strategy.			
Flood protection study					

		The Scottish Flood Forecasting	20/122015-	SEPA continues to improve the	N/A
		Service is a joint initiative between	22/06/2022	Scottish Flood Forecasting Service	
		SEPA and the Met Office that		with the Met Office, with daily Flood	
		produces daily, national flood		Guidance Statements and regional	
		guidance statements which are		Flood Alerts issued as required to	
		issued to Category 1 and 2		enable communities and responders to	
		Responders. The		reduce the impacts of flooding. SEPA	
		service also provides information		in partnership with the Met Office has	
		which allows SEPA to issue flood		developed a public version of the daily	
		warnings, giving people a better		Flood Guidance Statement, the	
		chance of reducing the impact of		Scottish Flood Forecast, to provide	
		flooding on their home or business.		better and earlier information to the	
		For more information please visit		public. A beta version of this product	
	G	SEPA's website.		was launched in May 2022. It will be	
				refined in the wake of user feedback. A	
				more focussed version of the product,	
				producing guidance at a local level, is	
				planned for the next flood risk	
				management cycle. Options for	
				developing forecasts of surface water	
				flooding have been published in 2022	
				to help urban areas and the transport	
				network improve their resilience to and	
				preparedness for flooding. The	
				development and wider roll-out of this	
Flood				service is being considered alongside	
forecasting*				the technical, resource and	

				communication challenges associated	
				with providing surface water flooding	
				guidance.	
		SEPA will be seeking to incorporate	01/06/2016-	SEPA's current Surface water hazard	The national surface water
		additional surface water hazard	22/06/2022	maps use design rainfall estimates	flooding modelling project will be
		mapping information into the flood		based on FEH99 methodology, this	completed in 2023. The outputs
		maps to improve understanding of		has now been superseded by FEH22	from this will be used to update
		flood risk. Approximately 2,100km²		methodology. The FEH22 dataset	SEPA maps early in cycle 2 and
		of improved data is currently		contains the latest science and	will inform SEPA's flood risk
		available within this Local Plan		understanding of rainfall across	assessments for the next flood
		District.		Scotland and represents a significant	risk management cycle.
				change in rainfall amounts compared	
	А			to FEH99 dataset, as such it is no	
				longer consider appropriate to deliver	
				this action as originally intended. This	
				action will not be taken forwards as	
				described. A major national update of	
				the surface water maps is underway	
				which will deliver updated surface	
Strategic				water flooding maps for Scotland	
mapping and				representing the latest scientific	
modelling – surface water				understanding.	
		Everyone is responsible for	01/06/2016-	Community Engagement includes,	
		protecting themselves and their	22/06/2022	PLP exhibitions, selection, surveys	
	G	property from flooding. Property and		and appropriate and relevant	
		business owners can take simple		information to enable clients to make	
Self help*		steps to reduce damage and		the right decisions.	

		disruption to their homes and		Responsible Authorities shall continue	
		businesses should flooding happen.		to support ongoing community PLP	
		This includes preparing a flood plan		training, Flood Warden and resilience	
		and flood kit, installing property level		group promotion.	
		protection, signing up to Floodline			
		The Councils, SEPA and Scottish			
		Water will continue to engage with			
		responsible Authorities and all other			
		stakeholders, including community			
		groups and the public to raise			
		awareness of flood risk and how			
		those affected can be better			
		prepared. Further detail can be			
		found in the Councils and Scottish			
		Flood Forum websites.			
		East Ayrshire Council, South	01/06/2016-	SEPA continues to work with others to	N/A.
		Ayrshire Council, SEPA and	22/06/2022	raise awareness of flood risk and its	
		Scottish Water collectively work to		flood warning service. It has	
		raise awareness of flood risk and		participated in local activities including	
		how those affected can be better		school / education and community	
	0	prepared.		resilience activities when able. Some	
	G			planned activities notably in person	
				joint events have been limited or	
				delayed due to Covid 19.	
Awareness				East Ayrshire Council and SEPA has	
raising*				delivered a range of awareness raising	

	activities through campaigning,	
	education activities and partnership	
	delivery. We have run national and	
	local digital and direct engagement	
	campaigns to raise awareness of flood	
	risk and SEPA's flood warning service,	
	Floodline. We publish and publicise an	
	electronic newsletter (Flooding	
	Gateway) four times a year which is	
	distributed to a wide audience. SEPA	
	are working with Education Scotland	
	and Scottish Government Resilience	
	team to embed flooding awareness	
	within the Curriculum for Excellence,	
	and resilience partners in Safer	
	Communities programmes. We have	
	also developed an online tool that	
	helps everyone share information on	
	current flooding issues (Report-a-	
	Flood). We have worked in partnership	
	with local authorities, emergency	
	services and community organisations	
	(e.g. Neighbourhood Watch Scotland,	
	Citizens Advice Scotland and others)	
	to share our resources and help to	
	promote preparedness and	
	understanding of how we manage	
	anacionalism of flow we flamage	

