**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 18<sup>th</sup> November 2013. Members are requested to note this report.

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## 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 18<sup>th</sup> November 2013 a total of 63 Flood Alerts, 41 Flood Warnings and 5 Severe Flood Warnings were issued<sup>1</sup>.
- 2.2 In addition 87 Severe Weather Warnings covering Kent were issued by the Met Office (including 58 for heavy rain)<sup>2</sup>.
- 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 21<sup>st</sup> 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.

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Background documents: None

<sup>2</sup> please see appendix 2

<sup>&</sup>lt;sup>1</sup> please see appendix 1

Appendix 1

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

|            | REGISTER OF ALERTS - 2013                                     |           |            |          |                | Click here | for instructi | ons      |               |          |
|------------|---|-----------|------------|----------|----------------|------------|---------------|----------|---------------|----------|
| Serial No: | Area  | Day       | Date       | Time     | Date issued    | Alert?     | Warning?      | Severe   | Date          | Staff    |
|            | · · · · ·   | received  | received   | received | (if different) |            |               | Warning? | All Clear     | Involved |
| 204        | Coast from Dartford to Allhallows                             |           |            | 17:03    |                | >          | <             | -        | 06/12/2013    |          |
| 222        | Tidal Medway, Swale and coastal Isle of Sheppey               |           |            | 17:10    |                | >          |               |          | 06/12/2013    | 3 TH     |
| 223        | Coast from Seasalter to Margate                               |           | 04/12/2013 | 17:15    |                | >          | <             |          | 06/12/2013    |          |
| 224        | Coast from Pegwell Bay to Deal                                | Wednesday |            |          |                | >          |               |          | 06/12/2013    |          |
| 225        | Coast from Sandgate to Dungeness                              | Wednesday |            | 17:30    |                | >          | <             |          | 06/12/2013    | 3 TH     |
| 226        | Coast from Fairlight to Dungeness                             |           |            | 17:35    |                | >          | <             |          | 06/12/2013    | 3 TH     |
| 227        | The Quay, Sandwich  |           |            | 17:44    |                |            |               | >        | ( 06/12/2013  | 3 TH     |
| 228        | Coast from Pegwell Bay to Deal                                | Wednesday | 04/12/2013 | 18:29    |                |            |               | (        | 06/12/2013    | 3 TH     |
| 229        | Ash Level, Minster Marsh and Stodmarsh                        |           | 04/12/2013 | 18:39    |                |            | )             | (        | 06/12/2013    | 3 TH     |
| 230        | Grove Ferry and Plucks Gutter                                 | Wednesday | 04/12/2013 | 18:40    |                |            | )             | (        | 06/12/2013    | 3 TH     |
| 231        | Sandwich  | Wednesday | 04/12/2013 | 18:58    |                |            | )             | (        | 06/12/2013    | 3 TH     |
| 232        | Pfizer site   | Wednesday | 04/12/2013 | 19:04    |                |            | )             | (        | 06/12/2013    | 3 TH     |
| 233        | Properties seaward of tidal defences in Gravesend, Denton and | Wednesday | 04/12/2013 | 19:21    |                |            | )             | (        | 06/12/2013    | 3 TH     |
| 234        | Sandwich  | Thursday  | 05/12/2013 | 14:13    |                |            |               | )        | ( 06/12/2013  | 3 TH     |
| 235        | Coast from Higham Marshes to Seasalter                        | Thursday  |            |          |                |            |               | )        | ( 06/12/2013  | 3 TH     |
