

**Cabinet Member for Transport,
Planning & Sustainability**

18 April 2012

Report of the Director of City and Environmental Services

**REPORT OF INVESTIGATIONS INTO FLOODING AT BADGER
HILL AND LEEMAN ROAD UNDER S19 OF THE FLOOD AND
WATER MANAGEMENT ACT 2010**

Summary

1. City of York Council (CYC), as the Lead Local Flood Authority (LLFA), has a duty under Section 19 of the Flood and Water Management Act 2010 (FWMA) to investigate significant flood incidents in its area. The investigation must identify which risk management authorities have relevant flood risk management functions in respect of the event and whether each of those risk management authorities has exercised, or is proposing to exercise, those functions in response to the flood. On completion of an investigation it must publish its findings and notify any relevant risk management authorities.
2. Two investigations have been completed, at Badger Hill and Leeman Road, and are the subject of this report

Recommendations

3. Approve the investigation reports, included as annexes 1 and 2, so that they can be published in accordance with the Act.

Background

Badger Hill

4. Flooding occurred due to an intense rain storm on 10 June 2012, affecting Hull Road and the Badger Hill Estate. Hull Road was closed to traffic for 5 hours, 19 properties flooded

internally, and about 40 suffered flooding to gardens and external areas.

5. Hull Road is well provided with gullies but there were no records of a highway drainage system, which is CYC's responsibility, serving them. The investigation located this and established that it discharges to the YWS surface water system serving the Badger Hill estate, which in turn discharges to the new university east campus lake.
6. Throughout both systems, blockages caused by silt, roots and cement grout were located, which seriously affected their ability to convey the storm flows. Two storm water attenuation tanks on the surface water sewerage system were found to be ineffective due to blockage in one instance, and lack of maintenance of the control equipment on the other.
7. CYC has located and recorded the location of its surface water drainage system serving the gullies in Hull Road, and cleaned it. YWS has updated its records and instigated a maintenance regime to ensure that the storm water attenuation tanks function as designed. It has cleaned the sewerage system and has undertaken to carry out further investigations and hydraulic modelling if necessary to ensure that the performance of the system is optimised.

Leeman Road

8. Flooding in the Leeman Road area occurred in September and November 2012. Salisbury Road and Salisbury Terrace, a major route into the City, had to be closed to traffic as the risk of flood water inundating properties was further aggravated by waves from vehicles. Temporary pumping eventually reduced the level throughout the area and internal flooding of properties was avoided by sandbagging.
9. The area is defended against overland flow from the river by an earth embankment maintained by the EA. The sewerage system is equipped with penstocks, which isolate the river from it, and a pumping station which pumps flows from the defended area to the downstream sewer outside it. This is the responsibility of YWS.

10. The flooding was associated with a high river level in both cases. It commenced with water flowing from road gullies at low points in the defended area reflecting the rising river level and it was clear that the cause of the flooding was through the sewerage system.
11. The investigation established that some of the penstocks were not fully closed or leaking and in one case open. It was also found that one of the pumps was not correctly seated on its base and was therefore ineffective.
12. As a result of the investigation YWS has reviewed its maintenance and operational procedures to ensure future resilience during flood events. It is also liaising with the EA to ensure that the improved defences, which will be constructed this year, will not be compromised by shortcomings in the sewerage system.

Consultation

Badger Hill

13. The Flood Risk Management Team invited householders on the Badger Hill estate to fill in a questionnaire to assist it in building up a clear understanding of the extent and mechanism of the flooding. Responses to these and direct liaison with residents and YWS aided the investigation.

Leeman Road

14. The Flood Risk Management Team liaised with YWS in the investigation which was aided by recurring high river levels. Because of the nature of the event, and its clear cause, it was not necessary to consult more widely.

Options

15. There are no options to consider

Analysis

16. The investigation reports provided as annexes, have analysed the events.

Corporate Strategy

17. Completion of the actions identified in the investigations will assist in the delivery of two of these priorities:

Get York Moving – helps to protect critical infrastructure from flooding.

Protect Vulnerable People – identifying flood risk areas and potential protection.

Implications

18. There are no specific implications for any of the following, the resulting actions from the investigations will improve resilience during future flood events which could have implications for one or more of those factors:

- (a) **Financial**
- (b) **Human Resources (HR)**
- (c) **Equalities**
- (d) **Legal**
- (e) **Crime and Disorder**
- (f) **Information Technology (IT)**
- (g) **Property**

Risk Management

19. The investigations have established the cause of flooding in both cases and the appropriate flood risk management authorities have taken steps to ensure that flood risk is satisfactorily managed in the future.

Contact Details

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**Report
Approved** ✓

Date 3rd April 2013

Specialist Implications Officer(s)

There are no specialist implications

Wards Affected: Hull Road and Holgate

For further information please contact the author of the report

Background Papers:

None

Annexes

Annex A: Flood Investigation Report - Badger Hill, York

Annex B: Flood Investigation Report - Leeman Road Area