

KENT FLOOD RISK MANAGEMENT COMMITTEE

Tuesday, 11th March, 2014

2.00 pm

Council Chamber, Sessions House, County Hall,
Maidstone





AGENDA

KENT FLOOD RISK MANAGEMENT COMMITTEE

Tuesday, 11th March, 2014, at 2.00 pm

Ask for: **Andrew Tait**

Council Chamber, Sessions House, County Hall, Maidstone Telephone **01622 694942**

Tea/Coffee will be available 15 before the start of the meeting in the meeting room

Membership

Conservative (4): Mr M J Harrison (Chairman), Mr A H T Bowles,
Mr L B Ridings, MBE and Mrs P A V Stockell

UKIP (1): Mr D Baker

Labour (1) Dr M R Eddy

Liberal Democrat (1) Mr M J Vye

UNRESTRICTED ITEMS

(During these items the meeting is likely to be open to the public)

Webcasting Notice

Please note: this meeting may be filmed for live or subsequent broadcast via the Council's internet site – at the start of the meeting the Chairman will confirm if all or part of the meeting is being filmed.

By entering the meeting room you are consenting to being filmed and to the possible use of those images and sound recordings for webcasting and/or training purposes. If you do not wish to have your image captured then you should make the Clerk of the meeting aware.

1. Introduction/Webcasting
2. Membership
3. Substitutes

4. Declarations of Members' Interest relating to items on today's agenda
5. Minutes of the meeting on 18 November 2013 (Pages 5 - 10)
6. Update on the recent floods - Oral report by Ian Nunn from the Environment Agency
7. Oral Presentation by Martin Twyman from the Little Stour and Nailbourne River Management Group
8. Environment Agency Flood Alerts and Warnings and KCC Flood Response activity since the last meeting (Pages 11 - 20)
9. Local Flood Risk Management and the Local Strategy (Pages 21 - 42)
10. Other Items which the Chairman decides are Urgent

EXEMPT ITEMS

(At the time of preparing the agenda there were no exempt items. During any such items which may arise the meeting is likely NOT to be open to the public)

At the end of the public session, Members of the Committee should remain in the meeting room for 20 minutes for summing up

Peter Sass
Head of Democratic Services
(01622) 694002

Monday, 3 March 2014

This page is intentionally left blank

KENT COUNTY COUNCIL

KENT FLOOD RISK MANAGEMENT COMMITTEE

MINUTES of a meeting of the Kent Flood Risk Management Committee held in the Council Chamber, Sessions House, County Hall, Maidstone on Monday, 18 November 2013.

PRESENT: Mr M J Harrison (Chairman), Mr A H T Bowles, Dr M R Eddy, Mr G Lymer (Substitute for Mrs P A V Stockell), Mr B E MacDowall, Mr L B Ridings, MBE and Mr M J Vye

IN ATTENDANCE: Mr M Tant (Flood Risk Manager), Ms B Buntine (Sustainable Drainage Engineer), Mr T Harwood (Senior Emergency Planning Officer), Mr M Salisbury (Emergency Planning Team Leader) and Mr A Tait (Democratic Services Officer)

ALSO IN ATTENDANCE: Mrs J Blanford (Ashford BC), Mr J Muckle (Dartford BC), Mr J Scholey (Sevenoaks DC), Mr A Hills (Shepway DC), Mr G Lewin (Swale BC), Mr H Rogers (Tonbridge and Malling BC), Mr D Elliott Tunbridge Wells BC) and Mr L Cooke (Romney Marshes Area IDB)

UNRESTRICTED ITEMS

10. Minutes of the meeting on 22 July 2013

(Item 3)

RESOLVED that subject to some minor textual amendments, the Minutes of the meeting held on 22 July 2013 are correctly recorded and that they be signed by the Chairman.

11. Dates of meetings in 2014

(Item 4)

(1) The Committee agreed the following meeting dates in 2014:-

- (a) Tuesday, 11 March 2014;
- (b) Monday, 21 July 2014;
- (c) Monday, 17 November 2014.

(2) The Committee agreed in principle to Mr Tant's proposal that its March meeting should encompass a tour of the Hothfield Flood Storage reservoir, the restoration works on the Great Stour at Godinton Park, and the drainage at Singleton Hill. As these sites were all in Ashford, the Committee meeting itself would be held in a suitable venue in the neighbourhood.

12. East Coast Flooding Update

(Item 5)

(1) Mr Mark Salisbury (Emergency Planning Team Manager) began his presentation by setting the background. Kent's coastline was some 525 km in length.

Tidal and coastal flooding was a key risk for the Kent region. January 2013 had seen the 60th anniversary of the East Kent Flood which had killed over 300 people in the UK whilst affecting a great number of homes, leading to large scale evacuations. Some 46,000 farm animals had also died as a consequence of this event and the overall estimated cost had been between £40k and 50k. This would equate to £5 billion if the same event were to be repeated today.

(2) Mr Salisbury went on to say that coastal flooding continued to be a “tier one risk” which required a co-ordinated and resilient response across a large number of Local Resilience Forums (LRF) with the ability to co-ordinate national resources.

(3) Mr Salisbury stressed the need for timely and accurate weather predictions as well as other intelligence which would inform the decision-making process and the co-ordination of national resources where they were most needed. A crucial aspect of local preparation work was the ability to warn the general public, complementing the prior work of increasing its understanding of what should be done in the event of an emergency. To this end, a multi-partnership Information Group was in operation, chaired by Mr Salisbury himself.

(4) Mr Salisbury moved on to describe the national threat. An East Coast Flood (ECF) event had a 0.5% chance of occurring between September and April in any given year. It had been estimated that such an event could lead nationally to up to 400 fatalities and 11,000 injured with some 297,000 residents affected (of whom about 20% would be likely to require assistance with evacuation). It was anticipated that 357,000 buildings would be affected, including 224,000 residential properties. The overall cost of damage to property would be over £23 billion. People would be stranded over a large area with 11,000 people in need of rescue or assistance over a 36 hour period. A further 107,000 people in caravan and camping sites would be affected during the high season, together with nearly 5,000 km of roads and 423 bridges and fords.

(5) Mr Salisbury then said that there would be five broad phases in the management of a major ECF event. These would be Early Warning (Kent would receive 5 days warning); an Assessment phase; a preparedness phase; the Impact itself; and the Recovery phase.

(6) Mr Salisbury turned to the question of Kent’s preparedness for an ECF event. He said that 200 people had attended the East Coast Flooding Workshop in April 2013. These had included Emergency Planning Officers from KCC and representatives from the District authorities.

(7) The Environment Agency had developed flood data and mapping to support the planning for evacuation and critical infrastructure in an ECF event which would affect some 12,500 properties in areas such as Dartford; the Thames Estuary; the Isle of Sheppey, Faversham, Graveney Marshes, Seasalter and Swalecliffe; the Sandwich, Deal, Romney Marsh area; and (indirectly) Dover Port. This did not include mobile homes of which there were 10,000 in Shepway District alone.

(8) Mr Salisbury outlined the next steps. The Kent Resilience Forum would be involved in a joint exercise with the Essex Resilience Forum in January 2014 to test ECF preparedness. Meanwhile the KRF Public Warning and Informing Group had produced a public booklet entitled "Are You Ready." This was due to be launched in January 2014. It would be sent to every household with e.versions being placed on the KCC and all District Council websites.

(9) Dr Eddy noted that the next steps were due to take place in January 2014. He asked how prepared the county would be if an ECF event were to happen before then. Mr Salisbury replied that an East Coast Flood surge inundation would happen between the months of April and September. Kent had only recently been identified as an area at risk. The steps described demonstrated that the risk of an ECF event was now being taken very seriously at a national level.

(10) The Committee asked for feedback at its next meeting from the joint exercise with the Essex Resilience Forum, and from the bespoke Dft/Defra ECF workshop.

(11) RESOLVED that:-

- (a) the potential level of the threat that an East Coast tidal surge could pose to the communities, infrastructure, environment and economy of Kent be noted; and
- (b) the KCC and wider-partnership approach be endorsed as outlined in the report.

13. Environment Agency Flood Alerts and Warnings and KCC Flood Response activities since the last meeting

(Item 6)

(1) Mr Harwood said that there had been 38 flood alerts in Kent between the months of January and October 2012. The overall figure for 2012 had been 87. This demonstrated that the winter months were by far the most concentrated time for such events. The total figure for flood alerts up to this point in 2013 was 40.

(2) Mr Harwood then said that work with other agencies had continued to take place and that overall resilience was improving.

(3) Mr Harwood referred to the East Kent tidal surge on 10 October 2013 which had triggered a high state of readiness and multi-agency liaison but had not led to a Severe Weather Warning because its occurrence had not conflicted with high tides.

(4) The St Jude's Day storm on 28 October 2013 had caused power outages which had led to a need to put humanitarian support interventions in place.

(5) In response to a question from Mr Vye, Mr Harwood said that early warnings of Severe Weather were usually received 4 to 5 days before the event occurred. This enabled the necessary planning to be put in place. It was essential that public warning and information and evacuation measures avoided generating any unnecessary panic.

