

STEVENSON ASSOCIATES

RYEFIELD, HACKNESS ROAD, SCALBY

FLOOD RISK ASSESSMENT and DRAINAGE STATEMENT



CONTENTS

1. Introduction..... 3

4. Location and Site Description..... 3

7. Existing Topography 3

11. Existing Drainage 4

16. Flooding 4

20. Proposals and Recommendations 5

28. Summary and Conclusions..... 6

Appendix 1 – Site Location..... 7

Appendix 2 Public Sewers 8

Appendix 3 – Proposed Layout 9

Appendix 4 – Environment Agency’s Indicative Flood Zone Map 10



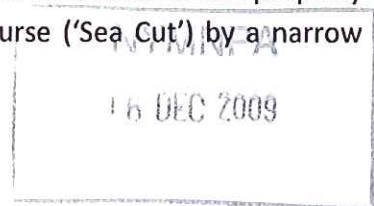
RYEFIELD, HACKNESS ROAD, SCALBY, SCARBOROUGH, YO13 0QY

1. INTRODUCTION

2. It is proposed to build extensions to a detached dwelling (Ryefield) on Hackness Road in Scalby and convert the whole into 8 flats and this report has been commissioned to:
 - establish how the existing facilities are drained
 - determine how the new building should be drained
 - assess whether the site will be affected by flooding or cause others to flood.
3. This report should be read in conjunction with architectural details prepared by Malcolm Tempest Ltd.

4. LOCATION AND SITE DESCRIPTION

5. Scalby lies on the north west of Scarborough, approximately 2km from the town centre. The site lies on the west side of Hackness Road at approximate map reference TA 0850 0059.
6. The general area is typical rural village with open land to the west and north. There are three individual dwellings, quite distant, on the west, north and east sides of the property and to the south the site is separated from a major watercourse ('Sea Cut') by a narrow overgrown verge.



7. EXISTING TOPOGRAPHY

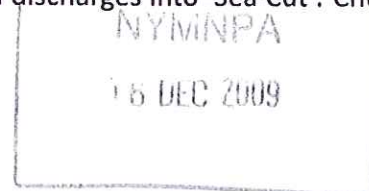
8. The site measures approximately 150 metres by 80 metres, covering an area of around 1.2 hectares. The house sits centrally on the site and is around 455 square metres in size.
9. The general area is undulating and the site itself falls from north to south from 45m to 38m (above Ordnance Datum) giving a nominal fall through the site of 1 in 25. The access with Hackness road is at a level of 40.20m and the site boundary on the west of the house is at a level of 44.50m (4.3m cross-fall across the site). The area around the house has been

levelled to around 43.4m for ease of access and this results in an embankment some two metres in height on the south and east sides of the dwelling.

10. The house is served from a tarmac drive in the northern part of the site and the remaining area is laid out as garden.

11. EXISTING DRAINAGE

12. Foul water from Ryefield drains to a public combined foul / surface water sewer in Hackness Road, connecting at a manhole by the drive entrance. Also into this drain, there is at least one rainwater pipe connected.
13. All existing rainwater downpipes connect directly to drains in the ground; there are neither gullies nor inspection chambers. It is believed that most of these surface water pipes drain towards the south either discharging into soakaways or to 'Sea Cut', albeit no outfalls into 'Sea Cut' can be seen in this location.
14. 'Sea Cut' was constructed in 1804 to divert flows from the headwaters of the River Derwent to the sea at Scalby Mills to try and alleviate flooding along the River Derwent. This drain is classified as a Main River.
15. In general, surface water from the west side of Scalby drains directly or indirectly to Church Beck, which runs along the east side of Hackness Road and discharges into 'Sea Cut'. Church Beck is classified as a Critical Ordinary Watercourse.



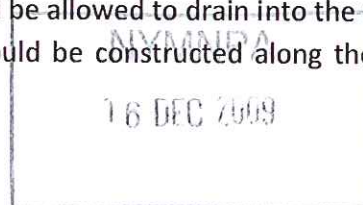
16. FLOODING

17. The Environment Agency's Indicative Flood Zone Map and the Northeast Yorkshire Strategic Flood Risk Assessment suggest that the site is not within Flood Zone 2 or 3 but lies adjacent to such areas. Local enquiries appear to agree with these records insofar as the area to the east of Hackness Road / north of 'Sea Cut' does flood on a regular basis serving as a floodplain.
18. Enquiries also confirm that Church Beck has also flooded in the past, whereby water has overtopped the banks flooding a small area of Hackness Road. It is understood that a Stage 1 scheme to improve the Beck was carried out in 2003 but a Phase 2 Flood Alleviation Scheme report has indicated that some additional works are still required and this is being addressed by Scarborough B.C.

