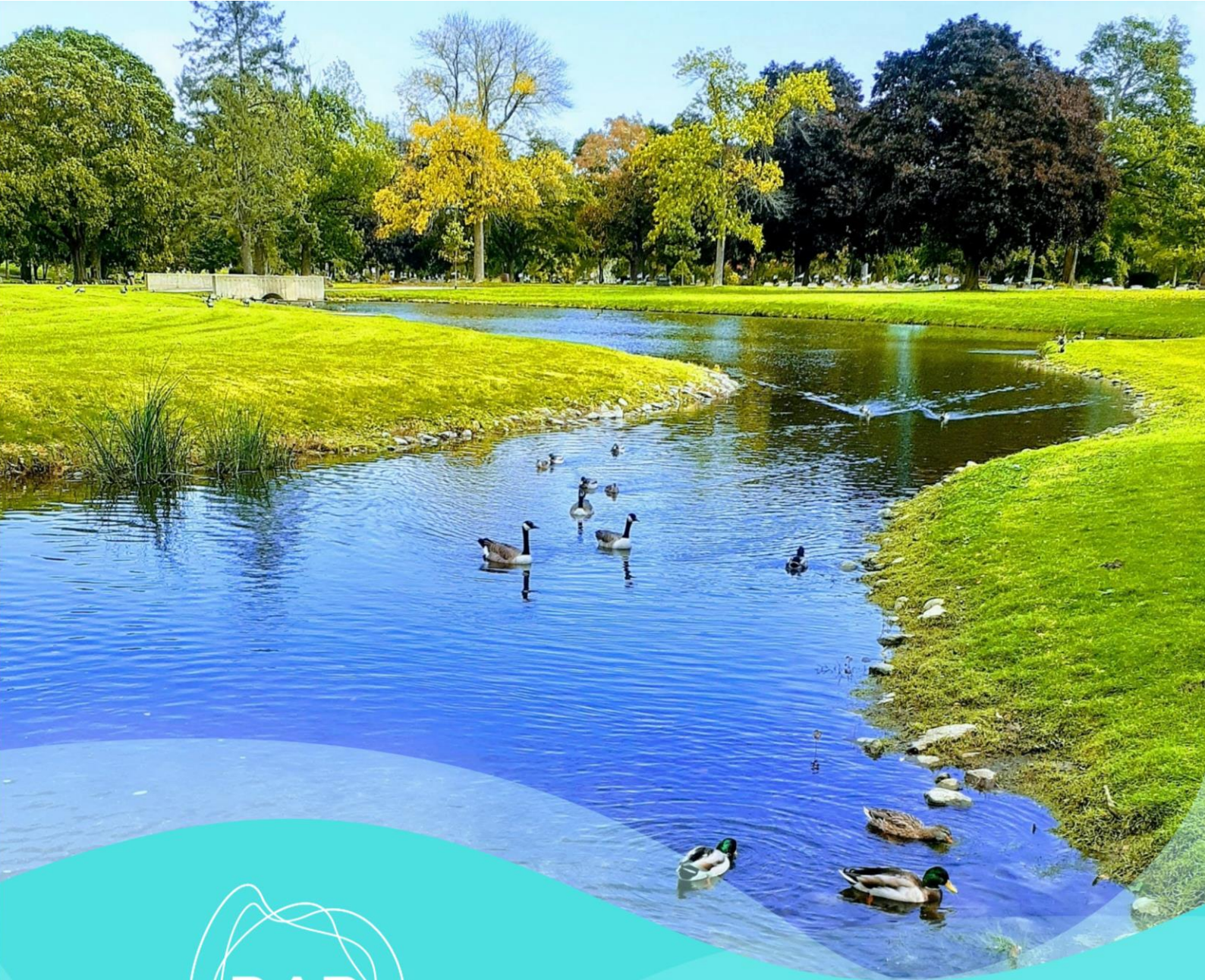




Mythe Farm, Sheepy Magna Flood Risk Assessment

29 August 2025
Version 1.0
RAB: 3393



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Quality Control

Action	Name
Prepared	N. Parsons
Checked	G. M. Wilson
Approved	G. M. Wilson

Revision History

Version	Date	Amendments	Issued to
1.0	29/08/2025	First Issue	Ellie Jones Macdonald Planning Consultancy



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1.0 Introduction

RAB Consultants has prepared this Flood Risk Assessment (FRA) in support of the proposed storage of caravans and creation of a wildlife pond at Mythe Farm, Sheepy Magna.

The development site is located partially in Flood Zone 2 according to the Environment Agency's Flood Map for Planning (Rivers and Sea). A Flood Risk Assessment for this site is required under the National Planning Policy Framework (NPPF) as it is located in Flood Zone 2.

A site-specific FRA is required to ensure that the development is safe from flooding and will not increase the risk of flooding elsewhere.

2.0 Site details

2.1 Site location

TABLE 1: SITE LOCATION

Site address:	Mythe Farm, Pinwall Lane, Sheepy Magna, Atherstone CV9 3PF
Site area:	Approx 0.9ha
Existing land use:	Greenfield
OS NGR:	SP 31368 99450
Local Planning Authority:	Hinckley and Bosworth Borough Council



2.2 Site description

The site is associated with Mythe Farm which generally comprises of farmland and agricultural buildings, located approximately 2km north of Atherstone town centre.

