

<b>JOHNSTOWN</b>						
<b>Lead RMA &amp; Action Responsibility</b>	<b>Lead Contact</b>	<b>Action No.</b>	<b>Action</b>	<b>How will this be achieved</b>	<b>Term</b>	<b>Target Date</b>
DCWW	Richard Davies	1	DCWW to evaluate the standard of service and the condition of the surface water sewers servicing Johnstown.	CCTV survey of the network identifying defects accordingly.  Utilise the information gathered on pipe sizes, along with catchment and rainfall information to calculate the standard of service.	Medium	Oct 2019
Highway Authority	Ian Thomas	2	CCC Highways Authority to work with DCWW to evaluate the standard of service and the condition of the highway drainage in Johnstown (Generic).	Ian Thomas (CCC) and Richard Davies (DCWW) to look at asset records and CCTV surveys and document the condition of their assets.  From the culvert survey information the standard of service can be calculated and recorded.	Medium	Oct 2019
CCC		3	Repair the flood bank at Johnstown Recreation Park.		Short	COMPLETE
CCC & NRW		4	Investigate why the flood bank was removed.		Short	COMPLETE

CCC (FD&CP)		5	Undertake CCTV of the drainage system in Llansteffan Road.		Short	COMPLETE
CCC (FD&CP)		6	Clarify drainage asset owners and responsibilities (Llansteffan Road).		Short	COMPLETE
Highways Authority	Ian Thomas	7	Investigate the presence and functionality of the non-return valves in the highways drainage systems (Heol Llansteffan, Johnstown).	Undertake a review of the CCTV survey or implement a monitoring programme to test the functionality of the NRVs.	Short	COMPLETE
Highways Authority	Ian Thomas	8	Jet the drainage and action repairs accordingly (Heol Llansteffan, Johnstown).	Utilise framework contractor to undertake the works.	Medium	Oct 2019
Highways Authority	Ian Thomas	9	Implement a highways flooding management plan (Heol Llansteffan, Johnstown).	Work with NRW, FD&CP and CCC Emergency Planning to agree triggers and actions to manage risk	Medium	Oct 2019
NRW	Aneurin Cox	10	Investigate the standard of service of the flood defence embankment (Heol Llansteffan, Johnstown).	Undertake an assessment of the flood banks and deliver works to ensure the standard of service can be achieved.	Short	COMPLETE
Highways Authority	Ian Thomas	11	Highways Authority to undertake investigations to clarify the layout of the drainage in St Clears Road, Johnstown.	Undertake a CCTV survey of the highway network to identify its location, size and condition.	Medium	Oct 2019

DCWW & Highways Authority	Richard Davies DCWW Ian Thomas CCC	12	DCWW and the Highways Authority to evaluate the standard of service that is afforded by the drainage system in St Clears Road, Johnstown.	Utilise the CCTV information gathered on pipe sizes, along with catchment and rainfall information to calculate the standard of service.	Medium	Oct 2019
DCWW & Highways Authority	Richard Davies DCWW Ian Thomas CCC	13	DCWW and the Highways Authority to evaluate management options for exceedance in St Clears Road, Johnstown.	Formulate a flood risk management plan to manage highway flooding.	Medium	Oct 2019
NRW	Aneurin Cox	14	NRW to evaluate the need to raise the flood bank at Maes Y Dderwen, Johnstown, Carmarthen.	Undertake an assessment of the flood banks and deliver works to ensure the standard of service can be achieved.	Medium	Nov 2019
CCC & NRW	Ben Kathrens Aneurin Cox	15	Evaluate surface water management options on the landward side of the defence at Maes Y Dderwen, Johnstown, Carmarthen.	CCC will calculate the volume of water that can potentially accumulate behind the defence and, if necessary NRW will suggest preferred methods to remove that water through their flood bund.	Medium	Oct 2019

<b>PENSARN</b>						
<b>Lead RMA &amp; Action Responsibility</b>	<b>Lead Contact</b>	<b>Action No.</b>	<b>Action</b>	<b>How will this be achieved</b>	<b>Period</b>	<b>Target Date</b>
DCWW	Richard Davies	16	DCWW to check the accuracy of the surface water maps in the Llangunnor area of Carmarthen and update accordingly.	Internal review of the data.	Medium	Oct 2019
CCC FD&CP	Ben Kathrens	17	Investigate the effects of the attenuation lagoons and basins on flows entering the Sticle surface water sewer.	Utilise WG grant money to evaluate flooding in Pensarn including the effects of the lagoons.	Long	April 2020
CCC FD&CP	Ben Kathrens	18	Undertake a CCTV survey of Old Llangunnor Road and the Currys PC World car park to ascertain its network, and structural and service condition, and its future maintenance liability.	Enlist CCTV contractor.	Medium	Oct 2019
CCC FD&CP	Ben Kathrens	19	Undertake a CCTV survey of Old Llangunnor Road (north of the A40) to ascertain its network, and structural and service condition, and its future maintenance liability.	Enlist CCTV contractor.	Medium	Oct 2019