19. Interpolating existing knowledge it is suggested that flooding on Hackness Road has reached a level of around 40.1m (A.O.D.).

20. PROPOSALS AND RECOMMENDATIONS

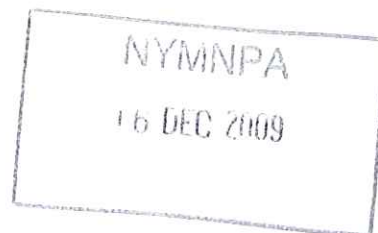
21. It is proposed to extend the existing dwelling by around 200 square metres and separate the use of the building into 8 flats. The drive will be widened near to the access with Hackness Road to allow vehicles to pass and an extension to the drive will be constructed to access the rear of the building more easily.
22. It will be necessary to provide some additional soil pipes in and around the building to facilitate the new bathrooms etc. To enable future maintenance, all soil pipes should connect directly to an inspection chamber or mini-chamber. New foul drains from around the building should then connect to the existing main drain serving the house.
23. A separate foul and surface water drainage system should be provided and only foul water should discharge to the public sewer in Hackness Road. To ensure this, all existing blind rainwater connections should be investigated and removed as necessary. All new and existing rainwater downpipes should then discharge into new trapped gullies.
24. It is likely that the existing surface water drains and soakaway(s) would not satisfy current drainage requirements and moreover their condition would be difficult to establish. As such a new surface water sewerage system should be provided.
25. Requirement H3 of the Building Regulations 2000 specifies a hierarchy for the disposal of surface water. In brief, this states that consideration should first be given to soakaways, infiltration systems and other Sustainable Drainage Systems (SUDS). This would be preferable to draining directly into 'Sea Cut'.
26. Should surface water be drained to a suitable soakaway positioned towards the south of the site, it is likely that water will eventually drain into 'Sea Cut' but at such a rate that will not cause flooding problems for properties downstream.
27. Rainwater from the existing and proposed drive should be allowed to drain into the adjacent garden and to facilitate this, infiltration trenches should be constructed along the lowest edge.



28. SUMMARY AND CONCLUSIONS

29. It is proposed to extend a large dwelling in Scalby and convert it into 8 flats. The house is within a large garden on the west side of Hackness Road and with a major watercourse ('Sea Cut') on the south side. The site has a nominal fall of around 1 in 25 from north to south, towards the watercourse.
30. Foul water from the dwelling drains to a combined public sewer in Hackness Road, along with a small proportion of surface water from the roof. The remainder of the surface water drains towards the south, either to soakaway(s) or 'Sea Cut'.
31. The Environment Agency's Indicative Flood Zone Map indicates that the site is not within Flood Zone 2 or 3. However, some local flooding has been confirmed along Hackness Road and the adjacent Church Beck - to a suggested level, locally, of around 40.1m AOD. The property, Ryefield, is more than three metres above this flood level at 43.4m and has not been affected by floods.
32. Foul water from the property should continue to drain to the public sewer in Hackness Road but measures should be taken to ensure all surface water connections from the building are removed from the existing drain and sewer.
33. It will be necessary to replace the surface water drainage system, which should be designed and constructed in accordance with current Building Regulations and design guides. However, so as not to contribute to flooding downstream, surface water should not drain directly into 'Sea Cut' but into soakaways in the south of the garden in accordance with SUDS (Sustainable Drainage Systems) practises.
34. If these recommendations are followed the site should not be affected by flooding or cause other properties to flood.

