

Bingham Yates Limited

Consulting Engineers

38 Victoria Place Carlisle Cumbria CA1 1EX

NEW LANDSCAPING AND ASSOCIATED WORKS

AT

WHITEHAVEN GOLF COURSE

CA28 8UD

FOR

WESTERN LAKES LTD

FLOOD RISK ASSESSMENT

&

DRAINAGE STRATEGY

Issue 3 – 21 October 2021

D1639/CJW

1. Introduction

1.1 Background

This document has been prepared as part of a Planning Application on behalf of Western Lakes Ltd, in accordance with the current National Planning Policy Framework (NPPF) 2021 and the guidance, in Section 14 – ‘Meeting the Challenge of Climate Change, Flooding & Coastal Change’, contained therein.

The proposal consists of the creation of raised landscaping and planting areas between/around the holes on the golf course, and some modifications to the existing land drainage system as a consequence of same, to generally improve the near surface drainage to ensure that the course is maintained in a ‘playable’ condition at all times.

The course was originally created on a former open-cast mining site, which was infilled with largely impermeable inert material. Whilst some land drainage, and feature pond features were installed at that time, the ground surface does become waterlogged, especially during the winter months, and/or after prolonged wet weather.

1.2 Site Description

The site is located at postcode CA28 8UD and grid ref 299375/518391. It comprises of the course itself, and clubhouse/car park, together with a driving range.

It is largely surrounded by public roads, with isolated residential properties and factory units nearby.

The site location and site wide aspects are indicated on Galpin Landscape Architecture drawings which accompany the Application.

These drawings also indicate the existing land drainage system which includes feature ponds which provide visual interest and a haven for wildlife. They include on site SW storage and attenuation, which was approved at the time of the original development. There are existing controlled discharge outfall pipes toward the South East corner of the site, and these will remain and are not affected by the on-site proposals.

/Contd ...

2. Planning Context

With reference to the NPPF, whilst the works are of a comparatively minor nature, a Level 1 – Strategic Flood Risk Assessment is required as the site exceeds 1 ha.

It can be classed as Water Compatible Development (Outdoor Sports), as outlined in Annexe 3 below and being in Flood Zone 1 (see attached EA Flood Map), the proposed Development (ref Table 3 below is appropriate). Due to the minor nature of the works the Sequential/Exception Tests are no deemed to apply.

Annexe 3: Water Compatible Development

- Flood control infrastructure.
- Water transmission infrastructure and pumping stations.
- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, **outdoor sports** and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

/Contd...

Table 3: Flood risk vulnerability and flood zone ‘compatibility’

Flood Zones	Flood Risk Vulnerability Classification				
	Essential infrastructure	Highly vulnerable	More vulnerable	Less vulnerable	Water compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a †	Exception Test required †	✗	Exception Test required	✓	✓
Zone 3b *	Exception Test required *	✗	✗	✗	✓*

3. Flood Riska) Fluvial

There are no relevant features near to the site, and generally the topography of the site location is such that it is largely higher than any surrounding features.

b) Tidal

The site is inland and tidal flooding is not relevant in this instance.

c) Sewers

The only sewers on site comprise of a private gravity system from the Clubhouse which discharges to the adopted network to Red Lonning to the South, and an isolated septic tank for Driving Range. These features are not affected by the proposed works and consequently there is no obvious risk in this instance.

d) Groundwater

The site was a former ‘open cast’ site, and consequently any groundwater level should be considerably below the current ground levels.

/Contd ...

e) Reservoirs

The attached EA plan confirms that there should be no risk.

f) Surface Water

The attached EA plan confirms that surface water accumulations should only occur at the existing ponds.

g) Sustainable Drainage

The existing land drainage system currently ensures that surface water run off from the ground surfaces, and other localised impermeable areas, is directed through, and controlled by, environmentally friendly feature ponds, prior to some limited off site discharge.

All new localised drainage which is installed, will generally comprise of filter drains upstream of the ponds, which should not affect any existing on site flows or storage, or off site discharge rates.

4. Summary

The proposal is located in Flood Zone 1, and being related to Outdoor Sports, it is permitted.

Any local modifications/additions to the existing land drainage system will be upstream of any existing storage/attenuation features, and should not increase any flows either into same or, off site, beyond same, consequently there should be no increased flood risk.

5. References

Galpin Landscape Architecture drawings:

WGC 1070-6-336 Existing Drainage

WGC 1070-6-337 Proposed Drainage

EA Flood Map 4 October 2021

EA – Extent of Flooding from Surface Water 4 October 2021

EA – Extent of Flooding from reservoirs 4 October 2021