CCC FD&CP	Ben Kathrens	20	Collate information on the drainage systems that serve the A40 and A48.	Liaison with SWTRA and evaluation of the Highway Authority WDM database.	Short	COMPLETE
DCWW	Richard Davies	21	DCWW to confirm that there are no DCWW assets in Stephens Way.		Short	COMPLETE
CCC FD&CP	Ben Kathrens	22	Develop a better understanding of the outputs from the Sticle lagoon system.	Utilise WG grant money to evaluate flooding in Pensarn including the effects of the lagoons.	Long	April 2020
CCC FD&CP	Ben Kathrens	23	Re-evaluate the effectiveness of the pump.	Utilise WG grant money to evaluate flooding in Pensarn, including the effectiveness of the pump.	Long	April 2020
NRW	Aneurin Cox	24	NRW to arrange for a structural inspection of the flood defence wall to be undertaken.	NRW to enlist the services of a Panel Engineer to evaluate the flood walls at Pensarn.	Medium	COMPLETE
Network Rail	Robert Knapman	25	Network Rail to investigate and repair the section of blocked culvert at Old Llangunnor Road, West.		Short	July 2019
CCC FD&CP	Ben Kathrens	26	Evaluate culvert capacity in Pensarn Road.	Use CCTV survey data and FSR or FSR rainfall data.	Short	COMPLETE
CCC FD&CP	Ben Kathrens	27	Evaluate inputs from the Llangunnor Estate.	Evaluate DCWW network and CCTV surveys.	Short	COMPLETE

CCC FD&CP	Ben Kathrens	28	Liaise with SWTRA on the discharges from the A40 and the level of attenuation provided by the lagoon and ponds at Sticle.	Liaise with SWTRA.	Short	COMPLETE
CCC FD&CP	Ben Kathrens	29	Bid for financial assistance to evaluate the flood mechanisms at Pensarn and comprise a list of potential mitigation and management measures- COMPLETE	Submit an application to Welsh Government for funding under the capital work flood risk management pipeline programme.	Short	COMPLETE
CCC Civil Contingency officer	Richard Elms	30	Formulate a short to medium term flood management plan to manage exceedance.	NRW and CCC Civil Contingency officers to formulate a plan.	Long	Feb 2020
CCC FD&CP	Ben Kathrens	31	Identify the owners / benefactors of the Sticle Storm water Sewer.	Undertake land registry searches and evaluate inputs into the system.	Short	June 2019
CCC FD&CP	Ben Kathrens	32	Ensure the necessary repairs are undertaken to the Sticle storm Water Sewer.	Write to the benefactors requesting a financial contribution and if unsuccessful evaluate issuing a notice under the Land Drainage Act 1991.	Medium	Oct 2019
CCC FD&CP	Ben Kathrens	33	Inform the drainage system benefactors of their obligations with regards to the drainage system and advise them to make the repairs identified at Stephens Way.	Write to the benefactors requesting a financial contribution and if unsuccessful evaluate issuing a notice under the Land Drainage Act 1991.	Medium	Oct 2019

<b>LLANYBYDDER</b>						
<b>Lead RMA &amp; Action Responsibility</b>	<b>Lead Contact</b>	<b>Action No.</b>	<b>Action</b>	<b>How will this be achieved</b>	<b>Period</b>	<b>Target Date</b>
Highways Authority	Stuart Quick	34	Undertake a CCTV survey of the highways drainage at Station Terrace, to ascertain the condition and standard of service.	Commission a CCTV contractor to undertake the works and produce a condition report.  The standard of service will be calculated from the pipe sizes, rainfall and catchment area.	Medium	Oct 2019
DCWW	Richard Davies	35	Ascertain the details of the surface water drainage around Heol Y Dderi.	Undertake site and database investigations.	Medium	Oct 2019
DCWW	Richard Davies	36	Investigate the feasibility of relocation of the sewer pipe at Heol Y Deri	Work with the Highways Authority and CCC FD&CP team to see if the sewer pipe can be relocated as part of the wider potential capital scheme at Heol Y Dderi.	Medium	Oct 2019
NRW	Aneurin Cox	37	NRW to look into upgrading their telemetry network in the Llanybydder area.	NRW feasibility study.	Medium	Nov 2019
Ceredigion CC, CCC & NRW	Ben Kathrens	38	Carmarthenshire and Ceredigion CC will commission a study to evaluate the effect of the causeway on flood risk and the legality and consequences of its removal or modification.	Carmarthenshire CC and Ceredigion CC to write a brief and submit to NRW.	Medium term (agree	July 2019

