

Boundary Lake Golf Course Fifth Hole Flood and Drainage Appraisal

Introduction

This flood and drainage appraisal has been provided for the proposed amendment to the fifth hole at the Boundary Lake Golf Course of the Ageas Bowl.

The proposed amendment is for the creation of an earth formed and landscaped bund situated along the south-eastern boundary of the site.

The bund is required to restore the sound and visual barrier that the hole previously had from the Charles Watt Way (A334) and M27 Junction 7 roads to the south-east.

The tree cover that provided this sound and visual barrier was removed as a result of road improvement works on 20th November 2020. The proposed landscaping as part of the amendment of the hole would re-instate the natural corridor and also enhance the biodiversity.

It is understood that the hole will be left in play whilst the works are carried out. The aspiration is to commence the works as soon as possible to restore the area to its previous condition.

Photos of the site area from before and after the completion of these road improvement works have been included as **Appendix A** and a plan of the proposed amendment of the fifth hole has been included as **Figure 1** and also as **Appendix B**.

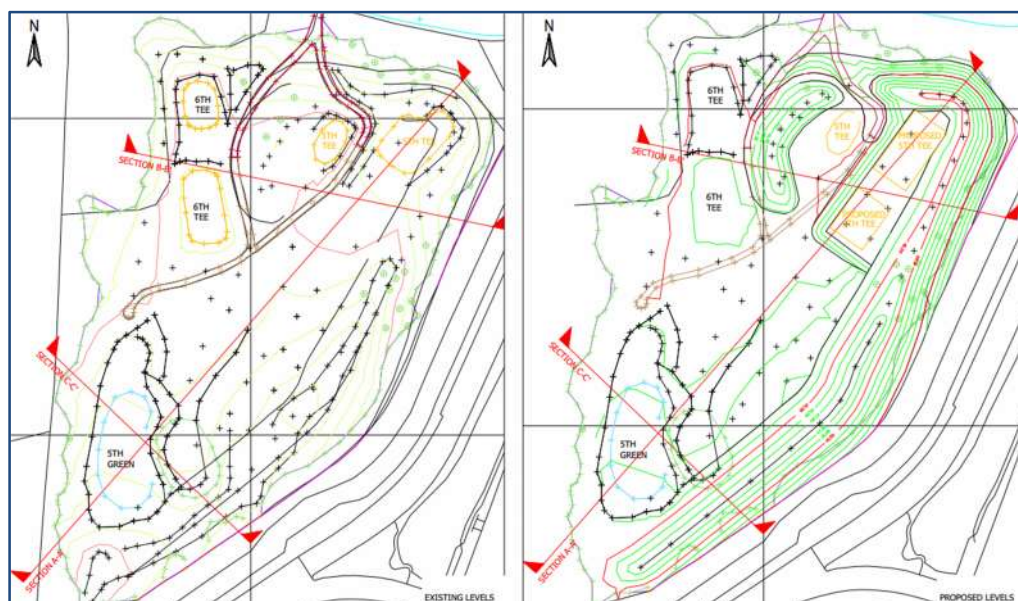


Figure 1 – Proposed Amendment

Background Understanding

The site has a central post code of SO30 4DA and OS national grid reference of E: 448003 and N: 113400.

The Local Planning Authority (LPA) is Eastleigh Borough Council (EBC) and the Lead Local Flood Authority (LLFA) is Hampshire County Council (HCC).

The site is shown to be within the EA hydrological catchment of the South East Hants Bracklesham Group Water Body. However, the River Hamble is approximately 3.2km to the south-east of the site with this draining south-west into Southampton Water near Hamble-le-Rice approximately 8.0km to the south. The River Hamble is tidal for approximately half of its length, and navigable in its lower reaches.

More locally, there is a watercourse that drains from the southern part of Telegraph Woods and then east across the Boundary Lakes Golf Course, to the north of the site. It is understood that this watercourse then drains via a culverted section under the M27. This culverted section continues under the superstores that are to the north-east of the site, before draining into the River Hamble.

OS data indicates a gentle fall in ground levels across the site from the south-west towards the north-east, therefore indicating that local natural drainage would be towards the culverted section under the M27. The road to the south-east of the site is elevated on an embankment.