(6) Mr Harwood then said that flood risk response planning was focussed on the less well defended areas, rather than areas with robust coastal defence structures, which he described as “superb.” He also explained that if a breach of the flood defence structures should occur during a flood event, a dynamic approach to evacuation and temporary repair would be expedited.

(7) The Committee asked whether future reports on this matter could display the statistical information in tabular form.

(8) RESOLVED that the level of alerts received since the last meeting of the Committee be noted together with the need for sustained vigilance in the light of recent rainfall and forecast unsettled weather conditions.

14. Flood and Water Management Act and Sustainable Drainage

(Item 7)

(1) Ms Buntine gave a presentation on KCC’s responsibilities under Schedule 3 of the Flood and Water Management Act and its future duties in respect of Sustainable Drainage approval. She said that the law, once commenced, set out that construction work with drainage implications could not be commenced unless a drainage system for the work had been approved by the approving body (in this case KCC). The approving body (SAB) had to grant permission if it was satisfied that the drainage system complied with National Standards for sustainable drainage.

(2) Ms Buntine explained that sustainable drainage elements could be landscaped or hard-engineered, and that they aimed to mimic natural processes.

(3) Ms Buntine turned to the drainage approval process, which began with pre-application consultation before an application either to the Local Planning Committee or, directly, to the SAB. The drainage approval process ran parallel to and independently of the planning process.

(4) Mr Scholey asked how much consultation had taken place between KCC and the District planning authorities in respect of the arrangements. He also asked for clarification on whether a District planning authority could decide to reject the SAB’s advice in respect of planning applications. Ms Buntine replied that it was acceptable for a planning authority to disregard the SAB’s advice when determining a planning application, given that the SAB was a statutory consultee to the planning process. It remained the case that the SAB would exercise its role in respect of the drainage approval process.

(5) Ms Buntine then considered the role of SABs in detail. Their first task was to respond to pre-consultation by assessing applications against a number of principles designed to ensure that surface runoff was managed both on the surface and at its

source wherever it was practical and affordable. These principles were assessed against the criteria of drainage hierarchy, peak flow rate and volume, water quality and function. The second task was to ensure compliance with national standards by issuing technical approvals and carrying out adoption inspections. Lastly, they would adopt specific SuDS and carry out ongoing maintenance.

(6) Ms Buntine briefly set out the roles of the various KCC Departments in delivering the SAB role and then explained the financial implications. It was intended that the role would be self-funding through application fees and inspection costs. There remained, however, a lack of clarity over maintenance cost recovery.

(7) Ms Buntine described the Defra implementation timetable which would culminate with the legislation being laid before Parliament in January 2014 with the intention of commencing in April 2014. KCC would undertake a series of District workshops in the New Year. SuDS would be promoted through pre-application advice and workshops with developers.

(8) Ms Buntine summed up her presentation by saying that the Flood and Water Management Act 2010 gave KCC a statutory duty to approve, and in certain circumstances, adopt and maintain drainage systems for new developments. KCC already had a strong skill set in flood management and drainage which would be built upon to deliver the SAB role. It was expected that the SAB would be self-funding through pre-application charges, application fees and maintenance fees, although the charging and fee structure had not been fully announced by Defra.

(9) Dr Eddy asked how the establishment of SABs would link with the work of local district planning authorities and whether there was a danger that local knowledge of drainage conditions would be undermined by national standards. Ms Buntine replied that SABs would need to carefully explain their needs and expectations to local planners. At the same time, they would need to ensure that local knowledge was fully taken into account. The Act did not specify that planning authorities needed to be consulted, but she considered it to be fundamental that they were.

(10) In response to a question from Mr Vye, Ms Buntine confirmed that there was an ability to appeal against a SAB decision.

(11) Ms Buntine replied to a question from Mr Muckle by explaining that implementation would be phased, starting with major applications for more than 10 homes or greater than 0.5 ha, moving to minor and permitted developments over 100m² in size after three years.

(12) Ms Buntine agreed with Mr Scholey's comment that elected members from District Councils needed to be included in the consultation process. She agreed that KCC should consider the option of offering to give presentations at or before District Council Planning meetings.

(13) Mr Rogers commented that there would be a great deal of duplication of roles as Planning Committees already had the responsibility of considering drainage implications. He noted that KCC had the option of delegating the role to another public body and asked why this option had not found favour. Ms Buntine replied that although the function could be delegated, this did not apply to the actual

responsibility. Consequently, there would need to be oversight. Mr Tant added that only one of Kent's Districts had indicated that it had the capacity to take these duties on.

(14) Mr Hills commented that he did not believe that the Districts and IDBs had sufficient manpower to fully carry out this new responsibility. He considered that standards and consistency would best be maintained if KCC as the only Kent-wide authority carried out the role.

(15) Mr Cooke said that the IDBs wished to be consulted not only for proposed developments in their own areas but also for those in their wider catchment areas.

(16) Mr Lewin said that it was important to have service levels defined within a memorandum or service agreements in order to ensure a clear communication channel between the District authorities and the SAB. This would ameliorate the risk of the local planning authorities seeing some of their spatial planning powers eroded, whilst also enabling effective consultation during the preparation and review of Local Plans.

(17) RESOLVED that KCC's new responsibilities under Schedule 3 of the Flood and Water Management Act with respect to Sustainable Drainage approval be noted, together with comments made during consideration of this matter.

To: Kent Flood Risk Management Committee – 11 March 2014

From: Michael Hill, Cabinet Member, Customer and Communities

Subject: Environment Agency Flood Alerts and Warnings and KCC flood response activity since last meeting.

Classification: Unrestricted

Summary: To update Kent Flood Risk Management Committee on Environment Agency Flood Alerts and Warnings and KCC flood response activity since the last meeting of the Committee on 18th November 2013. Members are requested to note this report.

1. Background

1.1 KCC Emergency Planning and the Call Centre receive Environment Agency Flood Alerts and Warnings by e-mail and fax on a 24 hour 7 days a week basis. Impacts upon communities, infra-structure and the wider environment are assessed and a response mobilised as required.

1.2 Some 70,000 properties in Kent are located within areas at risk of fluvial or tidal flooding. Where practically possible, these properties are offered a Flood Warning Service by the Environment Agency. However, other parts of the county are also potentially vulnerable to surface or ground water flooding. Early warning of flood risk to communities (including areas outside of floodplains) is delivered through Flood Guidance Statements, Severe Weather Warnings and Severe Weather Advisory Group.

1.3 Environment Agency Flood Alerts are issued earlier than a Flood Warning, to provide advance notice of the possibility of flooding. Rivers levels will be high, and flooding of low lying land and roads is possible. Tidal Flood Alerts will correspond with high tides, and/or significant waves, with some spray overtopping and flooding of low lying land and roads possible. Property flooding is not expected, but the Alert does serve as an early warning, and may precede Flood Warnings. The Flood Alert is issued in order that the public, the emergency services, local authorities and other bodies are aware of an increasing chance of flooding and take appropriate preparatory action.

1.4 Flood Warnings are used to warn that flooding of property is expected and that immediate action should be taken to protect life and property. They are issued when flooding of homes and businesses is expected. The Environment Agency aim to issue Flood Warnings at least two hours before the onset of an event where property is at risk of flooding.

1.5 Severe Flood Warnings are issued to warn of significant risk to life or disruption to the community from widespread or prolonged flooding. Property owners, the public at risk, the emergency services, and local authorities should act to protect life and property. This is likely to involve an enhanced response and the commitment of significant resource, in terms of personnel, assets and expenditure.

Wherever possible, the decision to issue a Severe Flood Warning will be taken in consultation with multi-agency partners.

2. Latest situation

2.1 Reference in the last update report to Kent Flood Risk Management Committee to a need to maintain vigilance in response to a growing flood risk has clearly borne-out by events. Since that meeting on 18th November 2013 a total of 63 Flood Alerts, 41 Flood Warnings and 5 Severe Flood Warnings were issued¹.

2.2 In addition 87 Severe Weather Warnings covering Kent were issued by the Met Office (including 58 for heavy rain)².

2.3 The Thames Barrier was closed for flood defence purposes on 49 occasions.

2.4 A total of 66 flooding related incidents were reported to the 24/7 KCC Emergency Planning Duty Officer over the same period, encompassing fluvial, ground and surface water flooding, subsidence and reservoir safety interventions.

3. Next Steps

3.1 KCC is leading the ongoing recovery phase for recent storm and flood events, working with a range public and private sector partners.

3.2 Groundwater flooding continues to impact upon communities in areas of east and north west Kent, where KCC maintains an operational response.

3.3 A multi-agency debrief meeting to address the winter 2013/14 storms and flooding is scheduled for 21st March.

3.4 A review of the KCC response to the recent severe weather is underway, led by the Emergency Planning Manager, with a report to be presented to Cabinet in May, and the Kent Flood Risk Management Committee in July.

4. Recommendations

4.1 That Members:

- Note the level of alerts received since the last meeting of the Kent Flood Risk Management Committee; and
- Contribute any additional matters arising from debate by the Committee.