	Rhodri Llwyd  Aneurin Cox		NRW can lead and facilitate the production of flood flow models to illustrate which scenario would achieve the best outcome.	NRW will evaluate the work that needs to be undertaken to meet the requirements of the brief and if they do not have adequate resources, contract the services of a framework contractor to interrogate the flood model and provide a report accordingly.	brief and ToR)  Long term (full analysis and reporting)	Feb 2020
DCWW	Richard Davies	39	DCWW action to further investigate whether the spoil has affected the flood risk.		Medium	Oct 2019
CCC & Ceredigion CC Civil Contingency	Richard Elms	40	Develop a local flood plan and resilience.	Carmarthenshire and Ceredigion Civil Contingency officers to meet with Llanybydder Community Council and help them formulate a flood management plan.	Long	Feb 2020
NRW	Aneurin Cox	41	Investigate opportunities for upland catchment management in the Nant Einon and Afon Duar catchments.	Carry out a desk top study that will provide a list of potential opportunities as to where this could happen and provide benefit. The outcome of this work will then be shared with partners to prompt a decision about how best to proceed.	Long	Feb 2020



DCWW	Richard Davies	42	Investigate the urban surface water system, and opportunities for retro-fitting sustainable drainage features to manage surface water and flood risk.		Long	Feb 2020
CCC FD&CP	Ben Kathrens	43	Undertake a feasibility exercise to identify the constraints that will impact on the upgrading of the B4337 highway culvert.	Undertake utility searches and run a HEC RAS fluvial model.	Medium	Oct 2019
Highways Authority	Stuart Quick	44	Add flaps to the outfalls at Heol Y Dderi, Llanybydder.	Add flaps to the highway outfalls.	Medium	Oct 2019
Highways Authority	Stuart Quick	45	Investigate the feasibility of diverting the highway drainage to discharge at the downstream end of the B4337 culvert.	Undertake utility searches.	Medium	Oct 2019
CCC FD&CP	Ben Kathrens	46	CCC to identify the land owners and inform them of their riparian duties to maintain the river banks and keep them clear of debris.	Undertake land registry searches and issue information letters to riparian owners.	Medium	Oct 2019

<b>LLANDYSUL &amp; PONT TYWELI</b>						
<b>Lead RMA &amp; Action Responsibility</b>	<b>Lead Contact</b>	<b>Action No.</b>	<b>Action</b>	<b>How will this be achieved</b>	<b>Period</b>	<b>Target Date</b>
Highways Authority	Tony Williams	47	Undertake CCTV surveys to identify the path, standard of service and condition of the highways drainage.	Enlist a CCTV contractor.	Medium	Oct 2019
CCC Highways Bridges and Structures	Peter Morgan	48	The walls along the north side of Lewis Street should be replaced with a passive structure (as and when replacement is necessary)		Long	Ongoing
Ceredigion, CCC & NRW	Ben Kathrens Rhodri Llwyd Aneurin Cox	38	Carmarthenshire and Ceredigion CC will commission a study to evaluate the effect of the causeway on flood risk and the legality and consequences of its removal or modification. NRW can lead and facilitate the production of flood flow models to illustrate which scenario would achieve the best outcome.	Carmarthenshire CC and Ceredigion CC to write a brief and submit to NRW.  NRW will evaluate the work that needs to be undertaken to meet the requirements of the brief and if they do not have adequate resources, contract the services of a framework contractor to interrogate the flood model and provide a report accordingly.	Medium term (agree brief and ToR)  Long term (full analysis and reporting)	Sept 2019  Feb 2020

<b>GENERIC ACTIONS</b>						
<b>Lead RMA &amp; Action Responsibility</b>	<b>Lead Contact</b>	<b>Action No.</b>	<b>Action</b>	<b>How will this be achieved</b>	<b>Period</b>	<b>Target Date</b>
NRW	Aneurin Cox	50	NRW to review the performance of the flood warning system during Storm Callum.	NRW to undertake an internal review of the flood warning system.	Medium	October 2019
NRW	Aneurin Cox	51	NRW to clarify the limitations of the flood warnings, and convey this to its customers or amend the service to provide warnings about other flood sources.	NRW to develop a communication strategy to inform its customers accordingly.	Medium	October 2019
Delta Wellbeing	Sam Watkins	52	Undertake a review into the functionality of the CCC call centre during Storm Callum and its ability to manage and administer major incidents going forward.	CCC and Delta Wellbeing to undertake a review.	Medium	October 2019
CCC FD&CP	Ben Kathrens	53	Investigate a mechanism to inform tenants of the flood risk afforded to their properties.	FD&CP to work with housing to investigate ways to inform tenants and landlords of their flood risk.	Medium	October 2019
Civil Contingency	Richard Elms (CCC)	54	Develop community resilience and flood action plans in those communities at greatest risk of flooding.	Meet with community leaders and develop plan accordingly.	Medium	October 2019

CCC FD&CP Highways Authority Delta Wellbeing	Ben Kathrens, Darren King & Sam Watkins	55	Further develop collaborative working and development of databases that allows information on flooding to be captured and interrogated efficiently.	Work with the Highways Authority and Delta to ensure that accurate reports are captured and that the actions pertaining to those incidents are also captured.	Long	Feb 2020
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