The site is surrounded by agriculture and farmland with the River Anker to the south.

Access to the site is made via the private driveway off Pinwall Lane to the north and Atherstone Road to the west.

2.3 Development proposal

Development of this site is part retrospective, with planning permission sought to retain a gravel yard area constructed for the seasonal storage of caravans.

The remainder of the application proposes to excavate an area of land in the northwest corner of the farm to create a wildlife pond.

Proposed plans with a topographic survey of the site are provided in Appendix A.

3.0 Flood Risk

3.1 Sequential test

According to the Environment Agency's Flood Map for Planning the site lies partially in Flood Zone 2, which is described in the NPPF as land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (between 1% AEP and 0.1% AEP).

The NPPF follows a sequential risk-based approach in determining the suitability of land for development in flood risk areas, with the intention of steering all new development to the lowest flood risk areas. NPPF Planning Practice Guidance (PPG) Annex 3 confirms the 'Flood risk vulnerability classification' of a site, depending upon the proposed usage. This classification is subsequently applied to Table 2 'Flood risk vulnerability and flood zone compatibility' to determine whether:

- The proposed development is suitable for the flood zone in which it is located; and
- Whether an Exception Test is required for the proposed development.

The proposed wildlife pond is classed as a 'water-compatible' development in accordance with NPPF PPG. The aim of the project is to create a wildlife pond to improve biodiversity within a habitat that is on the margin of a watercourse. By definition, this requires land that is located within a floodplain. On this basis, considering alternatives that are at lower flood risk is not appropriate in this case.

The gravel caravan storage is 'less vulnerable' development located in Flood Zone 1 which is appropriate for the flood zone.

Overall, the elements of development are appropriate for the respective Flood Zones, therefore considering alternative sites that are at lower risk is unnecessary in this case. The principle of the Sequential test has therefore been met.



3.2 Climate Change Impact

The Environment Agency guidance document 'Flood risk assessments: climate change allowances' was released in February 2016 and last updated in May 2022. It includes statistical increases on peak fluvial flows, sea level rise, and rainfall intensity by Management Catchment and allowance categories based on epochs and development vulnerability classification.

Referring to the NPPF PPG, the element of development in Flood Zone 2 is classified as 'water-compatible'. There is no clear design lifetime for a pond, but assuming it becomes a mainstay in the landscape the 'central' allowance category applies for development in Flood Zone 2. This equates to an increase of 22% on modelled flow for the Tame Anker and Mease Management Catchment in the 2050s.

For peak rainfall intensity, the 'upper end' allowance category equates to an increase of 40% for the 1% AEP in the 2070s.

3.3 Flood History

Hinckley and Bosworth Borough Councils 2019 Strategic Flood Risk Assessment (SFRA) shows a table of historical flood events from Leicestershire County Council's Historic Flooding Incidents and Assets Register. The table shows borough-wide events and a December 1992 event to an area north of Atherstone.

The Environment Agency's Recorded Flood Outlines shows a single extent to the west of Atherstone Road, opposite the site. This event is from December 1992, which is expected to be the event in the SFRA.

Internet searches revealed no other evidence of flooding in the area.

3.4 Fluvial (Rivers)

The north of the site is located within Flood Zone 2 according to the Environment Agency's Flood Map for Planning (Figure 1). The nearest watercourse is a small unnamed stream that flows along the north and west boundaries of the site. After crossing Atherstone Road, this small watercourse flows south to the River Anker. The primary risk of flooding to the site appears to come from the much larger River Anker backflowing up along the valley of the small unnamed watercourse.

It can be seen in Figure 1 that there is an area to the north of the proposed pond location in Flood Zone 3. This area reflects a naturally low-lying wooded area to the north through which the small unnamed stream flows. From the topographic survey (Appendix B), it can be seen that this wooded area lies at a level of 67.6mAOD, which is comparable with the right bank of the River Anker downstream of Atherstone Road according to freely LiDAR data (DTM-1m-2022). This level comparison shows how high water in the Anker can flow back to reach land near the proposed pond, driving the main flood mechanism at that location.

The River Sence flows into the River Anker to the south of the caravan storage area.