M. Stevenson

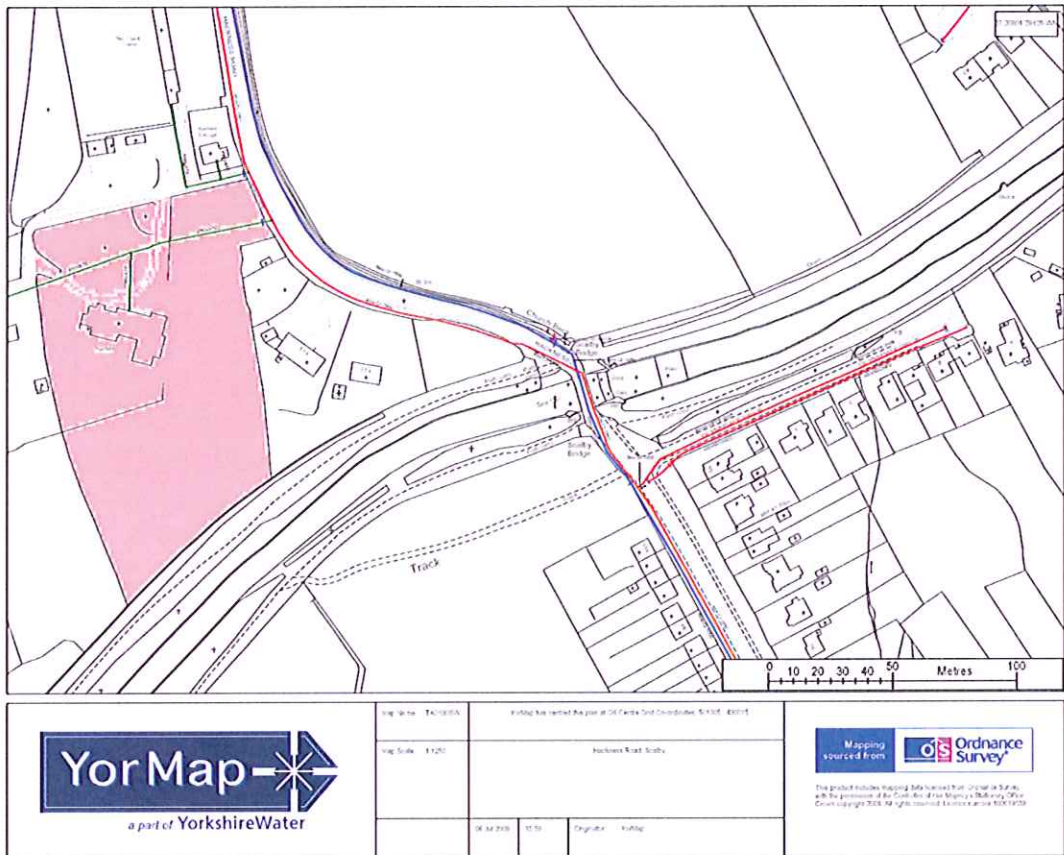


Michael Stevenson

23rd July 2009

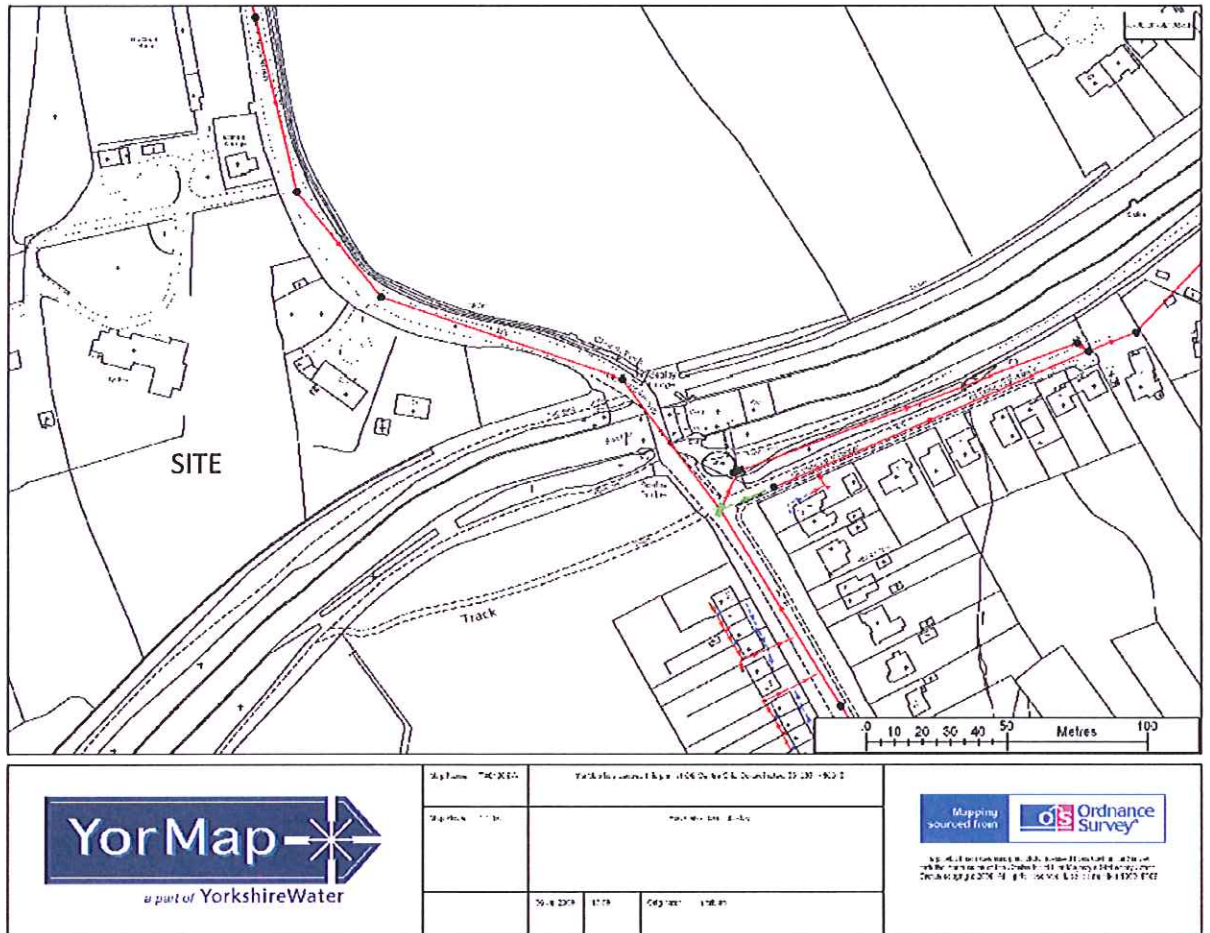
(Note: Plans appended to this report have been reduced in scale to accommodate the format.)

