

6.6.1 Land to the south of railway line

The development area to the south of the railway line is generally clear of any surface water flooding (refer to Figure 6.17). There are two significant areas of flooding noted - near the narrowing in the site boundary to the south of Merchants Walk and adjacent to the railway line North of Royston Road.

Overlaying the flood map with the topographical survey suggests that the flood level at Merchants Walk is approximately 71.20 m based on the existing path level and contours. The lowest ground level in the area is approximately 70.60 m giving a maximum flood depth of 600 mm which is consistent with the EA map designation of 600 mm.

Adjacent to the railway line, the flood level is approximately 66.5 m based on the existing contours. The lowest ground level in the area is approximately 65.6 m giving a maximum flood depth of 900 mm which is consistent with the EA's 900 mm map.

A strip of shallow flooding (less than 300 mm deep) is indicated on the land just to the east of Clothall Road. However, this flooding only occurs in the Low Probability event (a 1 in 100 (1%) or less probability of occurring) and has a velocity of over 0.25 litres/sec which, combined with the existing contours, indicates that it is very shallow overland flow flowing north rather than standing flood water.

6.6.1.1 Constraints / Opportunities

The flooding noted at the narrow point of the southern site occurs adjacent to the overall site boundary and the path to the rear of the properties on Merchants Walk. Therefore, the levels will need to be retained to ensure the proposed development continues to tie in with the existing.

As the flooding occurs at the lowest point of that area, the contouring within the site in that area could be adjusted slightly in order to both contain the flooding and integrate it into an open SuDS feature to provide attenuation volume, water treatment and amenity space.

A similar solution could be adopted in the area adjacent to the railway line as it is subject to the same constraints of having to tie into existing levels nearby. This will avoid directing flow within Network Rail's SuDS offset requirement area and will need to be agreed with Network Rail's Asset Protection and Optimisation team.

Although the overland flow path for surface water in the area to the east of Clothall Road is not significant enough to prohibit building within, it would be better suited to integrating into a proposed landscaping area which would ensure no increased flood risk to the land and properties to the north-west. Slightly raising the level at the north-western boundary could retain some of the overland flow and therefore actively reduce the flood risk to the land and properties to the north-west rather than simply maintaining the risk level.