Tony Harwood, Senior Emergency Planning Officer, Customer & Communities
01622 694806 / tony.harwood@kent.gov.uk

Background documents: None

¹ please see appendix 1

² please see appendix 2

Appendix 1

Environment Agency Flood Alerts and Warnings (18th November 2013 – 03 March 2014)

REGISTER OF ALERTS - 2013						Click here for instructions				
Serial No:	Area	Day received	Date received	Time received	Date issued (if different)	Alert?	Warning?	Severe Warning?	Date All Clear	Staff Involved
204	Coast from Dartford to Allhallows	Wednesday	04/12/2013	17:03		X			06/12/2013	TH
222	Tidal Medway, Swale and coastal Isle of Sheppey	Wednesday	04/12/2013	17:10		X			06/12/2013	TH
223	Coast from Seasalter to Margate	Wednesday	04/12/2013	17:15		X			06/12/2013	TH
224	Coast from Pegwell Bay to Deal	Wednesday	04/12/2013	17:22		X			06/12/2013	TH
225	Coast from Sandgate to Dungeness	Wednesday	04/12/2013	17:30		X			06/12/2013	TH
226	Coast from Fairlight to Dungeness	Wednesday	04/12/2013	17:35		X			06/12/2013	TH
227	The Quay, Sandwich	Wednesday	04/12/2013	17:44				X	06/12/2013	TH
228	Coast from Pegwell Bay to Deal	Wednesday	04/12/2013	18:29			X		06/12/2013	TH
229	Ash Level, Minster Marsh and Stodmarsh	Wednesday	04/12/2013	18:39			X		06/12/2013	TH
230	Grove Ferry and Plucks Gutter	Wednesday	04/12/2013	18:40			X		06/12/2013	TH
231	Sandwich	Wednesday	04/12/2013	18:58			X		06/12/2013	TH
232	Pfizer site	Wednesday	04/12/2013	19:04			X		06/12/2013	TH
233	Properties seaward of tidal defences in Gravesend, Denton and	Wednesday	04/12/2013	19:21			X		06/12/2013	TH
234	Sandwich	Thursday	05/12/2013	14:13				X	06/12/2013	TH
235	Coast from Higham Marshes to Seasalter	Thursday	05/12/2013	14:22				X	06/12/2013	TH
236	Properties seaward of tidal defences in Gravesend, Denton and	Thursday	05/12/2013	14:27				X	06/12/2013	TH
237	Pfizer site	Thursday	05/12/2013	20:21				X	06/12/2013	TH
254	Rivers on the Isle of Sheppey	Tuesday	17/12/2013	06:20		X			17/12/2013	TH
257	River Darent	Wednesday	18/12/2013	16:56		X			19/12/2013	RE
258	Rivers Eden and Eden Brook	Wednesday	18/12/2013	17:00		X			28/12/2013	RE
259	Upper Stour Area	Wednesday	18/12/2013	17:05		X			19/12/2013	RE
260	River Bourne Area	Wednesday	18/12/2013	17:09		X			19/12/2013	RE
261	Rivers on the Isle of Sheppey	Wednesday	18/12/2013	17:12		X			20/12/2013	RE
262	River Rother Area	Wednesday	18/12/2013	19:31		X			20/12/2013	RE
263	Upper Medway Area	Thursday	19/12/2013	15:03		X			20/12/2013	RE
264	River Beult Area	Thursday	19/12/2013	15:06		X			20/12/2013	RE
265	Upper Stour Area	Saturday	21/12/2013	16:15		X			28/12/2013	RE
266	River Bourne Area	Saturday	21/12/2013	17:13		X			25/12/2013	RE
267	Lower River Medway Area	Saturday	21/12/2013	18:54		X			28/12/2013	RE
268	River Beult Area	Saturday	21/12/2013	21:02		X			28/12/2013	RE
269	River Teise Area for Lamberhurst and Goudhurst	Monday	23/12/2013	11:36		X			27/02/2013	TH
270	River Teise and Lesser Teise Area from Horsemonden to Yalding	Monday	23/12/2013	11:46		X			28/12/2013	TH
271	Rivers on the Isle of Sheppey	Monday	23/12/2013	11:58		X			28/12/2013	TH
272	Plenty, Swalecliffe and West Brooks Area	Monday	23/12/2013	12:08		X			28/12/2013	TH
273	Middle River Medway Area	Monday	23/12/2013	12:11		X			07/01/2013	TH
274	Lower River Stour Area	Monday	23/12/2013	12:18		X			28/12/2013	TH

274	Lower River Stour Area	Monday	23/12/2013	12:18		X		28/12/2013	TH
275	River Bourne between Hadlow and East Peckham	Monday	23/12/2013	15:26			X	25/12/2013	TH
276	River Medway between Forest Row and Penshurst	Monday	23/12/2013	15:33			X	28/12/2013	TH
277	River Beult from Pluckley and Bethersden to Hampstead Lock	Monday	23/12/2013	15:40			X	28/12/2013	TH
278	Rivers Eden and Eden Brook from Crowhurst and Blindley Heath to	Monday	23/12/2013	16:44			X	27/12/2013	TH
279	Properties on the Teise in Lamberhurst and Goudhurst	Monday	23/12/2013	17:45			X	27/12/2013	TH
280	River Teise between Horsemonden and Yalding	Monday	23/12/2013	18:03			X	28/12/2013	TH
281	Shuttle and Cray catchments	Monday	23/12/2013	21:48			X	28/12/2013	TH
282	River Darent from Westerham to Sevenoaks	Tuesday	24/12/2013	03:10			X	25/12/2013	TH
283	River Darent from Otford to Darenth	Tuesday	24/12/2013	03:17			X	27/12/2013	TH
284	River Cray in St. Mary's Cray, Sidcup, Bexley and Crayford	Tuesday	24/12/2013	04:05			X	25/12/2013	TH
285	River Medway between Hampstead Lock and Allington Lock	Tuesday	24/12/2013	06:21			X	07/01/2014	TH
286	River Medway between Leigh Barrier and Tonbridge	Tuesday	24/12/2013	10:09			X	28/12/2013	TH
287	River Medway between Tonbridge and Hampstead Lock	Tuesday	24/12/2013	10:17			X	28/12/2013	TH
288	Great Stour between Ashford and Fordwich	Tuesday	24/12/2013	11:04			X	29/12/2013	TH
289	River Darent at Dartford Trade Park, Brooklands and Dartford to the Thames Estuary	Wednesday	25/12/2013	01:25			X	27/12/2013	TH
290	Great Stour between Ashford and Fordwich	Wednesday	25/12/2013	07:26			X	28/12/2013	TH
291	River Medway between Hampstead Lock and Allington Lock	Wednesday	25/12/2013	09:21			X	28/12/2013	TH
292	Fordwich and Sturry	Wednesday	25/12/2013	15:04			X	29/12/2013	TH
293	Tidal River Medway from Allington to Cuxton	Wednesday	25/12/2013	15:28			X	25/12/2013	TH
294	Rivers Eden, Eden Brook and Kent Ditch from Blindley Heath to Penshurst including Edenbridge and Hever	Sunday	29/12/2013	16:15		X		07/01/2014	TH