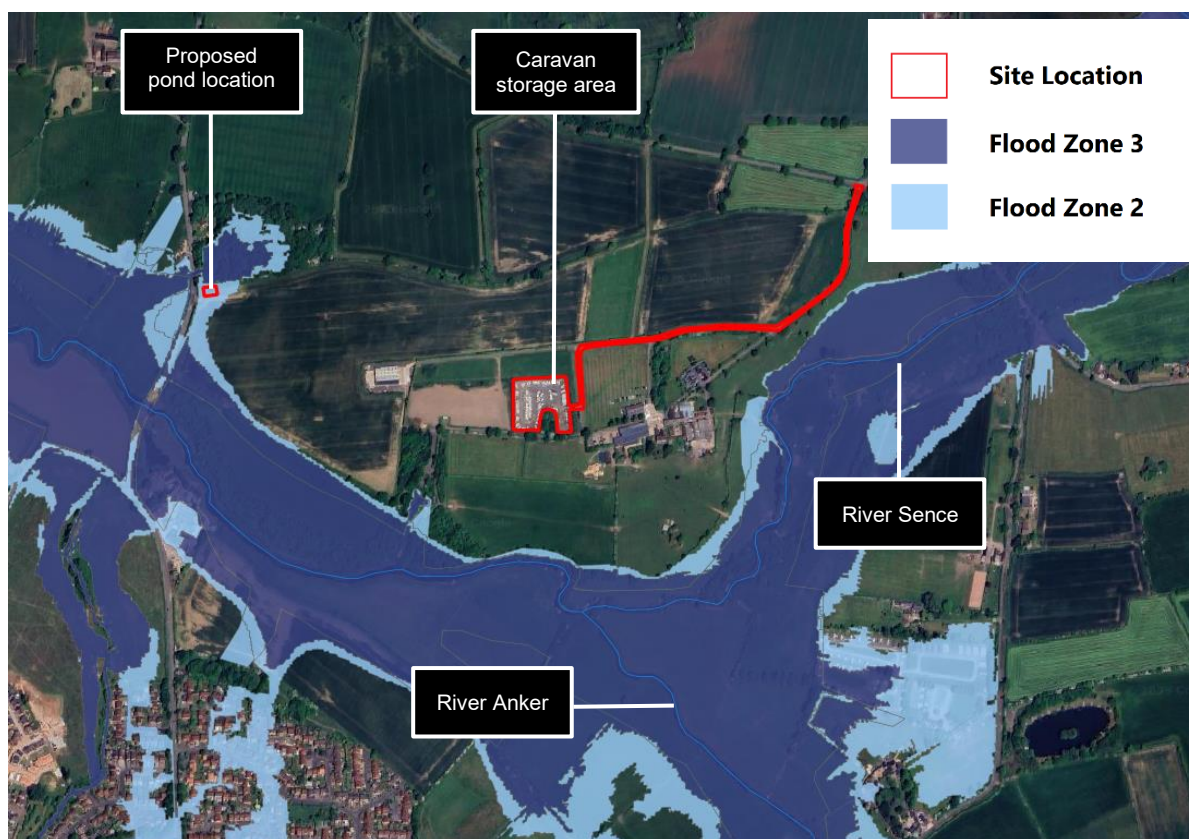


FIGURE 1: ENVIRONMENT AGENCY'S FLOOD MAP FOR PLANNING OVERLAIN ON GOOGLE MAPS

The Environment Agency has provided Product 4 flood data (Appendix B) relevant to the site from the River Anker Flood Risk Mapping Study 2006, which includes 1D in-channel outputs for a range of return periods.

The area of interest for flooding within the site is the location of the proposed pond. The node which is most relevant to this location is '033_3127_60'. The 1D flood level at this node is 69.19mAOD for the 4% AEP event, 69.40mAOD for the 1% AEP event and 69.65mAOD for the 0.1% AEP event. Compared with existing ground levels at the proposed pond location (68.8mAOD – topographic survey in Appendix A), these estimated flood levels represent a flood depth range of 0.39 – 0.85m.

While uncertain, extrapolations to even lower design flows (10%, 5% AEP) suggest the hydrology of the ground on which the pond is proposed will be regularly influenced by the Anker.

3.5 Flood defence breach or overtopping

3.5.1 Breach Risk

The site does not benefit from flood defences, so there is no breach risk for the site.

3.5.2 Overtopping Risk

The site does not benefit from flood defences, so there is no overtopping risk for the site.

3.6 Coastal/Tidal

The site is not affected by coastal or tidal flood risk.

3.7 Pluvial (Surface water)

The Environment Agency's Surface Water Flood Map (Figure 2) identifies both the caravan storage and proposed pond location to be at 'very low' risk of flooding from this source.

There is an area of surface water risk to the north of the proposed pond location which reflects a depression within the wooded area to the north. The pond location naturally sits higher than this risk. The surface water risk map identifies flow routes associated with local field ditches and the unnamed watercourse which flows through the wooded area en route to the River Anker.