| 236        | Properties seaward of tidal defences in Gravesend, Denton and | Thursday  | 05/12/2013 | 14:27    |                |            |               | )        | ( 06/12/2013  | 3 TH     |
| 237        | Pfizer site   |           | 05/12/2013 | 20:21    |                |            |               |          | (  06/12/2013 | 3 TH     |
| 254        | Rivers on the Isle of Sheppey                                 |           |            |          |                | >          |               |          | 17/12/2013    | 3 TH     |
| 257        | River Darent  | Wednesday | 18/12/2013 |          |                | >          |               |          | 19/12/2013    | 3 RE     |
| 258        | Rivers Eden and Eden Brook                                    | Wednesday |            |          |                | >          | <             |          | 28/12/2013    | 3 RE     |
| 259        | Upper Stour Area  | Wednesday | 18/12/2013 | 17:05    |                | >          | <             |          | 19/12/2013    | 3 RE     |
| 260        | River Bourne Area   | Wednesday | 18/12/2013 | 17:09    |                | )          |               |          | 19/12/2013    | 3 RE     |
| 261        | Rivers on the Isle of Sheppey                                 | Wednesday | 18/12/2013 |          |                | )          |               |          | 20/12/2013    | 3 RE     |
| 262        | River Rother Area   | Wednesday | 18/12/2013 | 19:31    |                | >          | <             |          | 20/12/2013    | 3 RE     |
| 263        | Upper Medway Area   |           |            |          |                | >          |               |          | 20/12/2013    | 3 RE     |
| 264        | River Beult Area  |           |            | 15:06    |                | >          | <             |          | 20/12/2013    | 3 RE     |
| 265        | Upper Stour Area  | Saturday  | 21/12/2013 | 16:15    |                | >          |               |          | 28/12/2013    | 3 RE     |
| 266        | River Bourne Area   | Saturday  | 21/12/2013 | 17:13    |                | >          |               |          | 25/12/2013    | 3 RE     |
| 267        | Lower River Medway Area                                       | Saturday  | 21/12/2013 | 18:54    |                | )          |               |          | 28/12/2013    | 3 RE     |
| 268        | River Beult Area  | Saturday  |            |          |                | >          |               |          | 28/12/2013    |          |
| 269        | River Teise Area for Lamberhurst and Goudhurst                | Monday    |            |          |                | >          |               |          | 27/02/2013    |          |
| 270        | River Teise and Lesser Teise Area from Horsemonden to Yalding |           |            |          |                | >          |               |          | 28/12/2013    |          |
| 271        | Rivers on the Isle of Sheppey                                 | Monday    |            |          |                | >          |               |          | 28/12/2013    | 3 TH     |
| 272        | Plenty, Swalecliffe and West Brooks Area                      |           |            |          |                | >          |               |          | 28/12/2013    |          |
| 273        | Middle River Medway Area                                      | Monday    |            |          |                | >          |               |          | 07/01/2013    | 3 TH     |
| 274        | Lower River Stour Area  | Monday    | 23/12/2013 | 12:18    |                | >          | <             |          | 28/12/2013    | 3 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 |
|     | River Darent at Dartford Trade Park, Brooklands and Dartford to the |           |            |       |   |               |
| 289 | 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 |
|     | Rivers Eden, Eden Brook and Kent Ditch from Blindley Heath to       |           |            |       |   |               |
| 294 | Penshurst including Edenbridge and Hever                            | Sunday    | 29/12/2013 | 16:15 | X | 07/01/2014 TH |