				flood risk in Scotland. We have	
				actively supported the Scottish Flood	
				Forum and worked closely with UK	
				agencies to develop joint flooding	
				information.	
		East Ayrshire Council in accordance	01/06/2016-	High risk locations such as those with	The Council will continue to
		with Section 18 of the Flood Risk	22/06/2022	screens and some smaller culverts	inspect and maintain
		Management (Scotland) Act 2009		were inspected on a scheduled basis.	watercourses, screens and other
		undertake assessment of		The majority of inspections tended to	relevant Council assets.
		water bodies to determine whether		be undertaken in the winter months	
		works of clearance and repair would		when flows are higher, and leaves and	
		substantially reduce the risk of		other waterborne debris can be an	
	G	flooding. This information is		issue.	
		used to produce a schedule of		Works of clearance were carried out	
		works which is available for the		during these inspections which	
		public to inspect.		are not specifically "scheduled". The	
				main water bodies, and other	
				water bodies, within urban areas were	
				subject to an annual visual	
Maintenance*				inspection and any works	
		The Civil Contingencies Team	01/06/2016-	Emergency Response Planning (ERP)	N/A.
		ensures that the Council will be able	22/06/2022	is carried out by Ayrshire Civil	
		to respond speedily and effectively		Contingencies Team (ACCT). This is	
	G	in a major emergency. North,		an all Ayrshire shared service.	
		South and East Ayrshire teams are		ACCT update and co-ordinate (all	
Emorgonov		a shared service team known as the		Emergency Responders) the	
Emergency plans/response*		Ayrshire Civil Contingencies Team.		emergency response plans (ERP) as	

If disaster strikes, or if emergencies required (in direct consultation with develop in Ayrshire, communities ARA, where appropriate). will look to the Council for support and advice. The Ayrshire Civil In addition to the ERP, East Ayrshire Contingencies Team ensures that Council has implemented a system of the Council will be able to respond river monitors in known areas and a speedily and rota of Flood Scouts is maintained. effectively in a major emergency in The Flood Scouts are tasked to accordance with the Civil monitor and report back on status on receipt of any alarm. Contingencies Act 2004 (Contingency Planning) (Scotland) Regulations 2005. Our responsibilities include preparing comprehensive and robust contingency plans and procedures irrespective of the nature of the emergency. The main aim is to preserve life and property. Every emergency plan also sets out to: Mitigate the harmful effects of the emergency on the environment; bring about a swift return to normal life in the communities and environment affected; and encourage all agencies and organisations to prepare for their role.

		Scottish Planning Policy and	01/06/2016-	SEPA continues to exercise its	N/A.
		accompanying Planning Advice	22/06/2022	planning functions with a view to	
		Notes set out Scottish Ministers'		reducing overall flood risk. We	
		priorities for the operation of the		effectively contribute to the delivery of	
		planning system and for the		sustainable flood risk management	
		development and use of land. In		and we support the delivery of FRM	
		terms of flood risk management, the		Plans and Local FRM Plans. In line	
		policy supports a catchment-scale		with the management actions that	
		approach to sustainable flood risk		accord with national planning policies,	
		management and aims to build the		we have and will continue to object to	
		resilience of our cities and towns,		development at medium to high risk of	
		encourage sustainable land		flooding when it is contrary to the risk	
		management in our rural areas, and		framework set out in Scottish Planning	
	G	to address the long-term		Policy. We have and will continue to	
		vulnerability of parts of our coasts		engage from the start of the	
		and islands. Under this approach,		development plan process and	
		new development in areas with		encourage planning authorities to	
		medium to high likelihood of flooding		undertake a Strategic Flood Risk	
		should be avoided.		Assessment to inform their spatial	
				strategy. We remain committed to	
				exercising our planning functions with	
				a view to reducing overall flood risk,	
				and when a new national planning	
				policy context is finalised later in 2022	
				via the National Planning Framework	
				4, we will take the same approach.	
Planning policies*					

	East Ayrshire Council has prepared
	and consulted on its Proposed Plan
	LDP2. As part of the preparation of the
	Plan, the Council engaged early with
	SEPA on sites it was considering
	allocating and took on board
	comments from SEPA. In addition, The
	Council has worked extensively with
	SEPA and the KAG on issues
	pertaining to flooding in Kilmarnock
	and has undertaken a series of flood
	workshops with the Key Agencies. The
	new proposed plan contains flood
	policies reflective of SEPA's stance
	and of NPF4.

## 4.20 Other actions

This section sets out details of additional significant actions undertaken in the LPD by local authorities to contribute to the implementation of the current actions in the plan and the achievement of the objectives in the plan.

Action	Status	Description	Dates	Progress in Delivery, including key deliverables and dates	Revised dates and planned actions to complete / address delay
		A study needs to be undertaken to further	01/06/2016-	The River Irvine and	N/A
		investigate river flood risk at the Lower Irvine	01/06/2022	Annick Water fluvial	
		Valley catchment and re-evaluate the fluvial		modelling is complete.	
		flood risk. The study should examine the most		The study included a	
		sustainable combination of actions to manage		regional climate change	
		flooding.		sensitivity assessment	
				and was approved by	
				SEPA in July 2018. The	
	G			option appraisal is	
				complete, and the design	
				of a flood protection	
				scheme is an action that	
				has been identified in the	
				Flood Risk Management	
Flood protection				Plan, published in 2021	
study				by SEPA.	