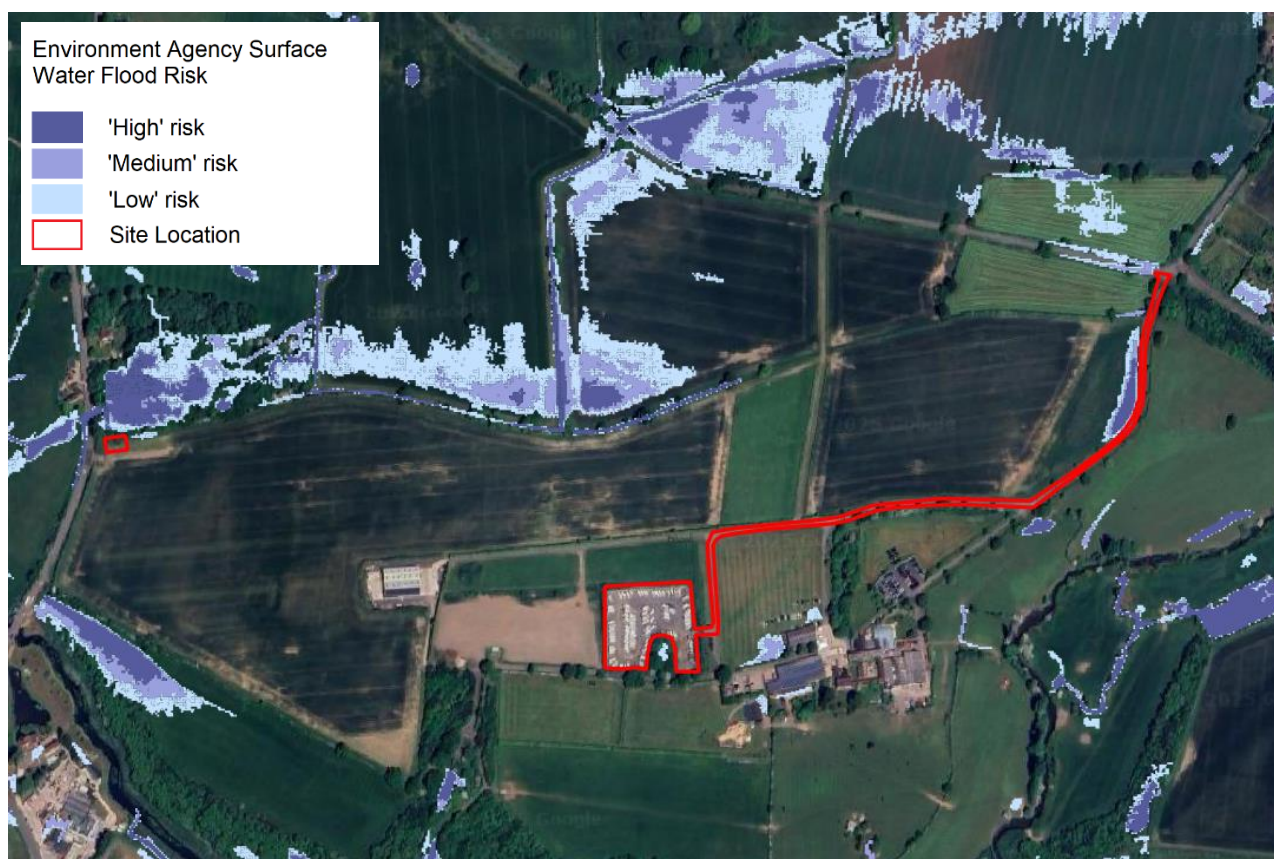


FIGURE 2: ENVIRONMENT AGENCY'S SURFACE WATER FLOOD MAP OVERLAIN ON GOOGLE MAPS



TABLE 2: ENVIRONMENT AGENCY SURFACE WATER RISK CATEGORIES

Surface Water Risk Category	Surface water flooding Annual Exceedance Probability
Very Low	< 0.1%
Low	Between 1% and 0.1% (1 in 100 years and 1 in 1000 years)
Medium	Between 1% and 3.3% (1 in 100 years and 1 in 30 years)
High	> 3.3% (1 in 30 years)

3.8 Artificial water bodies

The Environment Agency's Reservoir Flood Map identifies that the proposed pond is at risk of flooding from this source when there is also flooding from rivers.

Reservoir flooding is extremely unlikely to happen. The Environment Agency as the enforcement authority for the Reservoirs Act 1975, ensures that reservoirs are inspected regularly, and essential safety work is carried out. The risk of flooding from reservoirs is therefore considered to be lower than fluvial risk which has been assessed in Section 3.4.

There are no raised canals near the proposed site to pose a risk.

3.9 Groundwater

The 2019 SFRA states '*The Areas Susceptible to Groundwater Flooding map shows that, in general, the majority of Hinckley and Bosworth borough is within the <25% susceptible classification, therefore it is at lower risk of groundwater flooding*'.

BGS online mapping reports the local bedrock to be sedimentary Gunthorpe Member - Mudstone with river terrace superficial deposits - sand and gravel. BGS borehole records show a nearby borehole, 750m east of the site, which shows 'red-brown clays, rounded pebbles and red sand' in the first 2.5m, with 'red-brown clays and mudstone bands' continuing for at least 100m. Soilsmap indicates that the proposed site is located in an area of 'Loamy soils with naturally high groundwater'.

The Environment Agency Long Term Flood Risk website reports that groundwater flooding is unlikely in this area.

With the proposed pond being in close proximity to the River Anker, groundwater will be closely linked to fluvial water. Fluvial risk has been assessed in Section 3.4.

The caravan storage is situated at a local high point many metres above the pond.

Based on this information a further assessment of groundwater flooding is not appropriate.

3.10 Sewers

The topographic survey (Appendix B) does not show any drainage infrastructure within the site which is set within a rural environment. It therefore seems unlikely that the proposed site is at risk from water emergence from a nearby sewer.



Sewers generally act as a conduit for water arising from other flood sources. In this case, the River Anker and the unnamed ordinary watercourse to the north which has been assessed in Section 3.4.

Based on this information, a further assessment of sewer flooding is not appropriate.

4.0 Mitigation Methods

4.1 Risk to structures

4.1.1 Finished floor levels / Risk control measures

The proposed pond is water-compatible and designed to be wet, therefore it is not required to provide flood risk control measures to protect the feature.

The gravel caravan storage is at very low risk from all assessed flood risk sources, therefore flood risk control measures are not appropriate.

4.1.2 Risk mitigation measures

Flood resistance is a strategy of temporary or permanent measures taken to reduce the amount of flood water that will enter buildings.