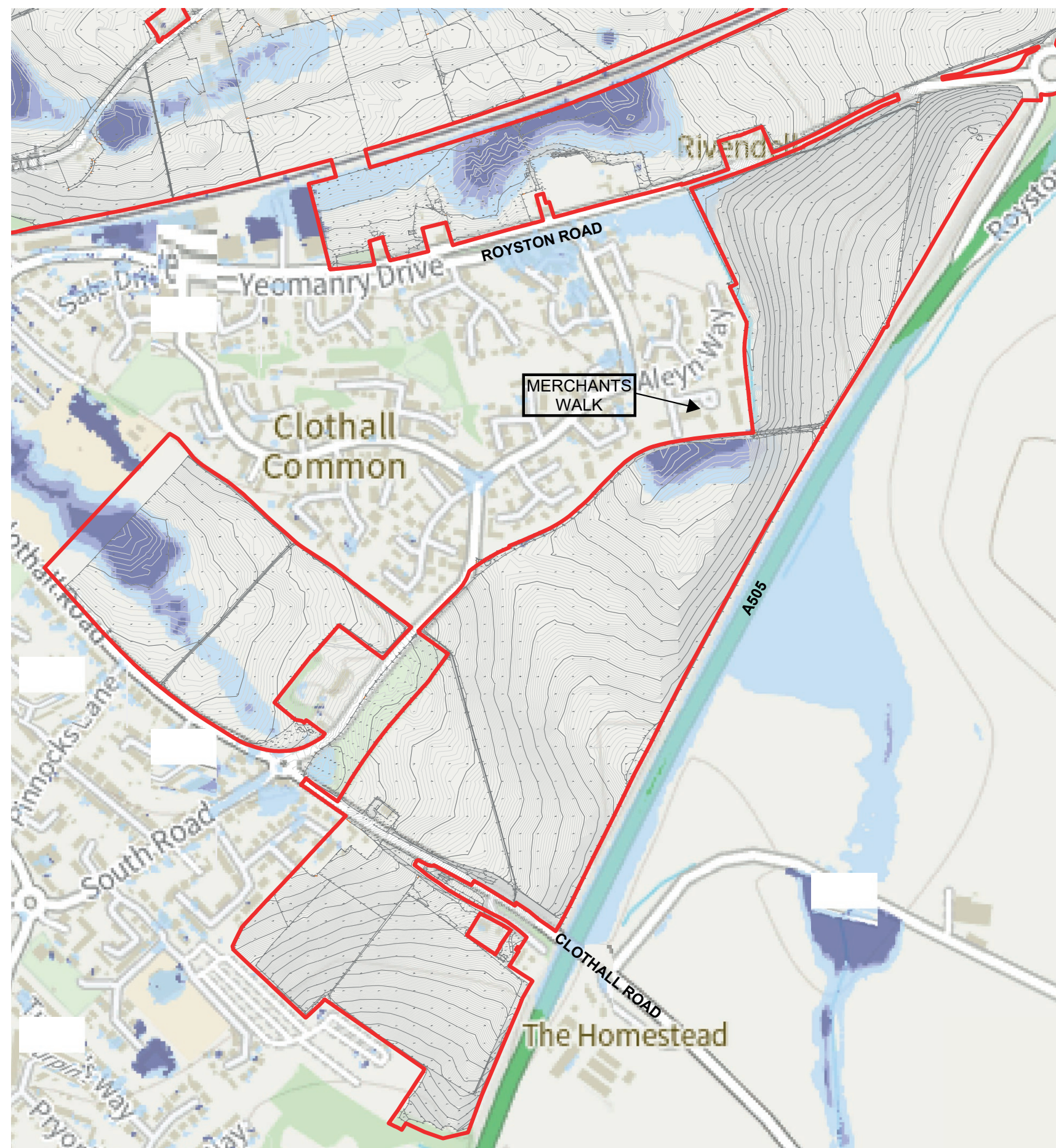


Figure 6.17 EA Surface Water Map overlaid with Southern Plots

6.6.2 Land between railway line and Bygrave Road

The eastern half of this area is completely clear of any surface water flooding (refer to Figure 6.18). Flooding is indicated approximately in the centre of this strip of land, "Flood Area 1". Overlaying the flood map with the topographical survey suggests that the maximum flood level is approximately 66.20 m based on the existing road level and contours. The lowest ground level in the area is approximately 65.40 m giving a maximum flood depth of 800 mm. This is consistent with the flooding appearing on the EA 600 mm deep map but not the 900 mm. This flooding has a velocity of less than 0.25 litres/sec indicating that it is standing water ponding in the area.

Some shallow flooding is noted adjacent to Ashwell Road which is less than 300 mm deep and only occurs in the Low Probability event (a 1 in 100 (1%) or less probability of occurring). It has a velocity of over 0.25 litres/sec which, combined with the existing contours, indicates that it is very shallow overland flow flowing west into Flood Area 1 described above rather than standing flood water.

Shallow flooding is indicated immediately to the west of Flood Area 1 which is between 200 and 300 mm deep and has a velocity of over 0.25 litres/sec which, combined with the existing contours, indicates that it is very shallow overland flow flowing west rather than standing flood water. This appears to be as a result of "overtopping" of the ponding in Flood Area 1 and only occurs in the Low Probability event (a 1 in 100 (1%) or less probability of occurring).

There also appears to be a secondary overland flow route from Flood Area 1 which runs through Freeland Farm into the land north of Bygrave Road (refer to Section 6.6.3). Again, this only occurs in the Low Probability event.

The overland flow from the overtopping of Flood Area 1 creates another localised area of ponding adjacent to the Almadene properties on Bygrave Road, "Flood Area 2". Overlaying the flood map with the topographical survey suggests that the maximum flood level is approximately 61.40 m based on the existing road level and contours. The lowest ground level in the area is 60.90 m giving a maximum flood depth of 500 mm which is consistent with it appearing on the EA 300 mm map but not the 600 mm map.

In both the Medium and Low Probability maps, the flood water overtops Bygrave Road into the land to the north of the road (refer to Section 6.6.3).

6.6.2.1 Constraints / Opportunities

The flooding in Flood Area 1 appears to be caused by an existing field boundary that runs north-south across the centre of this strip of land where the western side of the boundary is approximately 200 mm higher than the eastern side effectively forming a weir. There also appears to be a significant amount of overgrown grass along the fence line which would further prevent water flow.