REGISTER OF ALERTS - 2014										
Serial No:	Area	Day received	Date received	Time received	Date issued (if different)	Alert?	Warning?	Severe Warning?	Date All Clear	Staff Involved
							Click here	for instructions		
1	Lower River Stour Area	Wednesday	01/01/2014	09:26		X			09/01/2014	TH
2	Upper River Stour Area	Wednesday	01/01/2014	09:30		X			09/01/2014	TH
3	Upper River Medway Area	Wednesday	01/01/2014	09:33		X			09/01/2014	TH
4	Rivers on the Isle of Sheppey	Wednesday	01/01/2014	09:45		X			09/01/2014	TH
5	Darent Catchment	Wednesday	01/01/2014	10:00		X			15/01/2014	TH
6	River Bourne Area	Wednesday	01/01/2014	10:05		X			07/01/2014	TH
32	Hamstreet Arm Area	Wednesday	01/01/2014	15:13		X			04/01/2014	TH
33	Plenty, Swalecliffe and West Brooks Area	Wednesday	01/01/2014	15:26		X			04/01/2014	TH
34	River Medway between Hampstead Lock and Allington Lock	Wednesday	02/01/2014	00:24			X		08/01/2014	TH
35	River Beult from Pluckley and Bethersden to Hampstead Lock	Thursday	02/01/2014	03:09			X		08/01/2014	TH
36	Coast from Sandgate to Dungeness	Friday	03/01/2014	08:49		X			04/01/2014	TH
37	Coast from Fairlight to Dungeness including the Tidal Rother	Friday	03/01/2014	09:26		X			04/01/2014	TH
38	New Romney Sewer Arm	Friday	03/01/2014	17:12		X			04/01/2014	TH
39	Plenty, Swalecliffe and West Brooks Area	Sunday	05/01/2014	17:27		X			09/01/2014	TH
40	Hamstreet Arm Area	Sunday	05/01/2014	17:32		X			08/01/2014	TH
41	River Bourne Area	Monday	06/01/2014	18:34			X		09/01/2014	TH
42	River Medway between Forest Row and Penshurst	Monday	06/01/2014	18:47			X		07/01/2014	TH
43	Rivers Eden and Eden Brook from Crowhurst and Blindley Heath to	Monday	06/01/2014	19:00			X		09/01/2014	TH
44	Shuttle and Cray Catchments	Monday	06/01/2014	19:13			X		07/01/2014	TH
45	River Medway between Penshurst and the Leigh Barrier	Monday	06/01/2014	21:11			X		07/01/2014	TH
48	Grove Ferry to Plucks Gutter	Friday	03/01/2014	10:53			X		09/01/2014	TH
55	Groundwater Flooding in the Nailbourne Catchment	Tuesday	14/01/2014	16:22		X				TH
56	Little Stour and River Wingham Area	Wednesday	15/01/2014	15:24		X				TH
57	Lower River Stour Area	Wednesday	15/01/2014	17:36		X			19/01/2014	TH
58	River Darent from Westerham to Sevenoaks	Friday	17/01/2014	07:08			X		18/01/2014	TH
59	Upper River Medway Area	Friday	17/01/2014	07:14		X			18/01/2014	TH
60	River Bourne Area	Friday	17/01/2014	07:19		X			18/01/2014	TH
61	Rivers Eden & Eden Brook from Crowhurst and Blindley Heath to	Friday	17/01/2014	07:26			X		18/01/2014	TH
62	Darent Catchment	Friday	17/01/2014	07:38		X			21/01/2014	TH
63	Rivers Eden & Eden Brook Area	Friday	17/01/2014	07:42		X			19/01/2014	TH
64	River Beult Area	Friday	17/01/2014	07:42		X			19/01/2014	TH
65	River Darent from Otford to Darenth	Friday	17/01/2014	09:23			X		19/01/2014	TH
66	Grove Ferry and Plucks Gutter	Friday	17/01/2014	10:41			X		18/01/2014	TH
67	Rivers on the Isle of Sheppey	Friday	17/01/2014	13:34		X			18/01/2014	TH
68	River Bourne between Hadlow and East Peckham	Friday	17/01/2014	14:32			X		19/01/2014	TH
79	Middle River Medway Area	Friday	17/01/2014	21:21		X			20/01/2014	TH

80	River Darent at Dartford Trade Park, Brooklands and Dartford to the	Friday	17/01/2014	22:36			X	19/01/2014	TH
85	River Rother Area	Tuesday	28/01/2014	17:00		X		02/02/2014	TH, FG
86	Upper River Stour Area	Tuesday	28/01/2014	17:14		X		20/02/2014	TH
87	Plenty, Swalecliffe and West Brooks Area	Tuesday	28/01/2014	17:24		X		02/02/2014	TH, FG
88	River Beult Area	Wednesday	29/01/2014	07:03		X		10/02/2014	TH
89	Upper River Medway Area	Wednesday	29/01/2014	07:19		X		02/02/2014	TH, FG
90	Rivers Eden and Eden Brook from Crowhurst and Blindley Heath to	Wednesday	29/01/2014	07:27		X		02/02/2014	TH, FG
91	Lower River Medway Area	Wednesday	29/01/2014	07:35		X		17/02/2014	TH
95	Lower River Stour Area	Wednesday	29/01/2014	09:01		X		20/02/2014	TH
96	River Darent from Westerham to Dartford	Wednesday	29/01/2014	10:02		X		02/02/2014	FG
97	River Teise from Lamberhurst to Goudhurst	Wednesday	29/01/2014	10:14		X		07/02/2014	FG
98	River Bourne from Hadlow to East Peckham	Wednesday	29/01/2014	10:53		X		02/02/2014	FG
99	River Medway from Penshurst to Hampstead Lock	Wednesday	29/01/2014	15:28		X		03/02/2014	FG
104	River Beult from Pluckley and Bethersden to Hampstead Lock	Thursday	30/01/2014	10:33			X	17/02/2014	TH
105	River Teise and Lesser Teise Area from Horsmonden to Yalding	Thursday	30/01/2014	11:52		X		10/02/2014	TH
108	Nailbourne and River Stour between Lyminge and Stourmouth	Thursday	30/01/2014	17:42			X	10/02/2014	FG
110	River Medway from Hampstead Lock to Allington	Thursday	30/01/2014	20:45			X	10/02/2014	FG, RW
111	Grove Ferry and Plucks Gutter	Friday	31/01/2014	09:30			X	21/02/2014	FG
112	Coast from Sandgate to Dungeness	Friday	31/01/2014	16:13		X		02/02/2014	FG
113	Coast: Fairlight in Dungeness including Tidal Rother	Friday	31/01/2014	16:22		X		02/02/2014	FG
115	River Teise in Lamberhurst and Goudhurst	Friday	31/01/2014	19:34			X	01/02/2014	FG
116	Great Stour between Ashford and Fordwich	Friday	31/01/2014	20:05			X	10/02/2014	FG, TH
117	Swalecliffe Brook	Friday	31/01/2014	21:48			X	01/02/2014	FG
118	River Bourne between Hadlow and East Peckham	Friday	31/01/2014	22:58			X	01/02/2014	FG
119	West Brook	Friday	31/01/2014	21:59			X	01/02/2014	FG
120	River Darent from Otford to Darenth	Friday	31/01/2014	23:11			X	02/02/2014	FG
122	Rivers Eden and Eden Brook from Crowhurst and Blindley Heath to	Saturday	01/02/2014	00:01			X	02/02/2014	FG
125	Fordwich and Sturry	Saturday	01/02/2014	08:19			X	05/02/2014	FG, TH
129	River Darent at Dartford Trade Park, Brooklands and Dartford to the	Saturday	01/02/2014	19:29			X	20/02/2014	TH
133	Ash Level, Minster Marsh and Stodmarsh communities	Monday	03/02/2014	11:42			X	21/02/2014	TH
139	Rivers Eden & Eden Brook Area	Wednesday	05/02/2014	06:03		X		15/02/2014	TH
140	Upper River Medway Area	Wednesday	05/02/2014	06:03		X		16/02/2014	TH
150	Upper River Stour Area	Wednesday	05/02/2014	19:08		X		18/02/2014	TH
155	River Rother Area	Thursday	06/02/2014	10:12		X		16/02/2014	TH
156	River Teise Area from Lamberhurst to Goudhurst	Thursday	06/02/2014	10:37		X		07/02/2014	TH

157	River Bourne Area.	Thursday	06/02/2014	10:48		X		16/02/2014	TH
158	Shuttle and Cray Catchments	Thursday	06/02/2014	10:55		X		08/02/2014	TH
159	Hamstreet Arm Area	Thursday	06/02/2014	11:13		X		08/02/2014	TH
160	Plenty, Swalecliffe and West Brooks Area	Thursday	06/02/2014	11:33		X		08/02/2014	TH
161	Rivers on the Isle of Sheppey	Thursday	06/02/2014	11:57		X		08/02/2014	GS
162	River Darent from Westerham to Sevenoaks	Thursday	06/02/2014	15:12			X	20/02/2014	GS
163	Nailbourne and River Stour between Lyminge and Stourmouth	Thursday	06/02/2014	16:07			X	07/02/2014	GS, TH
164	River Medway between Forest Row and Penshurst	Thursday	06/02/2014	16:14			X	07/02/2014	GS
165	The River Darent from Otford to Darenth	Thursday	06/02/2014	17:02			X	08/02/2014	GS
166	River Medway between Forest Row and Penshurst	Thursday	06/02/2014	16:15			X	10/02/2014	TH
167	River Darent from Otford to Darenth	Thursday	06/02/2014	17:73			X	20/02/2014	TH
168	River Beult from Pluckley and Bethersden to Hampstead Lock	Thursday	06/02/2014	18:27			X	10/02/2014	TH
169	River Teise and Lesser Teise between Horsmonden and Yalding	Thursday	06/02/2014	20:37			X	10/02/2014	TH
170	River Medway between the Leigh Barrier and Tonbridge	Thursday	06/02/2014	21:00			X	07/02/2014	TH
171	River Medway between Tonbridge and Hampstead Lock	Thursday	06/02/2014	21:14			X	10/02/2014	TH
172	River Bourne between Hadlow and East Peckham	Thursday	06/02/2014	22:03			X	07/02/2014	TH
173	Aylesford Stream between Hinxhill and Ashford	Thursday	06/02/2014	22:18			X	07/02/2014	TH
184	Great Stour between Fordwich and Sturry	Friday	07/02/2014	19:21			X	17/02/2014	TH
185	Great Stour between Ashford and Fordwich	Friday	07/02/2014	20:13			X	17/02/1900	TH
209	Plenty, Swalecliffe and West Brooks Area	Wednesday	12/02/2014	10:31		X		16/02/2014	TH
217	Great Stour between Ashford and Fordwich	Wednesday	12/02/2014	21:47			X	18/02/2014	TH
222	River Teise and Lesser Teise between Horsmonden and Yalding	Friday	14/02/2014	08:08			X	15/02/2014	TH
224	Properties on the Teise in Lamberhurst and Goudhurst	Friday	14/02/2014	11:59			X	15/02/2014	TH
225	River Bourne between Hadlow and East Peckham	Friday	14/02/2014	12:07			X	15/02/2014	TH
226	River East Stour between Sellindge and Ashford	Friday	14/02/2014	12:24			X	17/02/2014	TH
227	River Beult from Pluckley and Bethersden to Hampstead Lock	Friday	14/02/2014	12:35			X	15/02/2014	TH
228	Coast from Sandgate to Dungeness	Friday	14/02/2014	13:49		X		15/02/2014	TH
229	Coast from Fairlight to Dungeness including the Tidal Rother	Friday	14/02/2014	13:53		X		15/02/2014	TH
230	The North and South Streams from Eastry and Northbourne to the East of Sandwich, including Finglesham and Hacklinge	Sunday	16/02/2014	15:06		X		19/02/2014	TH
235	New Romney Sewage Arm Area	Sunday	16/02/2014	15:42		X		17/02/2014	TH
236	Grove Ferry and Plucks Gutter.	Friday	28/02/2014	23:55			X		SS
317	Coast from Fairlight to Dungeness including the Tidal Rother.	Sunday	02/03/2014	08:06		X			SS
321	Coast from Sandgate to Dungeness	Sunday	02/03/2014	08:06		X			SS