Other actions 218

## Appendix 1: Roles and Responsibilities

Individuals are the first line of defence against flooding. However, public bodies have responsibilities too and are working together to reduce the impacts of flooding in Scotland.

Some of the key roles are outlined below and more information is available from the SEPA website.

### Your responsibilities

It is your responsibility to manage your own flood risk and protect yourself, your family, property or business. There are steps you can take now to be flood prepared and reduce the damage and disruption flooding can have on your life.

- View SEPA's flood maps (available online at\_ <a href="https://www.sepa.org.uk/environment/water/flooding/flood-maps/">https://www.sepa.org.uk/environment/water/flooding/flood-maps/</a>) to check if your area is affected by flooding;
- Sign up to Floodline (available online at\_ <a href="https://www.sepa.org.uk/environment/water/flooding/floodline/">https://www.sepa.org.uk/environment/water/flooding/floodline/</a>) to receive messages when flooding is forecast in your area
- Know who to contact if flooding happens (by refer to the information available at <a href="https://www.sepa.org.uk/media/28952/who\_to\_contact\_2014.pdf">https://www.sepa.org.uk/media/28952/who\_to\_contact\_2014.pdf</a>)
- Other useful tools and advice on how to be prepared are available on the Floodline website.

#### **SEPA**

SEPA is Scotland's national flood forecasting, flood warning authority and strategic flood risk management authority. SEPA:

- works in partnership with the Met Office to forecast for flooding and operate Floodline in Scotland to warn the public and emergency responders when flooding is likely;
- produce Scotland's Flood Risk Management Strategies, now called Flood Risk Management Plans;
- works closely with other organisations responsible for managing flood risk to ensure that a nationally consistent approach to flood risk management is adopted;
- provides flood risk advice to land use planning in Scotland when requested;
- raises awareness of flooding at a national level through education initiatives, community engagement and campaigns.

### Local authorities

Local authorities are responsible for producing Scotland's Local Flood Risk Management Plans and work in partnership with SEPA, Scottish Water and other responsible authorities to develop these.

It is the responsibility of your local authority to implement and maintain flood protection actions. Local authorities also inspect, clear and repair watercourses to reduce flood risk and routinely maintain road gullies on public roads and highways.

During severe flooding, local authorities will work with the emergency services and co-ordinate shelter for people evacuated from their homes.

The Lead Local Authority for the Ayrshire Local Plan District is: **North Ayrshire Council**Other local authorities who are responsible authorities for the Ayrshire Local Plan District are: **East Ayrshire Council** and **South Ayrshire Council**.

#### **Scottish Water**

Scottish Water is responsible for the drainage of surface water from roofs and paved ground surfaces within a property boundary. Scottish Water can help to protect properties from flooding caused by overflowing or blocked sewers.

Scottish Water is a responsible authority for flood risk management and is working closely with SEPA, local authorities and other responsible authorities to manage flood risk in Scotland.

#### **Scottish Government**

Scottish Government oversees the implementation of the Flood Risk Management (Scotland) Act 2009 which established the requirement for Flood Risk Management Plan (previously called Strategies) and Local Flood Risk Management Plans to be produced. Scottish Ministers are responsible for setting the policy framework for implementing how we manage flooding in Scotland and will ultimately be responsible for approving the objectives and actions set out in the Flood Risk Management Plans.

#### **Met Office**

The Met Office provides a wide range of forecasts and weather warnings. SEPA and the Met Office work together through the Scottish Flood Forecasting Service, combining SEPA's hydrological expertise and the Met Office's meteorological data to predict the likelihood and timing of river, coastal and surface water flooding.

### Other Responsible Authorities

**Forestry and Land Scotland** (formerly Forestry Commission Scotland) also supports the development of the Flood Risk Management Plans and Local Flood Risk Management Plans.

**The emergency services** provide emergency relief when flooding occurs and can co-ordinate evacuations. You should call the emergency services on 999 if you are concerned about your safety or the safety of others and act immediately on any advice provided.

# Appendix 2: Glossary

### Commonly used terms

A glossary of commonly used flood risk management terms is available on SEPA's website at\_ https://www2.sepa.org.uk/frmplans/documents/glossary.pdf

## Appendix 3: Acknowledgements

The information described in this Annex relates to the Figures and Maps that have been generated by SEPA as part of the Flood Risk Management Strategy and have been reproduced in this Local Flood Risk Management Plan. The Ayrshire Local Plan District Partners gratefully acknowledge the cooperation and input that various parties have provided, including inter alia, the following organisations:

#### **SEPA**

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### The Met Office

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#### Local authorities

Lead authorities acknowledge the provision of flood models and other supporting data and information from local authorities and their collaboration in the production of flood risk management information.

#### **Scottish Water**

Local authorities acknowledge the inclusion of surface water flooding data generated by Scottish Water in preparation of flood risk information.