

Lead Local Flood Authority
Section 19 (Flood and Water Management Act
2010)
Flood Investigation Report

(Reformatted Version)

Report Title:

Velda Close and Aldwyck Way

Lowestoft

Report Reference(s):

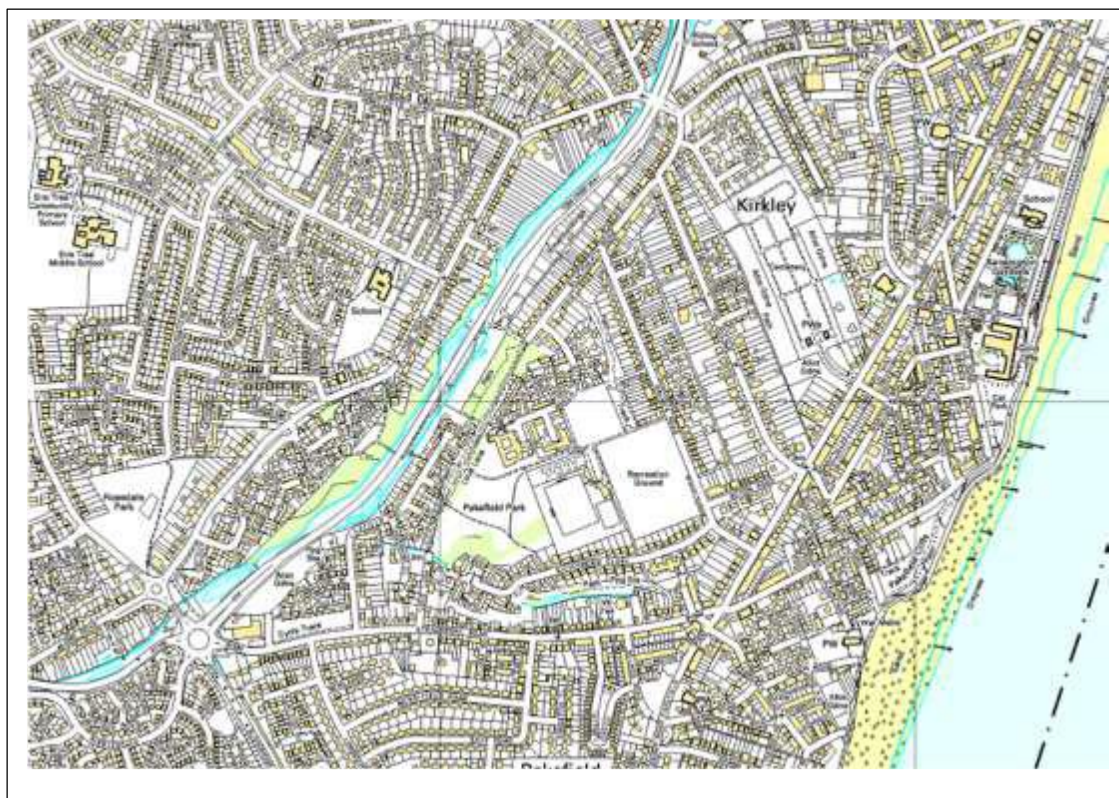
FW2015-0019 to 0025

FW2015-0028 to 0053

	Name	Date
Lead Officer:	Jason Skilton	
Created by:	Jason Skilton	25 November 2015
Checked by:	Matt Hullis	16 October 2015
RMA Review:	Anglian Water, Waveney District Council & Suffolk County Council	16 October 2015
Approved by:	Sue Roper	
Date Published		30 November 2015

- 1.0** Suffolk County Council as a Lead Local Flood Authority (LLFA) has determined that in accordance with criteria, it considered it necessary or appropriate to carry out an investigation into this flood event in accordance with Section 19 (1) of the Flood and Water Management Act 2010, and in accordance with Section 19 (2) of the Flood and Water Management Act 2010, to publish the results and notify the relevant risk management authorities (RMAs).
- 2.0 Reference/s:** FW2015-0019 to 0025, FW2015-0028 to 0053
- 2.1 Location:** Velda Close & Aldwyck Way, Lowestoft
- 2.2 Flood Event Date:** 24 & 25 July 2015
- 2.3 Reported to SCC Date:** 27 July 2015
- 2.4 Investigation Commencement Date:** 27 July 2015
- 2.5 Criteria for investigation:**

Criteria for an investigation (as per Appendix D of the Suffolk Flood Risk Management Strategy):	✓/X
There was a risk to life as a result of flooding?	
Internal flooding of one property (domestic or business) has been experienced on more than one occasion?	
Internal flooding of five properties has been experienced during one single flood incident	✓
Where a major transport route was closed for more than 10 hours as a result of flooding	
Critical infrastructure was affected by flooding	
There is ambiguity surrounding the source or responsibility of a flood incident	