An extract from the Flood Map for Planning has been included as **Figure 2**. The site is located on the Flood Map for Planning in Flood Zone 1, indicating a low level of risk from fluvial and tidal sources.

The Flood Map for Planning also shows the watercourse as it drains from the southern part of Telegraph Woods, and the culverted section under the M27 and north-east under the superstores. There is another watercourse to the south-east of the site, but given the fall in ground levels it is understood that drainage from the site would be to the north-east. Whereas the road embankment would limit the drainage of surface water from the site to the south-east.

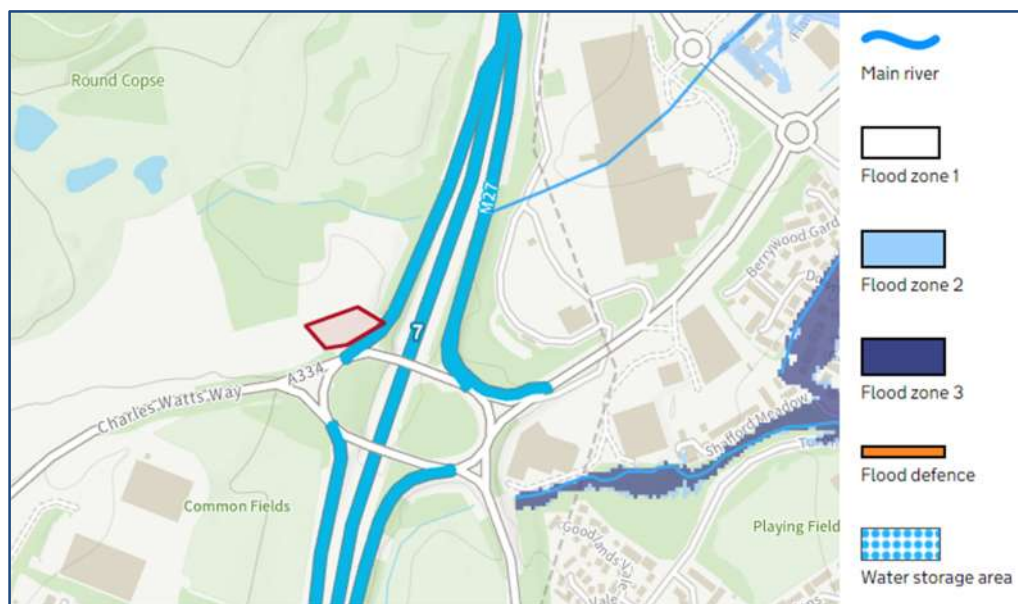


Figure 2 – EA Flood Map for Planning

An extract from the Long Term Flood Map has been included as **Figure 3**. This shows the site to be mainly located outside of an area that could be affected by surface water flooding, and therefore classified as having a very low level of risk. There is a surface water flow path shown along the south-eastern boundary of the site, indicating the flow of water from the westerly and

north-westerly part of the golf course and then away to the north-east. The flood risk associated with this is classified as low, and therefore not considered to be significant.



Figure 3 – Long Term Flood Map – Surface Water

Based on information from the British Geological Survey (BGS), the local bedrock geology is classified as the Wittering Formation with this a sedimentary deposit comprised of sand, silt and clay. There are not shown to be any superficial deposits recorded in this area.

Based on information from the Cranfield University Soilscape website, the local soils are classified as loamy and clayey, and these would typically have impeded drainage.

Although soil infiltration testing in this area has not been completed, it is anticipated that there would be some limited infiltration drainage into the ground but that the remainder of the surface water runoff would drain in accordance with topography across or near the ground surface to the north-east.

Mitigation and Management Measures

From the assessment of sources of flooding, there is no requirement for specific mitigation measures for the management of the identified risks.

There is a surface water flow path along the south-eastern site boundary, with this classified as a low level of risk and therefore not considered to be significant.

In terms of the local drainage, the proposed amendment to the fifth hole would introduce an earth formed and landscaped bund along the south-eastern boundary of the site to restore the previous sound and visual barrier. It is assumed that the material used to form the bund would

either be similar or potentially less impervious than the local soils in this area. The bund is located adjacent to the south-eastern boundary of the site, and wraps around the hole but with a lower section of the bund included to the north-east for providing access. As described earlier, there is a gentle fall in ground levels across the site from the south-west towards the north-east.