Flood resilience measures are intended to reduce damage to a building such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment.

Given the nature of development neither a strategy of flood resistance nor resilience are appropriate.

4.2 Risk to occupiers

4.2.1 Safe access/egress

Safe dry access is expected for the seasonal caravan storage area in the 1%AEP+CC flood event.

The wildlife pond has been proposed with the primary objective to bring biodiversity benefit. It has not been proposed with the intention to create an amenity feature for people therefore there will be no increase in risk to people at that part of the site.

4.2.2 Flood warning and evacuation plan

The wildlife pond is not for amenity use and so will not be visited other than for routine inspection and maintenance, where visits can be timed to not coincide with heavy rainfall. As such, there is no reason for a Flood Warning and Evacuation Plan to be implemented on site.

4.3 Risk to others

The proposed pond location is currently in natural, greenfield condition. The proposed development will involve the reshaping of ground such that a proportion of direct rainfall and runoff from adjacent land will be contained to create a formal pond. This has the potential to impact natural flow paths and increase runoff as a water surface is effectively an impermeable surface.

The potential impact of the pond and gravel caravan storage have been assessed below.

4.3.1 Hydrological context

Wildlife Pond

The location of the proposed pond lies within the River Anker floodplain, adjacent an unnamed ordinary watercourse which flows into the Anker shortly after passing the site. The pond is proposed to be created on ground that is relatively level (68.8mAOD), which lies 1m higher than the adjacent northern wooded area (Figure 4).

At the pond location, the ordinary watercourse is fed by a 1.3km² catchment that emanates just north of Sheepy Road in Sheepy Magna. The watercourse has an average slope of 1 in 500. BGS indicates the catchment to be underlain by sedimentary bedrock comprising mudstone with river terrace superficial deposits of sand and gravel. Soilsapes indicates that the proposed site is located in an area of 'Loamy soils with naturally high groundwater'.

A 4ha subcatchment to the southeast is expected to contribute runoff to the unnamed ordinary watercourse / wooded area that passes through the location of the proposed pond (Figure 3). The land leading down to the proposed pond has a gradient of 1 in 40 and is identified on Soilsapes as having 'Loamy soils with naturally high groundwater'.

The Flood Map for Planning indicates the proposed pond location lies within the River Anker floodplain. Hydrology is therefore expected to be largely driven by the main river. Available modelled data for the Anker and low return period estimations suggests a regular interaction between the river and the site – either directly as observable water / flooding or indirectly through wetness in the soil. The pond location will therefore be generally wet and flooded at times as a result of the Anker.