APPENDIX 1 – SITE LOCATION



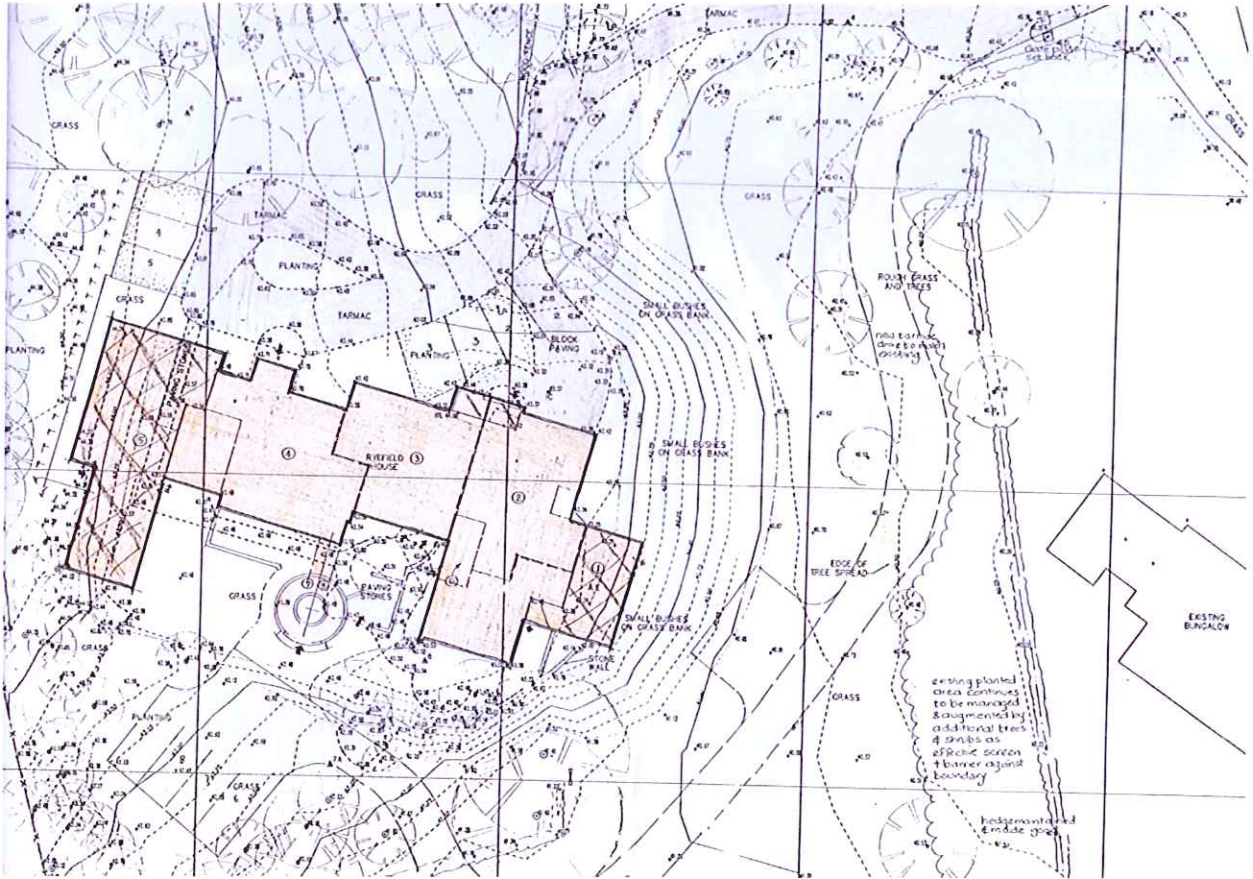
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APPENDIX 2 PUBLIC SEWERS