Appendix 2

Met Office Severe Weather Warnings (18th November – 03 March 2014)

REGISTER OF ALERTS - 2013					
Serial No:	Day received	Date received	Date issued (if different)	Staff Involved	Description
214	Tuesday	03/12/2013		TH	Flood Guidance Statement: Yellow Coastal Flood Warning covering Friday 6th December (issued at 10:30). SWAG called for 4th December at 11:30.
215	Wednesday	04/12/2013		TH	Flood Guidance Statement: Yellow Coastal Flood Warning covering Friday 6th December (issued at 07:30). SWAG called for 4th December at 11:30.
216	Wednesday	04/12/2013		TH	Flood Guidance Statement: Amber Coastal Flood Warning covering Friday 6th December (issued at 14:30).
217	Thursday	05/12/2013		TH	Flood Guidance Statement: Amber Coastal Flood Warning covering Friday 6th December (issued at 10:30).
218	Thursday	05/12/2013		TH	Flood Guidance Statement: Red Coastal Flood Warning covering Friday 6th December (issued at 14:30)
219	Thursday	05/12/2013		TH	Yellow Warning of Wind for London & South East England : Kent valid from 1600 Thursday 05 December to 1200 Friday 06 December
220	Thursday	05/12/2013		TH	Flood Guidance Statement: Red Coastal Flood Warning covering Friday 6th December (issued at 21:30)
221	Friday	06/12/2013		TH	Flood Guidance Statement: Red Coastal Flood Warning covering Friday 6th December (issued at 07:30)
294	Monday	23/12/2013		TH	Amber warning of rain for southern England and Wales covering 11:45 on Mon 23rd December until 06:00 on Tue 24th December
310	Wednesday	04/12/2013		TH	Yellow Warning of Wind for London & South East England from 0200 Thu 05 Dec to 1600 Thu 05 Dec
311	Friday	20/12/2013		TH	Yellow Alert of Wind for London & South East England from 0600 Mon 23 Dec to 1200 Tue 24 Dec
312	Friday	20/12/2013		TH	Yellow Warning of Rain for London & South East England from 1800 Fri 20 Dec to 1500 Sat 21 Dec
313	Friday	20/12/2013		TH	Yellow Alert of Wind for London & South East England from 0600 Mon 23 Dec to 2359 Tue 24 Dec
314	Friday	20/12/2013		TH	Yellow Alert of Rain for London & South East England from 0600 Mon 23 Dec to 1200 Tue 24 Dec
315	Saturday	21/12/2013		TH	Yellow Alert of Rain for London & South East England from 0900 Mon 23 Dec to 1200 Tue 24 Dec
316	Sunday	22/12/2013		TH	Yellow Warning of Wind for London & South East England from 0800 Mon 23 Dec to 0900 Tue 24 Dec
317	Monday	23/12/2013		TH	Yellow Warning of Wind for London & South East England from 1030 Mon 23 Dec to 2355 Mon 23 Dec
318	Monday	23/12/2013		TH	Amber Warning of Wind for London & South East England from 0005 Tue 24 Dec to 0600 Tue 24 Dec
319	Monday	23/12/2013		TH	Yellow Warning of Rain for London & South East England from 1200 Mon 23 Dec to 0700 Tue 24 Dec
320	Monday	23/12/2013		TH	Yellow Alert of Wind for London & South East England from 0005 Fri 27 Dec to 2359 Fri 27 Dec
321	Monday	23/12/2013		TH	Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 1800 Fri 27 Dec
322	Tuesday	24/12/2013		TH	Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 1800 Fri 27 Dec
323	Wednesday	25/12/2013		TH	Yellow Warning of Rain for London & South East England from 0700 Wed 25 Dec to 0600 Thu 26 Dec
324	Wednesday	25/12/2013		TH	Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 2100 Fri 27 Dec
325	Wednesday	25/12/2013		TH	Yellow Warning of Rain for London & South East England from 0005 Fri 27 Dec to 2100 Fri 27 Dec
326	Saturday	28/12/2013		TH	Yellow Alert of Wind for London & South East England 0005 Mon 30 Dec to 1000 Mon 30 Dec
327	Sunday	29/12/2013		TH	Yellow Warning of Wind for London & South East England from 0005 Mon 30 Dec to 1300 Mon 30 Dec
328	Sunday	29/12/2013		TH	Yellow Alert of Rain for London & South East England from 0600 Wed 01 Jan to 2359 Wed 01 Jan
329	Tuesday	31/12/2013		TH	Yellow Alert of Rain for London & South East England from 0600 Wed 01 Jan to 2359 Wed 01 Jan
330	Tuesday	31/12/2013		TH	Yellow Alert of Rain for London & South East England from 0005 Fri 03 Jan to 2100 Fri 03 Jan
331	Tuesday	31/12/2013		TH	Yellow Warning of Rain for London & South East England from 0600 Wed 01 Jan to 2359 Wed 01 Jan

Met Office Severe Weather Warnings (1st January – 03 March 2014)