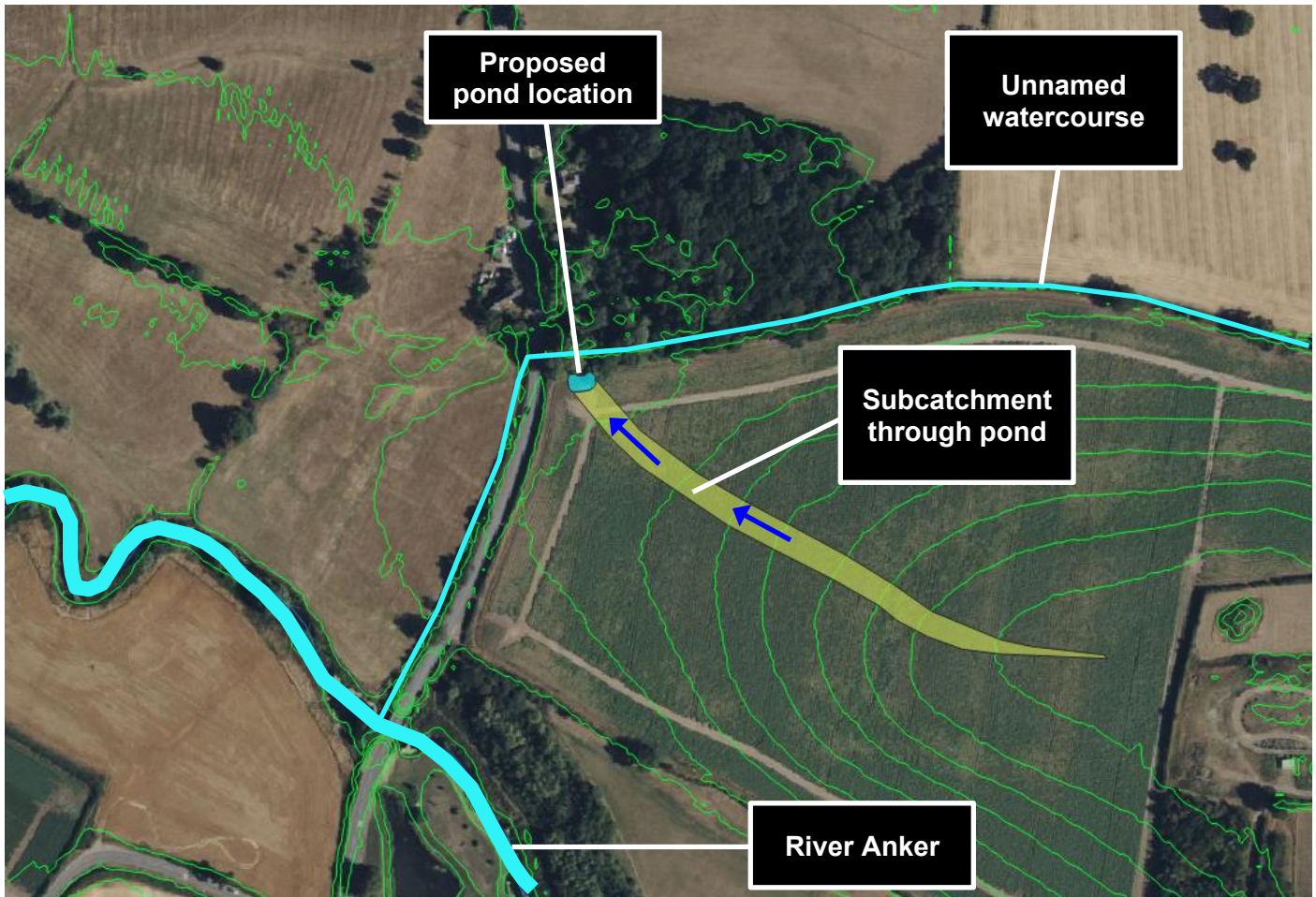


FIGURE 3: SUBCATCHMENT DERIVED FROM 1M CONTOUR LINES BASED ON LiDAR DATA (DTM-2022-1-SK01SE)

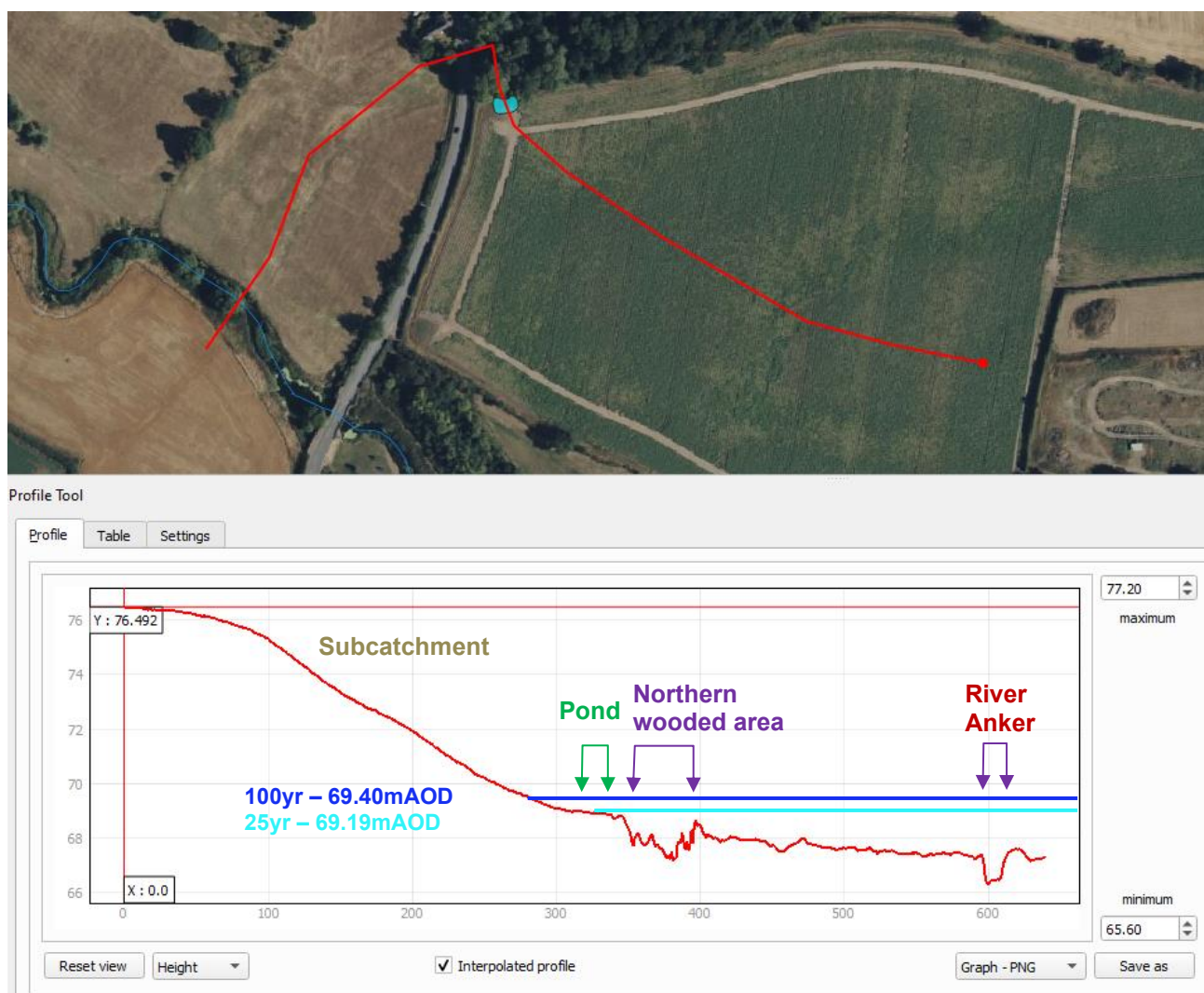


FIGURE 4: LONG SECTION THROUGH THE SUBCATCHMENT BASED ON LIDAR DATA

Gravel caravan storage

The gravel caravan storage measures 5500m² and has been created at a local topographic high point located entirely in Flood Zone 1. The gravel area has been created around a longstanding pond which measure approximately 600m². Pre-development, this area consisted of a smaller gravel yard to the west of the pond, a horse menage to east of the pond and outdoor off-road go kart track to the north.