It is presumed that this boundary will be removed in the proposed development and the land regraded which would remove the flooding in this area but could potentially increase the overland flow to the west. Therefore, it may be necessary to integrate this into the permanent drainage for the area either through hard drainage solutions or potentially swales that help slow and treat the water whilst channelling it in a controlled manner through any plots to the west.

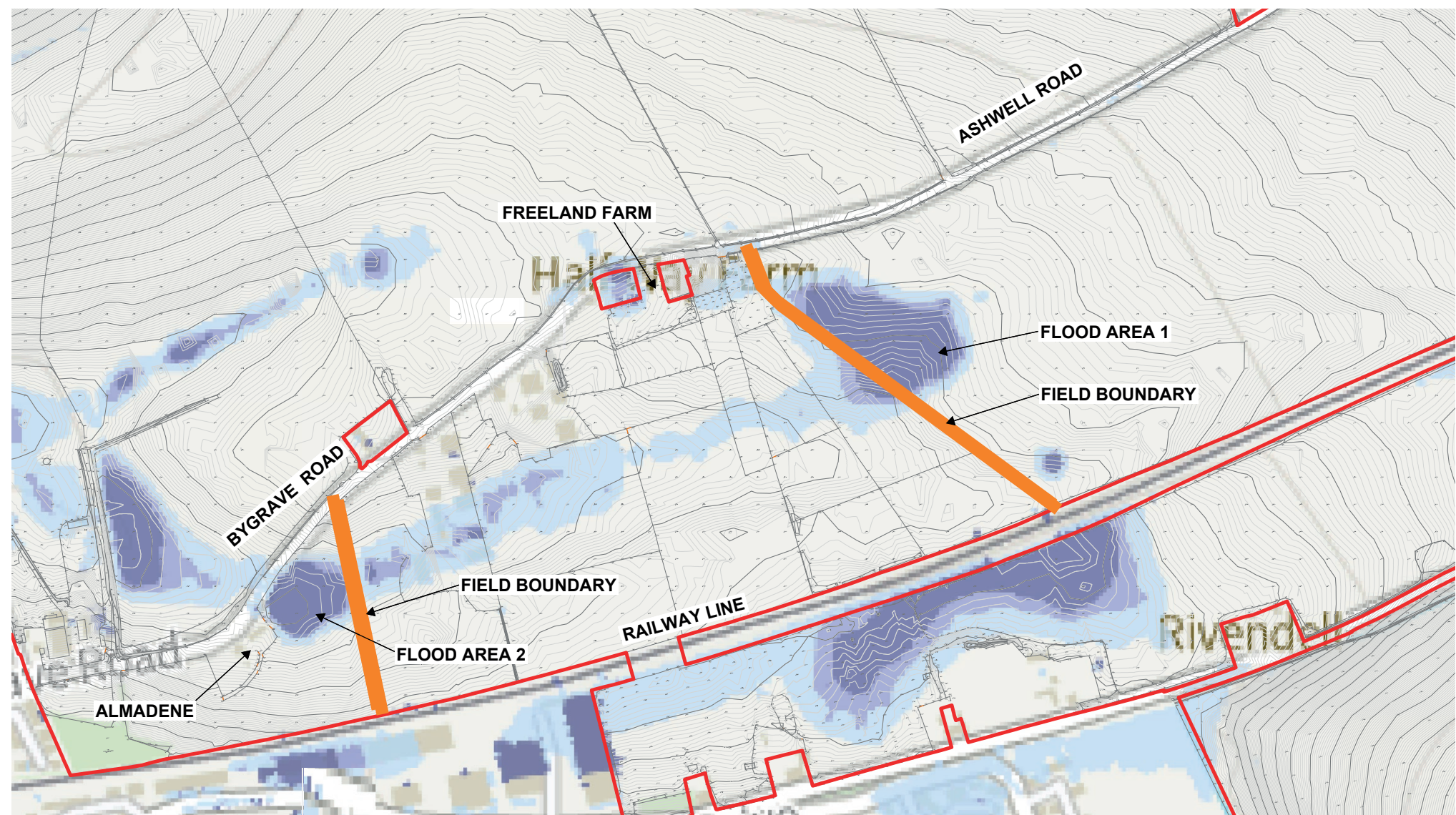


Figure 6.18 EA Surface Water Map overlaid with land between railway and Bygrave Road