|            | REGISTER OF ALERTS - 2014                                       |           |            |          |                | Click hore         | for instruction | ne     |            |          |
|------------|---|-----------|------------|----------|----------------|--------------------|-----------------|--------|------------|----------|
|            | REGISTER OF ALERTS - 2014                                       |           |            |          |                | <u>Click field</u> | ioi ilistractio | )IIS   |            |          |
| Serial No: | Area  | Day       | Date       | Time     | Date issued    | Alert?             | Warning?        | Severe | Date       | Staff    |
| Jenai 110. | OLGO.   | received  | received   | received | (if different) | Aiciti             | wanning.        |        |            | Involved |
| 1          | Lower River Stour Area  |           |            |          |                | X                  |                 |        | 09/01/2014 |          |
| 2          | Upper River Stour Area  |           |            |          |                | X                  |                 |        | 09/01/2014 |          |
| 3          | Upper River Medway Area   |           |            |          |                | X                  |                 |        | 09/01/2014 |          |
| 4          | Rivers on the Isle of Sheppey                                   |           | 01/01/2014 |          |                | X                  |                 |        | 09/01/2014 |          |
| 5          | Darent Catchment  |           |            |          |                | X                  |                 |        | 15/01/2014 |          |
| 6          |   |           |            |          |                | X                  |                 |        | 07/01/2014 |          |
| 32         |   |           |            |          |                | X                  |                 |        | 04/01/2014 |          |
| 33         | Plenty, Swalecliffe and West Brooks Area                        |           |            |          |                | X                  |                 |        | 04/01/2014 |          |
| 34         | River Medway between Hampstead Lock and Allington Lock          |           |            |          |                |                    | ×               | (      | 08/01/2014 |          |
| 35         | River Beult from Pluckley and Bethersden to Hampstead Lock      |           |            | 03:09    |                |                    | ×               | (      | 08/01/2014 | TH       |
| 36         | Coast from Sandgate to Dungeness                                |           |            | 08:49    |                | X                  |                 |        | 04/01/2014 | TH       |
| 37         | Coast from Fairlight to Dungeness including the Tidal Rother    |           |            | 09:26    |                | X                  |                 |        | 04/01/2014 | TH       |
| 38         | New Romney Sewer Arm  | Friday    |            | 17:12    |                | Х                  |                 |        | 04/01/2014 | TH       |
| 39         | Plenty, Swalecliffe and West Brooks Area                        | Sunday    |            |          |                | Х                  |                 |        | 09/01/2014 |          |
| 40         | Hamstreet Arm Area  |           |            | 17:32    |                | Х                  |                 |        | 08/01/2014 | TH       |
| 41         | River Bourne Area   | Monday    | 06/01/2014 | 18:34    |                |                    | >               | (      | 09/01/2014 | TH       |
| 42         | River Medway between Forest Row and Penshurst                   |           |            |          |                |                    | >               | (      | 07/01/2014 | TH       |
| 43         | Rivers Eden and Eden Brook from Crowhurst and Blindley Heath to |           |            |          |                |                    | >               |        | 09/01/2014 |          |
| 44         | Shuttle and Cray Catchments                                     |           | 06/01/2014 | 19:13    |                |                    | >               | (      | 07/01/2014 | TH       |
| 45         | River Medway between Penshurst and the Leigh Barrier            | Monday    | 06/01/2014 | 21:11    |                |                    | >               | (      | 07/01/2014 | TH       |
| 48         | Grove Ferry to Plucks Gutter                                    |           | 03/01/2014 | 10:53    |                |                    | >               | (      | 09/01/2014 | TH       |
| 55         | Groundwater Flooding in the Nailbourne Catchment                | Tuesday   | 14/01/2014 | 16:22    |                | Х                  |                 |        |            | TH       |
| 56         | Little Stour and River Wingham Area                             | Wednesday | 15/01/2014 | 15:24    |                | Х                  |                 |        |            | TH       |
| 57         | Lower River Stour Area  | Wednesday | 15/01/2014 | 17:36    |                | Х                  |                 |        | 19/01/2014 | TH       |
| 58         | River Darent from Westerham to Sevenoaks                        | Friday    | 17/01/2014 | 07:08    |                |                    | >               | (      | 18/01/2014 | TH       |
| 59         | Upper River Medway Area   | Friday    | 17/01/2014 | 07:14    |                | Х                  |                 |        | 18/01/2014 | TH       |
| 60         | River Bourne Area   | Friday    | 17/01/2014 | 07:19    |                | Х                  |                 |        | 18/01/2014 | TH       |
| 61         | Rivers Eden & Eden Brook from Crowhurst and Blindley Heath to   |           | 17/01/2014 | 07:26    |                |                    | >               | (      | 18/01/2014 |          |
| 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    |                |                    | >               | (      | 19/01/2014 | TH       |
| 66         | Grove Ferry and Plucks Gutter                                   | Friday    | 17/01/2014 | 10:41    |                |                    | >               | (      | 18/01/2014 | TH       |
| 67         | Rivers on the Isle of Sheppey                                   |           | 17/01/2014 | 13:34    |                | X                  |                 |        | 18/01/2014 | TH       |
| 68         | River Bourne between Hadlow and East Peckham                    |           | 17/01/2014 | 14:32    |                |                    | >               | (      | 19/01/2014 | TH       |
| 79         | Middle River Medway Area  |           |            |          |                | Х                  |                 |        | 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 Hampsead 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     |
|     | The North and South Streams from Eastry and Northbourne to the East of Sandwich, |           |            |       |   |                   |
| 230 | 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 (18<sup>th</sup> November – 03 March 2014)