- 2.6 OS Grid Reference:** 652,498 290,639 & 652,567 290,685
- 2.7 Extent of flooding:** We have received reports that 33 domestic properties flooded internally affecting main living areas. Further reports of flooding to outbuildings and gardens were received. The public highway flooded for approx. 50m to an approx. depth 450mm. The Anglian Water surface water drainage system surcharged.
- 2.8 Effect of flooding:** Properties internally flooded to a depth of 300mm and the public highway flooded to 450mm.
- 2.9 History:** Residents have provided reports of flooding from September 2002 (internal depth of 300mm), September/October 2006 & 2013 (internal depth of 25mm).
- 2.10 Flooding Source:** The surface water drainage system, including Kirkley Stream, highway drainage and the public sewer were exceeded.

2.11 Causes:

- Significant amount of rainfall over a short duration (82mm over 24hrs)
- Rainfall exceeded the design capacity of the surface water drainage systems - both SCC Highway drainage & Anglian Water surface water systems
- Blockages at several locations along Kirkley Stream associated with structures. Debris and excessive vegetation within channel contributing to blockages.
- Some surface water outlets are currently at bed level and therefore could not drain into Kirkley Stream,
- Illegally dumped garden and fly-tipped waste material washed down stream contributing to blockages.

2.12 Additional Information:

- The flooded properties are located in existing, mapped pluvial and fluvial flood risk areas.
- Some properties (owned by Cotman Housing Association) had property level mitigation measures fitted, however these failed to prevent water entering the properties.
- Aldwyck Way has an audible early warning system owned by Cotman Housing Association, but this failed to activate.
- We have no evidence of the Highways attenuation basins overtopping.
- We have no evidence of the flood storage area failed to take excess water from Kirkley Stream during the event.
- The Anglian Water pumps (three screw pumps) into Lake Lothing were operational and working within capacity.
- As part of the Lowestoft Flood Risk Management Project (LFRMP), a full topographical survey of the Kirkley Stream was commissioned. This will enable an evaluation of the surface water system and its design capacity.
- Anglian Water and Suffolk County Council Highways have provided the investigation with asset and maintenance information.

3.0 Risk Management Authority with Relevant Flood Risk Function

- Anglian Water
- Suffolk County Council
- Waveney District Council

3.1 Functions:

- Anglian Water (Surface water drainage maintenance & asset owner)
- Suffolk County Council (Public highway maintenance, land & asset owner)
- Waveney District Council (Planning Authority)

4.0 Recommendations:

1. Maintenance procedures and responsibilities for the whole of Kirkley Stream and its drainage assets to be reviewed and implemented linked to the wider Lowestoft Flood Risk Management Project.
2. Review access arrangements for inspection and maintenance.
3. Undertake a full topographical survey of Kirkley Stream in the locality in relation to property thresholds, highway attenuation areas, flood compensation area to inform the hydrological model.
4. Using this data, Anglian Water & Suffolk County Council surface water drainage system designs to be reviewed for Tom Crisp Way, Velda Close and Aldwyck Way to establish capacity.
5. Anglian Water trash screen to be reviewed and redesigned if necessary, its suitability for a telemetry monitoring system should also be assessed.
6. Flood mitigation, resilience and recovery measures to be considered for all affected properties.
7. Suffolk Joint Emergency Planning Unit will support volunteer Community Emergency Planning (CEP) Groups and the development of their Community Emergency Plans.
8. Consideration to be given to the creation of some means to limit any new discharges into the Kirkley Stream, thereby reducing the potential impacts of future development. Suffolk County Council, Waveney District Council (as planning authority), Anglian Water and the Environment Agency to consider this proposal and make recommendation to Suffolk Flood Risk Management Partnership.

4.1 Recommended Actions:

Action	Responsible Authority	Timescale for response	Latest Progress Update for Actions
Commission a full topographical survey of the Kirkley Stream and receive a report.	Anglian Water & Suffolk County Council	Completed	
Suffolk County Council & Anglian Water to confirm and undertake any additional works identified using the information from the topographical survey.	Anglian Water & Suffolk County Council	February 2016	75% completed 25% outstanding.
Review ongoing maintenance procedures and responsibilities	Anglian Water & Suffolk County Council	February 2016	Outstanding
Review access arrangements for inspection and maintenance.	Anglian Water & Suffolk County Council	Completed	
Suffolk County Council Highways to evaluate and issue a report of the highway surface water drainage system and its design capacity (Velda Close, Aldwyck Way & Tom Crisp Way)	Suffolk County Council Highways	February 2016	Ongoing
Anglian Water to review the trash screen design and consider suitability for a telemetry system	Anglian Water	Completed	New screen due Early 2017
To consider options to limit any new discharges into Kirkley Stream related to development	SCC, AW, WDC, EA (Suffolk Flood Risk Management Partnership)	April 2016	Ongoing