REGISTER OF ALERTS - 2014					
Serial No:	Day received	Date received	Date issued (if different)	Staff Involved	Description
94		28/01/2014		TH	Yellow Alert of Rain for London & South East England from 0800 Fri 31 Jan to 0300 Sat 01 Feb
142	Tuesday	04/02/2014		NR	Amber wind warning for Kent 0800 05/02/14 to 1500 05/02/14
143	Wednesday	05/02/2014		NR	Yellow warning of Wind for Kent 0015 05/02/14 to 2200 05/02/14
146	Wednesday	05/02/2014		NR	Yellow Warning of Rain for London & South East England 1200 Thu 06 Feb to 2300 Sat 08 Feb
147	Wednesday	05/02/2014		NR	Amber Warning of Rain for London & South East England from 1500 Thu 06 Feb to 2300 Sat 08 Feb
210	Wednesday	12/02/2014		PL	Amber Warning of Wind for Kent from 1000 Wed 12 Feb to 2350 Wed 12 Feb
253	Tuesday	02/01/2014		TH	Yellow Alert of Rain for London & South East England from 0900 Sun 5 Jan to 2359 Sun 05 Jan
254	Tuesday	02/01/2014		TH	Yellow Warning of Wind for London & South East England from 0005 Fri 03 Jan to 2359 Fri 03 Jan
255	Wednesday	03/01/2014		TH	Yellow Warning of Rain for London & South East England from 1130 Fri 03 Jan to 2359 Fri 03 Jan
256	Wednesday	03/01/2014		TH	Yellow Warning of Rain for London & South East England from 0005 Sat 04 Jan to 1400 Sat 04 Jan
257	Wednesday	03/01/2014		TH	Yellow Warning of Rain for London & South East England from 0900 Sun 05 Jan to 2359 Sun 05 Jan
258	Thursday	04/01/2014		TH	Yellow Warning of Rain for London & South East England from 1130 Sat 04 Jan to 1800 Sat 04 Jan
259	Thursday	04/01/2014		TH	Yellow Warning of Rain for London & South East England from 2245 Sat 04 Jan to 0900 Sun 05 Jan
260	Saturday	06/01/2014		TH	Yellow Warning of Rain for London & South East England from 0840 Mon 06 Jan to 2359 Tue 07 Jan
261	Sunday	07/01/2014		TH	Yellow Warning of Rain for London & South East England from 1800 Mon 06 Jan to 0600 Wed 08 Jan
262	Sunday	07/01/2014		TH	Yellow Warning of Rain for London & South East England from 1100 Tue 07 Jan to 0600 Wed 08 Jan
263	Friday	10/01/2014		TH	Yellow Warning of Ice for London & South East England from 0005 Fri 10 Jan to 0900 Fri 10 Jan
264	Friday	17/01/2014		TH	Yellow Warning of Rain for London & South East England from 0750 Fri 17 Jan to 1400 Fri 17 Jan
265	Thursday	23/01/2014		TH	Yellow Warning of Rain for London & South East England from 0600 Sun 26 Jan to 2345 Sun 26 Jan
266	Monday	27/01/2014		TH	Yellow Warning of Rain for London & South East England from 1800 Sun 26 Jan to 1000 Mon 27 Jan
267	Monday	27/01/2014		TH	Yellow Warning of Rain for London & South East England from 2100 Mon 27 Jan to 2345 Tue 28 Jan
268	Monday	27/01/2014		TH	Yellow Warning of Rain for London & South East England from 2100 Mon 27 Jan to 2345 Tue 28 Jan
269	Tuesday	28/01/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Wed 29 Jan to 2100 Wed 29 Jan
270	Tuesday	28/01/2014		TH	Yellow Warning of Ice for London & South East England from 2100 Wed 29 Jan to 1000 Wed 29 Jan
271	Tuesday	28/01/2014		TH	Yellow Warning of Rain for London & South East England from 1215 Tue 28 Jan to 2345 Tue 28 Jan
272	Thursday	30/01/2014		TH	Yellow Warning of Rain for London & South East England from 1100 Thu 30 Jan to 2345 Thu 30 Jan
273	Thursday	30/01/2014		TH	Yellow Warning of Rain for London & South East England from 0600 Sat 01 Feb to 0600 Sun 02 Feb
274	Saturday	01/02/2014		TH	Yellow Warning of Rain for London & South East England from 1800 Tue 04 Feb to 2300 Wed 05 Feb
275	Saturday	01/02/2014		TH	Yellow Warning of Rain for London & South East England from 1125 Sat 01 Feb to 0300 Sun 02 Feb
276	Saturday	01/02/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Mon 03 Feb to 1800 Mon 03 Feb
277	Sunday	02/02/2014		TH	Yellow Warning of Rain for London & South East England from 1800 Tue 04 Feb to 2300 Wed 05 Feb
278	Monday	03/02/2014		TH	Yellow Warning of Wind for London & South East England from 0005 Wed 05 Feb to 2300 Wed 05 Feb
279	Monday	03/02/2014		TH	Yellow Warning of Rain for London & South East England from 0005 Fri 07 Feb to 1200 Fri 07 Feb
280	Tuesday	04/02/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Sat 08 Feb to 0900 Sat 08 Feb
281	Tuesday	04/02/2014		TH	Yellow Warning of Rain for London & South East England from 1700 Thu 06 Feb to 0800 Fri 07 Feb
282	Monday	03/02/2014		TH	Yellow Warning of Wind for London & South East England from 0005 Wed 05 Feb to 2300 Wed 05 Feb

REGISTER OF ALERTS - 2014

Serial No:	Day received	Date received	Date issued (if different)	Staff Involved	Description
283	Wednesday	05/02/2014		TH	Yellow Warning of Rain for London & South East England from 1200 Thu 06 Feb to 2300 Sat 08 Feb
284	Friday	07/02/2014		TH	Yellow Warning of Wind for London & South East England from 2000 Fri 07 Feb to 0600 Sun 09 Feb
285	Friday	07/02/2014		TH	Yellow Warning of Rain for London & South East England from 2000 Fri 07 Feb to 0600 Sat 08 Feb
286	Friday	07/02/2014		TH	Yellow Warning of Rain for London & South East England from 1900 Fri 07 Feb to 2345 Sat 08 Feb
287	Friday	07/02/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Tue 11 Feb to 2345 Tue 11 Feb
288	Friday	07/02/2014		TH	Yellow Warning of Rain for London & South East England from 1900 Fri 07 Feb to 0600 Sun 09 Feb
289	Saturday	08/02/2014		TH	Yellow Warning of Rain for London & South East England from 1100 Sat 08 Feb to 1200 Sun 09 Feb
290	Saturday	08/02/2014		TH	Yellow Warning of Rain for London & South East England from 1500 Wed 12 Feb to 2345 Wed 12 Feb
291	Sunday	09/02/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Tue 11 Feb to 2345 Tue 11 Feb
292	Sunday	09/02/2014		TH	Yellow Warning of Rain for London & South East England from 1500 Wed 12 Feb to 1200 Thu 13 Feb
293	Sunday	09/02/2014		TH	Yellow Warning of Ice for London & South East England from 2200 Sat 09 Feb to 1000 Mon 10 Feb
294	Monday	10/02/2014		TH	Yellow Warning of Rain for London & South East England from 1500 Fri 14 Feb to 2345 Fri 14 Feb
295	Monday	10/02/2014		TH	Yellow Warning of Rain for London & South East England from 0015 Tue 11 Feb to 1300 Tue 11 Feb
296	Monday	10/02/2014		TH	Yellow Alert of Wind for London & South East England from 1200 Wed 12 Feb to 0600 Thu 13 Feb
297	Monday	10/02/2014		TH	Yellow Alert of Rain for London & South East England from 1000 Wed 12 Feb to 0600 Thu 13 Feb
298	Tuesday	11/02/2014		TH	Yellow Warning of Wind for London & South East England from 1000 Wed 12 Feb to 0300 Thu 13 Feb
299	Tuesday	11/02/2014		TH	Yellow Warning of Rain for London & South East England from 0900 Wed 12 Feb to 2100 Wed 12 Feb
300	Tuesday	11/02/2014		TH	Yellow Warning of Rain for London & South East England from 1500 Fri 14 Feb to 1200 Sat 15 Feb
301	Tuesday	11/02/2014		TH	Yellow Warning of Wind for London & South East England from 1100 Wed 12 Feb to 0700 Thu 13 Feb
302	Wednesday	12/02/2014		TH	Yellow Alert of Wind for London & South East England from 1500 Fri 14 Feb to 1200 Sat 15 Feb
303	Wednesday	12/02/2014		TH	Yellow Alert of Rain for London & South East England from 0600 Fri 14 Feb to 1200 Sat 15 Feb
304	Wednesday	12/02/2014		TH	Yellow Warning of Wind for London & South East England from 1535 Wed 12 Feb to 0500 Thu 13 Feb
305	Wednesday	12/02/2014		TH	Yellow Warning of Ice for London & South East England from 0015 Thu 13 Feb to 0900 Thu 13 Feb
306	Thursday	13/02/2014		TH	Yellow Warning of Rain for London & South East England from 0400 Fri 14 Feb to 0600 Sat 15 Feb
307	Thursday	13/02/2014		TH	Yellow Warning of Wind for London & South East England from 1500 Fri 14 Feb to 1200 Sat 15 Feb
308	Thursday	13/02/2014		TH	Amber Warning of Wind for Kent from 1800 Fri 14 Feb to 1000 Sat 15 Feb
312	Thursday	27/02/2014		TH	Yellow Warning of Snow for London & South East England from 0200 Fri 28 Feb to 1500 Fri 28 Feb

From: David Brazier, Cabinet Member for Transport and Environment
To: Flood Risk Management Committee
Subject: Local Flood Risk Management and the Local Strategy
Classification: **Unrestricted**

Background

Kent County Council adopted the Local Flood Risk Management Strategy (Local Strategy) in June 2013. The Local Strategy sets out objectives for the management of local flood risk (these are risks that arise from surface water, groundwater and ordinary watercourses). As part of the Local Strategy there is a 2013-14 action plan to be delivered; a review and update of that plan was scheduled for year-end.

Now that we are approaching the end of the first action plan it is appropriate to review it and to draft the action plan for 2014-15.

The report included in the appendix provides a summary of progress in 2013-14, a review of the action plan for that year and a draft action plan for, 2014-15.

The report shows that we have made good progress to deliver the 2013-14 action plan. The flood risk management team within Planning and Environment has grown and the team now has more resources and is able to deliver a broad flood risk management service to the county. We have undertaken further surface water management plans across the county and continued to develop good working relationship with our partners to deliver these plans. The report also shows that the recent flooding has raised the profile of flood risk management in the county and raised a number of issues that we will need to address in the next action plan period.

The progress report will be published online.

Delivering the 2014-15 action plan

KCC receives £750k for its flood risk management work under the flood and water management. This is comprised of £490k from revenue support grant from the government and £260k that is included in our local business rate retention settlement. Defra have also told us that we will receive funds to help deliver our new SuDS role that will commence in the next financial year. We are still waiting for Defra to confirm how much this will be and when it will be provided.

This funding is not ring-fenced for flood risk management work. The action plan for 2014-15 has been developed according to the flood risk management funding we receive, as in previous years. If this funding was not allocated for flood risk management KCC would be limited in its ability to deliver its flood risk management role and the proposed action plan for 2014-15.

The delivery of the action plan will also require the continued support of our risk management partners in the county. Many of the actions proposed in the plans we prepare rely on our partners to deliver them and make the plan effective.