| Serial No: | Day       | Date       | Date issued    | Staff | Description  |
|------------|-----------|------------|----------------|-------|--|
|            | received  | received   | (if different) |       |  |
|            |           |            | <b>'</b>       |       | Flood Guidance Statement: Yellow Coastal Flood Warning covering Friday 6th December (issued at 10:30), SWAG called for 4th December at       |
| 214        | Tuesday   | 03/12/2013 |                | TH    | 11:30.   |
|            |           |            |                |       |  |
|            | 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 |
|            | 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        | Fridaγ    | 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   |
|            | 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   |
|            | Monday    | 23/12/2013 |                | TH    | Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 1800 Fri 27 Dec   |
|            | Tuesday   | 24/12/2014 |                | TH    | Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 1800 Fri 27 Dec   |
|            | Wednesday | 25/12/2013 |                | TH    | Yellow Warning of Rain for London & South East England from 0700 Wed 25 Dec to 0600 Thu 26 Dec   |
|            | Wednesdaγ | 25/12/2013 |                | TH    | Yellow Alert of Rain for London & South East England from 0005 Fri 27 Dec to 2100 Fri 27 Dec   |
|            | Wednesday | 25/12/2013 |                | TH    | Yellow Warning of Rain for London & South East England from 0005 Fri 27 Dec to 2100 Fri 27 Dec   |
|            | Saturday  | 28/12/2013 |                | TH    | Yellow Alert of Wind for London & South East England 0005 Mon 30 Dec to 1000 Mon 30 Dec  |
|            | Sunday    | 29/12/2013 |                | TH    | Yellow Warning of Wind for London & South East England from 0005 Mon 30 Dec to 1300 Mon 30 Dec   |
|            | Sunday    | 29/12/2013 |                | TH    | Yellow Alert of Rain for London & South East England from 0600 Wed 01 Jan to 2359 Wed 01 Jan   |
|            | Tuesday   | 31/12/2013 |                | TH    | Yellow Alert of Rain for London & South East England from 0600 Wed 01 Jan to 2359 Wed 01 Jan   |
|            | Tuesday   | 31/12/2013 |                | TH    | Yellow Alert of Rain for London & South East England from 0005 Fri 03 Jan to 2100 Fri 03 Jan   |
|            | 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 O | F ALERTS - 201 | 4              |          |  |
|-----------|------------|----------------|----------------|----------|--|
| erial No: | Day        | Date           | Date issued    | Staff    | Description  |
|           | received   | received       | (if different) | Involved |  |
| 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                                     |
|           | Wednesday  | 05/02/2014     |                | NR       | Yellow warning of Wind for Kent 0015 05/02/14 to 2200 05/02/14                                 |
|           | Wednesday  | 05/02/2014     |                | NR       | Yellow Warning of Rain for London & South East England 1200 Thu 06 Feb to 2300 Sat 08 Feb      |
|           | 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       | Wednesdaγ  | 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    |
|           | Tuesday    | 02/01/2014     |                | TH       | Yellow Warning of Wind for London & South East England from 0005 Fri 03 Jan to 2359 Fri 03 Jan |
|           | Wednesday  | 03/01/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 1130 Fri 03 Jan to 2359 Fri 03 Jan |
|           | 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 |
|           | 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 |
|           | 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 |
|           | Thursday   | 30/01/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 1100 Thu 30 Jan to 2345 Thu 30 Jan |
|           | Thursday   | 30/01/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 0600 Sat 01 Feb to 0600 Sun 02 Feb |
|           | Saturday   | 01/02/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 1800 Tue 04 Feb to 2300 Wed 05 Feb |
|           | Saturday   | 01/02/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 1125 Sat 01 Feb to 0300 Sun 02 Feb |
|           | 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 |
|           | 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 |
|           | Tuesday    | 04/02/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 0015 Sat 08 Feb to 0900 Sat 08 Feb |
|           | Tuesday    | 04/02/2014     |                | TH       | Yellow Warning of Rain for London & South East England from 1700 Thu 06 Feb to 0800 Fri 07 Feb |
|           | Monday     | 03/02/2014     |                | TH       | Yellow Warning of Wind for London & South East England from 0005 Wed 05 Feb to 2300 Wed 05 Feb |

| rial No: | Day       | Date       | Date issued    | Staff    | Description  |
|----------|-----------|------------|----------------|----------|--|
|          | received  | received   | (if different) | Involved |  |
| 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 |
|          | 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                         |
|          | Thursday  | 27/02/2014 |                | TH       | Yellow Warning of Snow for London & South East England from 0200 Fri 28 Feb to 1500 Fri 28 Feb |