

Technical design note

Project name	Goldthorpe		
Design note title	Flood Mitigation System - proposed maintenance		
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1. Introduction

This Technical Note has been produced in response to comments and requests for additional information made by the Environment Agency (EA) in relation to the outline planning application located off Barnsley Road, Goldthorpe (ref: 2023/1105).

2. Background

A letter from the EA to Barnsley MBC was sent on 8th January (reference: RA/2023/146635/04-LO1) stating that "the FRA fails to provide adequate/acceptable compensatory flood storage" in relation to planning application 2023/1105. A subsequent meeting was held on 17th January 2025 to discuss the above and seek to provide further information to justify the proposed flood alleviation design.

There were broadly 3 aspects to the EA objection -

- a) the designation of 'flood compensation' within an area shown as Flood Zone 3
- b) risk of blockages to the proposed culverts and maintenance surety
- c) further assessment needs on flow rates and timings

This note seeks to clarify point b) by giving further detail on the maintenance requirements proposed for the flood alleviation measures proposed. Points a) and c) will be addressed separately.

3. Maintenance Commitments - Surface Water drainage

The following commitments were made in Drainage Management Strategy report (ref: 23451-HYD-XX-XX-RP-D-0003) for all surface water drainage and flood mitigation features within the proposed development

(extract from 23451-HYD-XX-XX-RP-D-0003 follows)

1.1 Management, Maintenance and Residual Risk

- 1.1.1 The proposed drainage layout will be designed in accordance with building regulations, Design and construction guidance, and Ciria C753 for SuDS structures.
- 1.1.2 Run-off from roofs is considered to be generally clean with limited contamination, and will be discharged directly to the proposed drainage infrastructure and new SuDS Facilities. Silt is to be prevented from entering the drainage system by the use of trapped gullies, interceptors or by the use of sustainable drainage techniques.
- 1.1.3 Run-off from car park and loading areas will be treated via proprietary treatment system of a full-retention oil interceptor.

1.1.4 A private management company will maintain the drainage infrastructure as part of a site-wide management and maintenance schedule as shown in Table 5 below.

Item	Maintenance	Frequency per year
Gullies	Removal of silt accumulation from mud bucket. Gratings checked for operation/damage – replaced if required.	2
Surface Water Manholes, Flow Controls	As Above. All catch pits/Vortex Separators to have silt/solid accumulation removed & base jetted clean.	1
Drainage Channels/Kerb Drains	All catch/access pits to have silt/solid accumulation removed. Channel run to be jetted through between access points. Any channel grates to be inspected for damage & replaced as necessary.	2
Ponds	Remove litter and debris, Cut Grass – for access routes and around basin, manage other vegetation and nuisance plants. Inspect inlets and outlets for blockages – clear if required. Inspect banksides, structures, pipework for evidence of physical damage. Inspect inlets and facility surface for silt accumulation.	12
Cascading Ponds	As Above.	12

Table 1: Drainage Maintenance (note: foul drainage omitted as not relevant)

Note that the above SuDS do not form part of the Flood Mitigation System but will be maintained by the same organisation. Timing of activities will depend on weather conditions, eg 12 activities will not necessarily be one per month.

4. Maintenance Commitments - Flood Mitigation System

The following maintenance of the Flood Mitigation System will be carried out as a minimum:

Item	Maintenance	Frequency per year
Flood Basins	Inspect. Remove litter and debris, Cut Grass – for access routes and around basin, manage other vegetation and nuisance plants. Inspect banksides for evidence of physical damage.	12
Trash Screens	Inspect. Regularly remove litter and debris by mechanical raking.	12
Headwalls	Inspect for silt accumulation. Silt to be periodically removed, trigger value to be once silt exceeds 10% of inlet capacity. Any damage to headwalls or railings to be repaired.	12
Culverts	CCTV survey of culverts <1.2m diameter. Internal visual inspection of larger culverts.	1

Remove silt (with suitable sediment management system, to capture and remove from site).

Rectify any defects with pipe lining techniques as Sewer Rehabilitation Manual (eg CIPP liner) or other suitable repair techniques, dependent on the type of defect

All maintenance shall be planned and carried out in accordance with CIRIA C786 Culvert, Screen and Outfall Manual. Pipe inspection and repairs shall be in accordance with the Sewer Rehabilitation Manual.

5. Further Design Considerations

The design of the Flood Mitigation System as a bypass, rather than off-line flood storage, allows for floodwater to pass through the system, which will be less prone to siltation than an off-line system.

The quadruple 900mm piped culvert beneath the new road is proposed to be fitted with trash screens at both ends. The 1800mm piped culvert linking the flood conveyance route to the flood storage basin and the 900mm diameter outlet pipe from the flood storage basin are not designed with screens. The rationale behind this is to minimise the risk of a blockage, as if one of the quadruple pipes becomes blocked the other three will be available. Access will be restricted to headwalls which are not fitted with screens and warning signs will be installed. Culvert blockage modelling has been carried out and is reported in 23451-HYD-XX-XX-TN-WENV-0002 'Response to EA Comments'.

6. Management company

As with the surface water drainage strategy, the dedicated management company will be responsible for the long-term maintenance of the flood mitigation system and will carry out this role in perpetuity, following completion of the construction works and associated contractor maintenance period.

Management Company (ManCo) will be set up to run the wider maintenance for the Site. This maintenance will be secured via suitably worded planning conditions/obligations. Therefore, if they are not complied with the local planning authority can step in and ensure compliance.

The occupiers of the future buildings will pay a service charge to facilitate the maintenance. Of note:

The ManCo will be a registered company and will utilise existing contractors to undertake the agreed work (as agreed via the planning permission conditions/obligations) in line with requirements. If the contractors for the ManCo are unable to fulfil the requirements (secured via the planning permission) then there will be provision to ensure suitable replacement is found.

As set out above this will be paid for via the service charge.

In the extremely unlikely event that all buildings are vacated at the same time then the landlord (who will ultimately own the asset) will step in and ensure continuity.