The delivery of our proposed new role for SuDS will require Defra to commence the necessary provisions on the Flood and Water Management Act along with the necessary supporting documents. The success of this will depend on the specific provisions in the supporting documents and how Defra proposes to fund the long-term maintenance burden we will be obliged to accept.

Delivering flood defences

The proposed action plan for 2014-15 focusses on developing our understanding of local flood risk, developing options to mitigate these and improving the understanding of the local flood risks. This is funded from our revenue budget, as outlined above.

The recent floods have shown that further investment is required in the county's flood defence infrastructure. Further capital funding for flood defences is required to deliver this, including options identified by KCC for local flooding mitigation. This capital investment will require local funding in order to draw on the Flood Defence Grant in Aid scheme. The proposed action plan for 2014-15 does not include provision for local funding of flood defences; the flood risk management team is currently reviewing the scale of the local funding required and investigating options for local sources of investment.

Recommendation

The committee are asked to note the implications and risks associated with delivering the 2014-15 action plan and provide comments on the report.

Contact details

Report Author

Max Tant, Flood Risk Manager

max.tant@kent.gov.uk

01622 221691

Kent County Council
**Local Flood Risk Management
Strategy Review 2013-14**

Draft

March 2014



CONTENTS

Contents	iii
1 Introduction	1
1.1 Why has a local strategy review been produced?.....	1
1.2 Action Plan.....	2
2 Review of 2013-14	3
2.1 Overview.....	3
2.2 Project delivery	3
2.3 Team development.....	3
2.4 Partnership working	4
2.5 Action plan review.....	4
3 Draft Action Plan 2014-15	11

List of Tables

Table 2.1 Review of countywide flood risk management steps 2013-14.....	5
Table 2.2 Review of local flood risk management steps 2013-14	8
Table 2.3 Review of measures for all risk management authorities in Kent 2013-14.....	9
Table 3.1 Countywide flood risk management steps 2014-15	12
Table 3.2 Local flood risk management steps 2014-15.....	14
Table 3.3 Measures for all risk management authorities in Kent 2014-15	15

1 INTRODUCTION

Kent County Council (KCC) adopted the Local Flood Risk Management Strategy for Kent in June 2013. The strategy sets out a countywide framework for managing the risk from and coordinating resources to manage local flooding. Local flooding is defined in the Flood and Water Management Act 2010 as flooding from:

- **Surface water,**
- **Groundwater,**
- **Ordinary Watercourses.**

The aim of the local strategy

The aims of the local strategy are:

- to coordinate the work of the management authorities to improve the understanding of local flood risks;
- to ensure that we work together to provide effective solutions to local flood risks where we can; and,
- to improve the public's understanding of local flood risks in Kent and how everyone can play a part in reducing them.

These are the objectives of the local strategy.

1. Improving the understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses in Kent.
2. Reducing the risk of flooding on people and businesses in Kent.
3. Ensuring that development in Kent takes account of flood risk issues and plans to effectively manage any impacts.
4. Providing clear information and guidance on the role of the public sector, private sector and individuals in flood risk management in Kent and how those roles will be delivered and how authorities will work together to manage flood risk.
5. Ensuring that emergency plans and responses to flood incidents in Kent are effective and that communities understand the risks and their role in an emergency.

1.1 Why has a local strategy review been produced?

The local strategy sets out an action plan, much of which is to be delivered over twelve months. As we approach the end of this period, it is appropriate to review progress on the action plan before we prepare the action plan for the following twelve months.

1.2 Action Plan

The Local Strategy included an action plan for delivering the objectives over the following 12 months. The actions were presented in three tables, 9.1, 9.2 and 9.3 in the Local Strategy. These showed the countywide actions to be led by KCC, shown in Table 9.1. Local actions, led by KCC, shown in Table 9.2. And actions that other risk management authorities can undertake within their existing risk management functions, shown in Table 9.3.

2 REVIEW OF 2013-14

2.1 Overview

The year 2013-14 has been challenging as a Lead Local Flood Authority (LLFA). Clearly, we have experienced significant flooding over the Winter period, whilst the headlines were mainly about main river flooding, affecting Tonbridge, Yalding and other areas in the Medway Valley, there are a number of flooding issues. These include the flooding in the Nailbourne and Little Stour Valleys, flooding in the Darent Valley, tidal flooding during the tidal storm surge in early December and other local flooding incidents. At the time of writing information about these events has not been fully compiled, but they are likely to impact on our workload in the next financial year.

There has also been the continued delay of the commencement of the SuDS role in Schedule 3 of the Flood and Water Management Act 2010. This has led to further uncertainty not only for us, but also planning authorities and developers. KCC has continued to prepare for our SuDS role, despite this delay.

2.2 Project delivery

This year's programme of work included a number of projects to be undertaken by consultants (predominantly surface water management plans). It was intended to use the Environment Agency's Water and Environment Management (WEM) framework for this, which is available to LLFAs, to procure this work. The WEM Framework was due to be launched in April 2013. However, following a review of all public sector contracts early in 2013, some issues were identified with the procurement of this framework and it was not available to use until August 2013. Consequently, there was a delay in procuring some of these projects.

All of the projects that were identified for this action plan period have commenced and many have been completed or will be complete by the end of the financial year. Some have had to be extended into the next financial year, these are indicated in the tables below.

2.3 Team development

Two new posts have been created within the flood risk management team, a Flood Risk Project Officer and a Land Drainage Engineer. This is in addition to the Flood Risk Manager and the Sustainable Drainage Engineer.

The addition of the Land Drainage Engineer provides a full time resource to manage enquiries about local flooding incidents in the county. This officer works with land owners, residents, KCC Highways and other risk management authorities to find solutions to land drainage issues and advise these groups of their responsibilities for flood risk management.

The Flood Risk Project Officer will help us to deliver the projects we have to investigate and manage local flood risk in the county. This officer manages

projects and undertakes investigations into local flooding areas and works with our partners to coordinate our work across the county.

These additions have allowed us to improve the service we offer and engage with more agencies and the public and manage more projects to deliver flood risk benefits.

2.4 Partnership working

We have received a great deal of support from our partners in Kent. All of the risk management authorities have assisted us in projects where appropriate. We have continued to receive valuable support from the Environment Agency. We have also been particularly pleased with the relationships we have developed with districts and boroughs and Southern Water, who have been very helpful in assisting us to assess local flood risk and develop local surface water management plans.

KCC has contributed to a number of schemes across the county. These are listed below:

- Contribution to the maintenance of the tidal defences at Kingsdown, to Dover District Council.
- Contribution to the delivery of properly level protection for properties in Aylesford, to the Environment Agency.
- Contribution to the assessment of a flood scheme in the Beult River, to the Environment Agency.
- Contribution to the delivery of the Sandwich Town Tidal Defence scheme, to the Environment Agency.
- Contribution to land drainage management raising with land owners, to the Stour and Medway Valley Countryside Management Partnerships
- Contribution to the development of low cost flow monitoring, to the University of Greenwich

2.5 Action plan review

The actions proposed for 2013-14 are reviewed in Table 2.1, 2.2. and 2.3. Table 2.1 provides a review of the countywide actions. led by KCC. Table 2.2 provides a review of the Local actions, led by KCC. Table 2.3 provides a review of the actions that other risk management authorities can undertake within their existing risk management functions

These tables include a summary of the progress of the action in 2013-14 and whether it will be continued into the next action plan.



Table 2.1 Review of countywide flood risk management steps 2013-14

No.	Action	Local strategy objective	Timeframe for delivery	Comments	Status
C1	Establish register of structures and features	1; 4	2014	Work has progressed on the register of structures and features. Data has been collected and collated. We are currently working on developing a database for that data that will also be compatible with the new SuDS approving role.	Continued
C2	Establish a record of flood incidents	1; 4	2014	We have developed a tool to record flooding incidents. We are currently working with ICT and Digital Communications Teams on the best way for the public to access this.	Continued
C3	Develop an integrated drainage asset management strategy	2, 4	2014	Work on this action has shown that it is not necessary on a countywide basis, but in some localities. We are currently working on the Isle of Sheppey Integrated Asset Management Plan and will use this as a template for other areas. We will work with partners to identify other areas that need this approach.	Closed
C4	Establish SuDS approving role	2; 3; 4	Dependant on Defra timeframes to be published	Defra has delayed the commencement of this legislation until October 2014. KCC are in a good position to undertake this role when it is commenced. We have undertaken several training workshops and seminars with teams that will be involved, both within KCC. We will await the final details of the role from Defra	Continued
C5	Produce SuDS guidance to help integrate it with new developments	2; 3	On going	KCC has lead the development of SuDS planning guidance on behalf of the Southeast7, Water.People.Places.	Closed