The longstanding pond can be seen on Ordnance Survey maps dating back to the 1800s. Given its location at a local topographic high point, there is a very small catchment area which naturally collects runoff into the pond. Pre-development, the horse menage measuring approximately 750m² would have naturally runoff towards the pond, while the remainder of the area is expected to have runoff northwest towards the wooded area.

BGS indicates this area is also underlain by sedimentary bedrock comprising mudstone with river terrace superficial deposits of sand and gravel. Soilscares indicates that this area is also located in an area of 'Loamy soils with naturally high groundwater'.

4.3.2 Existing drainage

Wildlife Pond

Drainage from the ground on which the pond is proposed to be located is largely impacted by it being:

- relatively level;
- set at the base of a steeply sloping subcatchment;
- set within the River Anker floodplain;
- elevated just 1m above the northern wooded area which is hydraulically linked to the River Anker.

The ground is expected to be routinely wet, regularly water-logged and occasionally completely flooded. Direct rainfall on the site and inflow from the south subcatchment will therefore rapidly runoff to the adjacent wooded area with very little loss other than a degree of depression storage. For much of the year the land will runoff as if impermeable. This particular ground would not be well represented by standard greenfield runoff calculations which are derived from river flow data which reflects aggregate runoff from whole catchments.

Gravel caravan storage

Prior to being created, drainage from this area would have been impacted by it being:

- relatively level;
- previously developed, worked and compacted;
- located next to the longstanding pond.

According to Soilscales, the ground is described as 'Loamy soils with naturally high groundwater'. It should be noted however that the caravan storage area lies at a small local high spot almost 10m above that of the proposed pond. Small topographic features such as this may not be captured by wide-resolution datasets such as Soilscales.

Prior to the creation of the caravan storage, the area was previously developed, worked and compacted such that a high percentage of runoff from the area was likely pre-development. It is expected direct rainfall on the area would runoff with little initial loss. Runoff then crosses a long way over farmed fields (with 1:40 slope) to reach the wooded area to the north-west, where there is potential for greater losses.

The existing pond which the caravan storage now surrounds is a longstanding feature in the landscape. No drainage information on this pond has been made available, so it is not known if there is any formal outlet arrangement from the pond. Any outlet pipe from the pond would most likely enter a drainage ditch that lies directly south of the feature. This drainage ditch flows west then south into the River Anker.

4.3.3 Impact of proposal

Wildlife Pond

A plan and cross-section of the proposed pond is included in Appendix A. This shows that it will be created by excavation only to provide greater biodiversity opportunities. No ground will be raised, nor will the pond be lined or designed with the intention to maximise the water contained throughout the year. The proposal



will therefore not impact flood flow paths from the south subcatchment nor impact floodplain storage volume.

With regard to runoff quantity (rate and volume), given the existing ground is expected to be routinely wet and likely flooded during major storms, no increased runoff is expected from the proposed change. At times of significant flooding in the wider area, the existing ground is expected to be completely flooded by the River Anker and the presence of a submerged pond would therefore not change the overall flood risk profile. During dry spells, particularly in the summer months, the ground will dry out. In this situation, in the event of a major storm, the proposed pond would offer increased depression storage ahead of any flood inflow on the River Anker which would be beneficial for wider flood risk.

Ponds are generally considered to be beneficial for water quality as the detained water has a greater opportunity for filtration processes.

Overall, as no negative impact is expected on flood risk to the site or elsewhere, no mitigation measures are needed.

Gravel caravan storage

This part of the site is set at a local high point with land falling steeply northwest towards the wooded area. High-level indicative data suggests the ground will naturally have a low potential to infiltrate rain water. The area where the caravan storage now lies was previously developed, worked and compacted such that a relatively high percentage of runoff from the area was likely. While the creation of the gravel caravan storage has the potential to increase runoff from this area, its impact is expected to be low given the underlying natural conditions and pre-development use.

Mitigation measures have been employed to deal with the potential increase in runoff. To create the caravan storage area, soil has been excavated, and a layer of gravel laid which will offer an opportunity for infiltration in the base and water containment within the gravel pores. LiDAR data (DSM-1m-2021) also shows excavated soil has been used to form a perimeter bund (0.5 – 1.5m high, 5m wide) around the gravel area which will further enhance water containment.

While not formally drained, the gravel surface and bund will allow natural seepage through the ground and bund. An informally drained feature such as this does not lend itself to drainage modelling. However, it seems to be a reasonable approach that is not expected to increase runoff leaving this area, with potential to reduce runoff from this part of the site when compared to pre-development.

Overall, no negative impact is expected on flood risk to others.

In the scenario that infiltration into the ground and seepage through the bund is very low, there is a risk of the contained caravan storage area filling with water. To mitigate this potential risk, a section (at least 3m wide) of the bund at the northwest corner should be reduced to a height no greater than 0.15m above the gravel surface, so any ponded water can overflow and drain away to protect stored caravans.