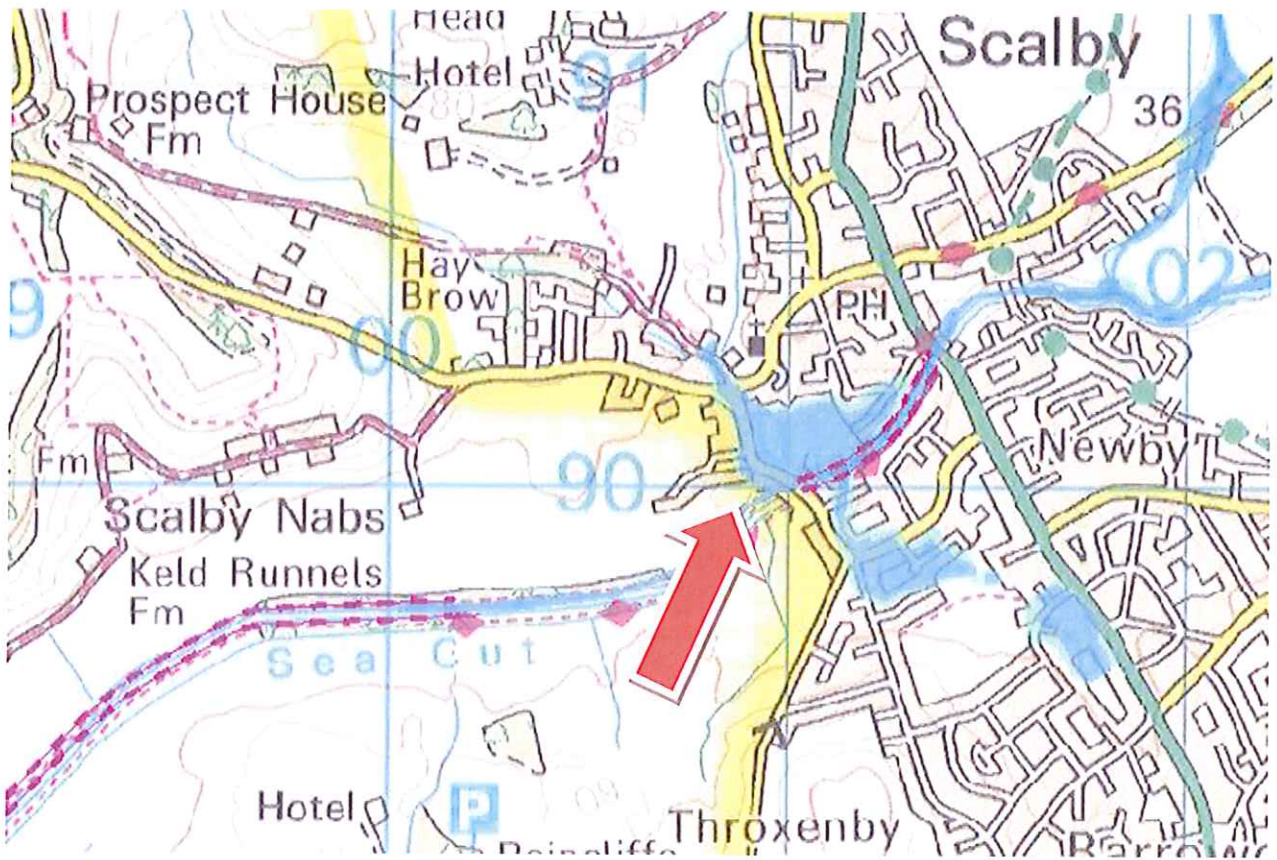
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APPENDIX 3 – PROPOSED LAYOUT



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APPENDIX 4 – ENVIRONMENT AGENCY’S INDICATIVE FLOOD ZONE MAP



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