No.	Action	Local strategy objective	Timeframe for delivery	Comments	Status
C6	Identify opportunities to retro fit SuDS into existing developments	2	On going	We have identified two opportunities to deliver retrofitted SuDS to resolve existing flooding problems. We are currently working with our partners to develop feasible schemes to deliver these.	This action will be amended to reflect the delivery role we will now take and that we will still seek opportunities to retrofit SuDS
C7	Organise training of call centre staff in risk management authorities to harmonise recording of flood reports to move towards a single point of contact	4, 5	2014	KCC call centre staff can log enquires on KCC's enquiry database, which is forwarded to the flood risk management team. Harmonisation across organisations is not possible due to the different systems that contact centres use and the different geographical coverage. Partners advise customers to contact KCC directly.	Closed
C8	Raise awareness of flood risk and local flooding issues for the public and how they can reduce the risks	1	On going	We have continued to develop our website and to undertake Surface Water Management Plans, which identify flood risk issues. We have prepared a simple leaflet to advise landowners of their riparian responsibilities. Highways has recently provided more information about scheduled gully cleansing on their website.	Continued
C9	Hold workshops with risk management authorities to develop guidance and best practice on how authorities can work together to provide clear information to each other and the public	1; 4	2014	Workshops are currently being undertaken to share knowledge about the upcoming SuDS approving role and how we will coordinate with planning authorities. We have also held workshops with other risk management authorities, including Southern Water and the Environment Agency.	Continued



No.	Action	Local strategy objective	Timeframe for delivery	Comments	Status
C10	Update Local Multi-Agency Flood Plans with the latest data	5	On going	New data has recently been released and the multi-agency flood plans are currently being reviewed. As part of these we will ensure the latest information is used.	Continued
C11	Support and monitor risk management authorities in delivering the local strategy, Flood and Water Management Act 2010 and other flood risk management duties	1, 2, 3, 4, 5	On going	KCC has worked with a number of partners to support their risk management role.	Continued

Table 2.2 Review of local flood risk management steps 2013-14

No.	Action	Local strategy objective	Timeframe for delivery	Comments	Status
L1	Canterbury City Centre SWMP	1	2014	This SWMP is complete. It has shown that Canterbury City centre has a low risk from surface water flooding and no specific actions will be taken forward	Closed
L2	Paddock Wood FAS Initial Assessment	1; 2	2014	This FAS has commenced, it will report in Autumn 2014	Continued
L3	Deal Town FAS	1; 2	2014	The Deal SWMP that was on-going when this action was proposed has shown that the town does not need a FAS. Specific actions identified in the SWMP will be taken forward next year	Closed
L4	Folkestone SWMP	1; 2	2014	The SWMP has been completed and has identified an important mitigation opportunity that KCC and Southern Water are taking forward.	Closed
L5	Dartford SWMP	1	2014	This SWMP has commenced, it will report in Spring 2014	Continued
L6	Margate SWMP	1	2014	This SWMP has identified a number of opportunities for mitigation that we will explore with our partners	Closed
L7	Ramsgate SWMP	1	2014	This SWMP has identified a number of opportunities for mitigation that we will explore with our partners	Closed
L8	Isle of Sheppey pilot asset management plan	1	2014	This plan has commenced, it will report in Spring 2014	Continued



Table 2.3 Review of measures for all risk management authorities in Kent 2013-14

No.	Action	Local strategy objective	Comment	Status
R1	Registering flood assets, as defined in Section 5.2	1	Several local authorities have provided details of assets in their area. More details will be required as the register of assets develops.	Continued
R2	Reporting all local flooding incidents they are aware of to Kent County Council	1	Partners have directed customers to KCC to report local flooding where appropriate	Closed
R3	Assist with development and implementation of integrated asset management strategy	2, 4	See Action C3, Table 2.1	Closed
R4	Provide local knowledge to the SAB regarding developments in their area	2; 3	Local authorities have been advising developers of KCC's new role. This will need to continue until KCC's SuDS role is formalised.	Continued
R5	Encourage the use of SuDS through policy and use in own projects	3	Local authorities have adopted SuDS policies where they have been consulting on local planning documents.	Continued
R6	Take details of all flood events from members of the public and pass them on to the appropriate authority, giving the customer the details of the report that has been logged	4	See Action C7, Table 2.1	Closed
R7	Provide clear, publicly accessible information about risk management functions, including: <ul style="list-style-type: none"> • the area and features they have responsibility for • schedules for routine maintenance and records of maintenance having been undertaken 	4	This action will be delivered through a number of other activities, including Integrated Asset Management Strategies and Flood Risk Management Plans.	Closed



	<ul style="list-style-type: none"> • plans for improvement works • plans for new flood management measures and • relevant contact details 			
R8	Ensure Strategic Flood Risk Assessments consider the impact of new development on the finances of flood defences in light of the new way of allocating grant in aid for flood defences	3	KCC will continue to advise planning authorities to assess the impact of the new funding measures.	Continued
R9	Assist with development and delivery of flood investigations and surface water management plans where appropriate	1	KCC has received a great deal of support from partners in the development of its projects.	Continued
R10	Provide flood risk information in a timely manner	1; 2; 3; 4	KCC has received information in a timely manner when it has requested it.	Closed

3 DRAFT ACTION PLAN 2014-15

The draft action plan for 2014-15 is proposed in Tables 3.1, 3.2 and 3.3. The format is the same as the previous action plan, with countywide actions in Table 3.1. Local actions are shown in Table 3.2. Actions other risk management authorities are encouraged to deliver are shown in Table 3.3.



Table 3.1 Countywide flood risk management steps 2014-15

No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
Actions for KCC to deliver									
C1	Deliver a database to record structures and features	1; 4	Flood and Water Management Act	KCC	All risk management authorities	Defra grant	2013	2015	
C2	Roll-out the recording tool for flood incidents	1; 4	Local strategy	KCC	All risk management authorities	Defra grant	2014	2015	
C4	Establish SuDS approving role	2; 3; 4	Flood and Water Management Act	Defra; KCC	All risk management authorities	Defra grant	2013	Dependant on Defra timeframes to be published	
C6	Continue to identify opportunities to retro fit SuDS into existing developments	2	Local strategy	KCC	Planning authorities	Defra grant	2013	On going	
C12	Collect structures and features data	1,4	Flood and Water Management Act	KCC	All risk management authorities	Defra grant	2014	On going	
C13	Promote SuDS good practice in KCC estate	3	Local strategy	KCC		Defra grant	2014	On going	
C14	Develop guidance and best practice for land management to reduce flood risk	2	Local strategy	KCC	Planning authorities	Defra grant	2014	On going	

No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
C15	Continue to support development of low cost flow monitoring equipment	1,2	Local strategy	KCC	Planning authorities	Defra grant	2014	2017	
Actions for KCC to coordinate with other authorities									
C8	Raise awareness of flood risk and local flooding issues for the public and how they can reduce the risks	1	Local strategy	KCC, EA, SW	All risk management authorities	Defra grant	2013	On going	
C9	Continue to work with risk management authorities to develop and deliver best practice on how authorities can work together to provide clear information to each other and the public	1; 4	Local strategy	KCC; EA	All risk management authorities	Defra grant	2013	2014	
C10	Update Local Multi-Agency Flood Plans with the latest data	5	Local strategy	KCC	Environment Agency	Emergency planning	2013	On going	
C11	Support and monitor risk management authorities in delivering the local strategy, Flood and Water Management Act 2010 and other flood risk management duties	1, 2, 3, 4, 5	Local strategy	KCC	Planning authorities		2013	On going	

Table 3.2 Local flood risk management steps 2014-15

No.	Action	Local strategy objective	Driver	Responsible Body	Supporting Bodies	Funding source	Date added	Timeframe for delivery	Comments
L1	Paddock Wood FAS	1, 2	Paddock Wood SWMP	KCC	TWBC; EA; Southern Water	Defra grant	2014	2015	
L2	Margate flood reduction works	1; 2	Margate SWMP	KCC	TDC; Southern Water	Defra grant	2014	2015	
L3	River Beult Catchment SWMP Programme	1	Maidstone SWMP	KCC	MBC; EA; Southern Water; Medway IDB	Defra grant	2014	2015	
L4	Hythe SWMP	1	Folkestone and Hythe SWMP	EA; KCC	ShDC; EA, Southern Water	Defra grant	2014	2015	
L5	Edenbridge investigation	1	Sevenoaks SWMP	KCC	SBC, EA, Southern Water	Defra Grant	2014	2015	
L6	Nailbourne Valley investigation	1	Canterbury SWMP SWMP	KCC	CCC, EA, Southern Water	Defra Grant	2014	2015	
L7	Folkestone flood reduction works	2	Folkestone SWMP	KCC	ShDC, EA, Southern Water	Defra Grant	2014	2015	

Table 3.3 Measures for all risk management authorities in Kent 2014-15

No.	Action	Local strategy objective	KCC linked measures
R1	Registering flood assets, as defined in Section 5.2	1	C1
R4	Provide local knowledge to the SAB regarding developments in their area	2; 3	C4
R5	Encourage the use of SuDS through policy and use in own projects	3	C5
R8	Ensure Strategic Flood Risk Assessments consider the impact of new development on the finances of flood defences in light of the new way of allocating grant in aid for flood defences	3	C11
R9	Assist with development and delivery of flood investigations and surface water management plans where appropriate	1	All local measures

This page is intentionally left blank