There is anticipated to be some limited infiltration drainage into the ground with the remainder of the surface water runoff draining in accordance with topography across or near the ground surface to the north-east.

The road to the south-east of the site is elevated on an earth embankment. Therefore, the placement of the bund along the south-eastern boundary of the site would not cut-off an existing flow route either from or into the site, and as such is not expected to have any adverse drainage impact.

It is anticipated that the surface water flow path that is indicated along the south-eastern site boundary would drain between the outside edge of the bund and the road embankment. Given the orientation of the bund along the south-eastern site boundary, it would also help to convey surface water to the north-east and towards the watercourse that drains from the southern part of Telegraph Woods. In addition to providing access, the lower section of the bund would also allow surface water runoff from the inside edge of the bund to drain to the north-east.

Conclusions

Based on the findings of this flood and drainage appraisal and with the inclusion of the suggested measures, the proposed amendment to the fifth hole is not considered to result in an adverse flood and drainage impact and no further assessment is required.

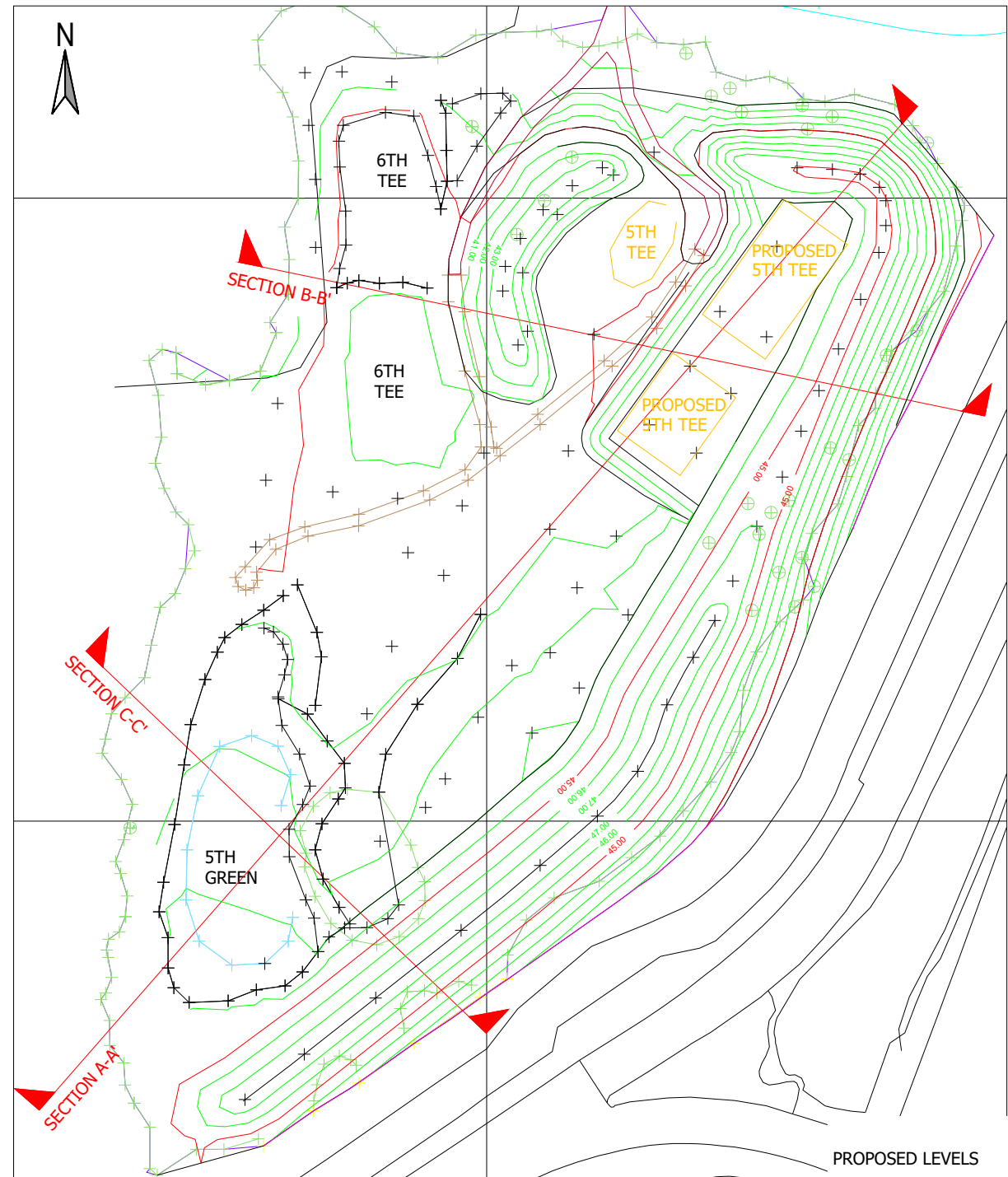
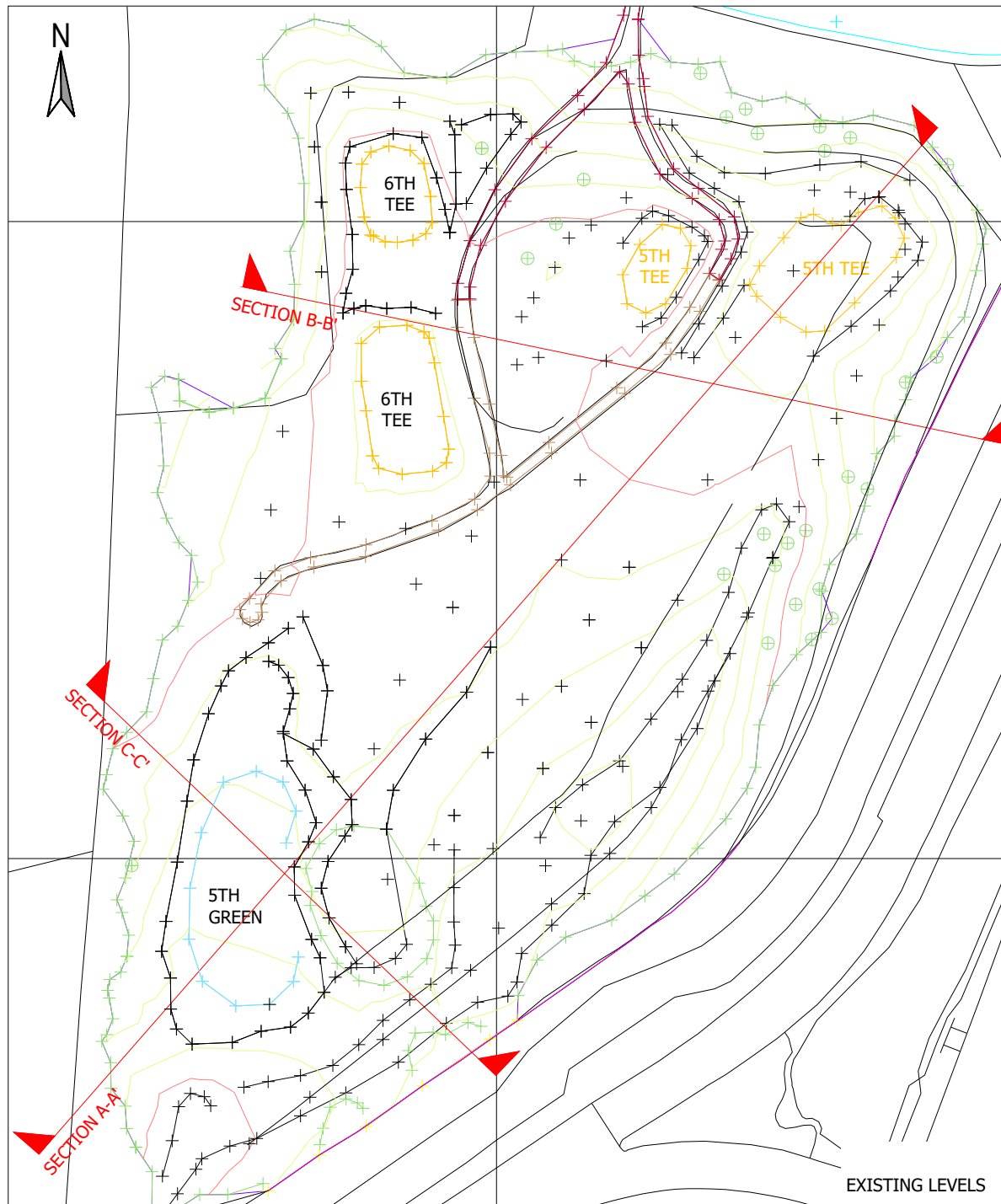
Appendix A

Photos of the Site

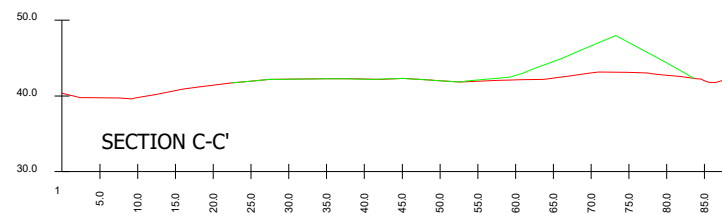
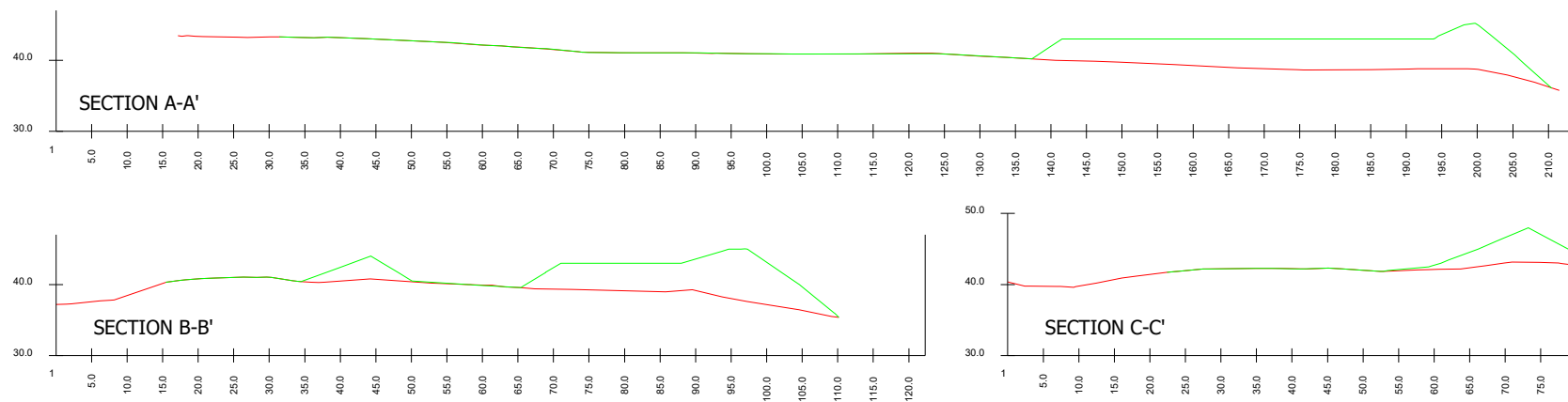


Appendix B

Plan of Proposed Amendments



- KEY:**
- OVERLAND FLOW
 - TEE
 - GREEN



INERT RECYCLING UK LIMITED							
BOUNDARY LAKES GOLF COURSE HOLE 5							
PROPOSED IMPROVEMENT WORKS SCREENING BUND OPTION 2							
Drawing Number IRUK-AGS-HLE-05	Drawn DJE	Date 21-03-22	Approved	Date	Issue W1	Sheet 1 OF 1	Scale @ A3 1:1000
 INERT SURVEYING & DESIGN LIMITED +44 (0)1962 717627 +44 (0)17801 353650 david.evans@inertrecycling.co.uk				HIGHBRIDGE ESTATES HIGHBRIDGE ROAD HIGHBRIDGE SO50 6HS 			