5.0 Conclusion

Planning permission is sought for the creation of a wildlife pond and for the retention of a previously created gravel caravan storage at Mythe Farm, Pinwall Lane, Sheepy Magna, Atherstone.

The site is partially located within Flood Zone 2 according to the Environment Agency's Flood Map for Planning with risk arising from the River Anker. All other sources of risk have been considered with fluvial the main risk to the proposed pond.

The wildlife pond is a naturally wet feature proposed to bring biodiversity benefits; therefore no specific flood risk management measures are appropriate. The pond has not been brought forward with the intent to provide amenity, therefore there will be no increase in risk to people. It will be created through excavation and will not be lined; therefore it will not impact flow paths or flood risk and will drain during dry spells. The pond will be located on ground that is already saturated for much of the year and will occasionally flood. In this regard there will be little change in runoff from this package of land compared with existing.

Pre-development, the gravel caravan storage was developed, with a relatively high percentage of runoff expected. The creation of the caravan storage is not expected to impact runoff rates, as the gravel surface and perimeter bund created with excavated material will offer infiltration opportunity and water detention, which has the potential to reduce runoff from this part of the site when compared to pre-development.

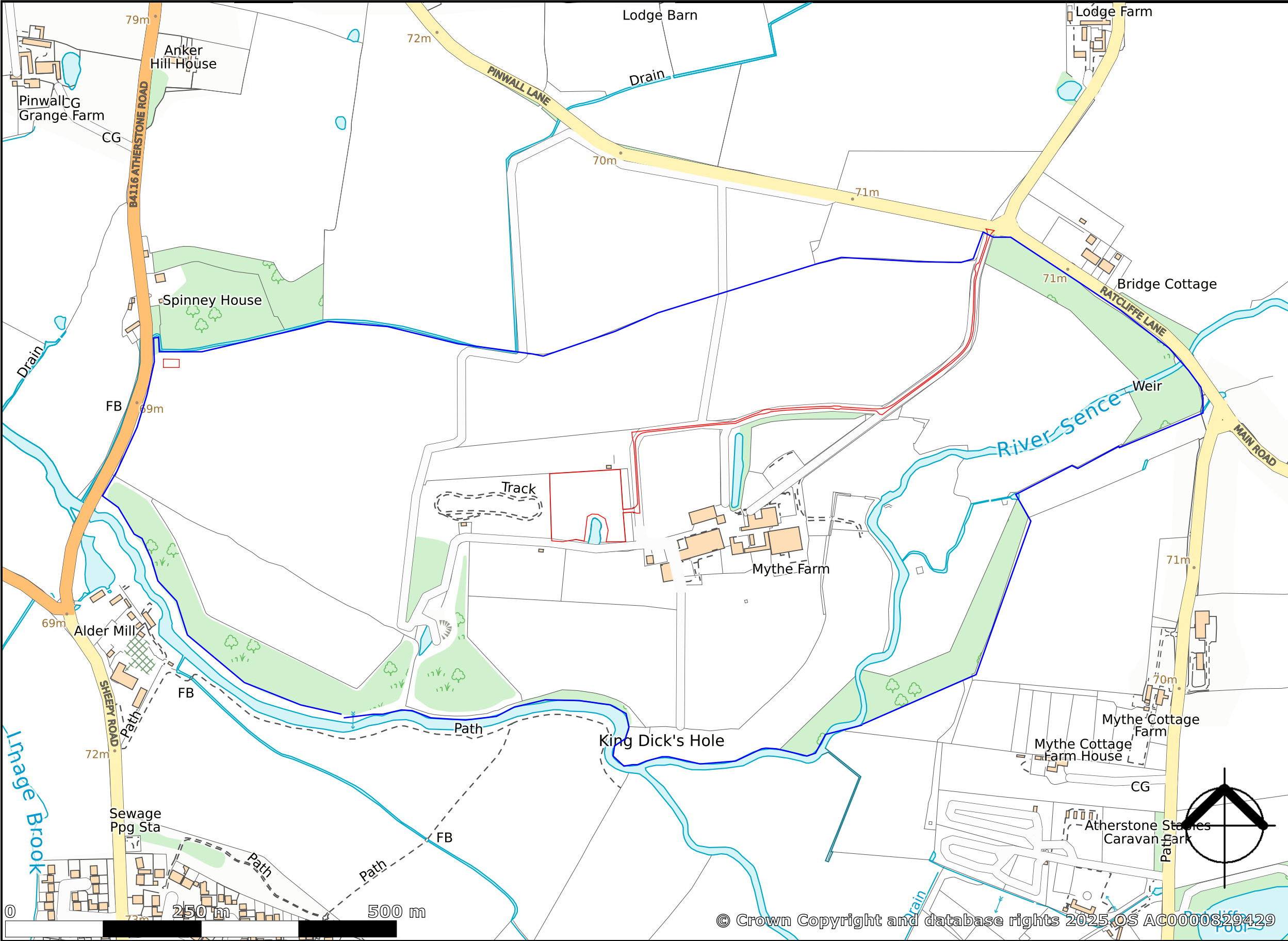
It is concluded that the site offers scope to deliver the proposed development such that it will be appropriate for the flood risk and is not expected to increase the risk of flooding elsewhere.

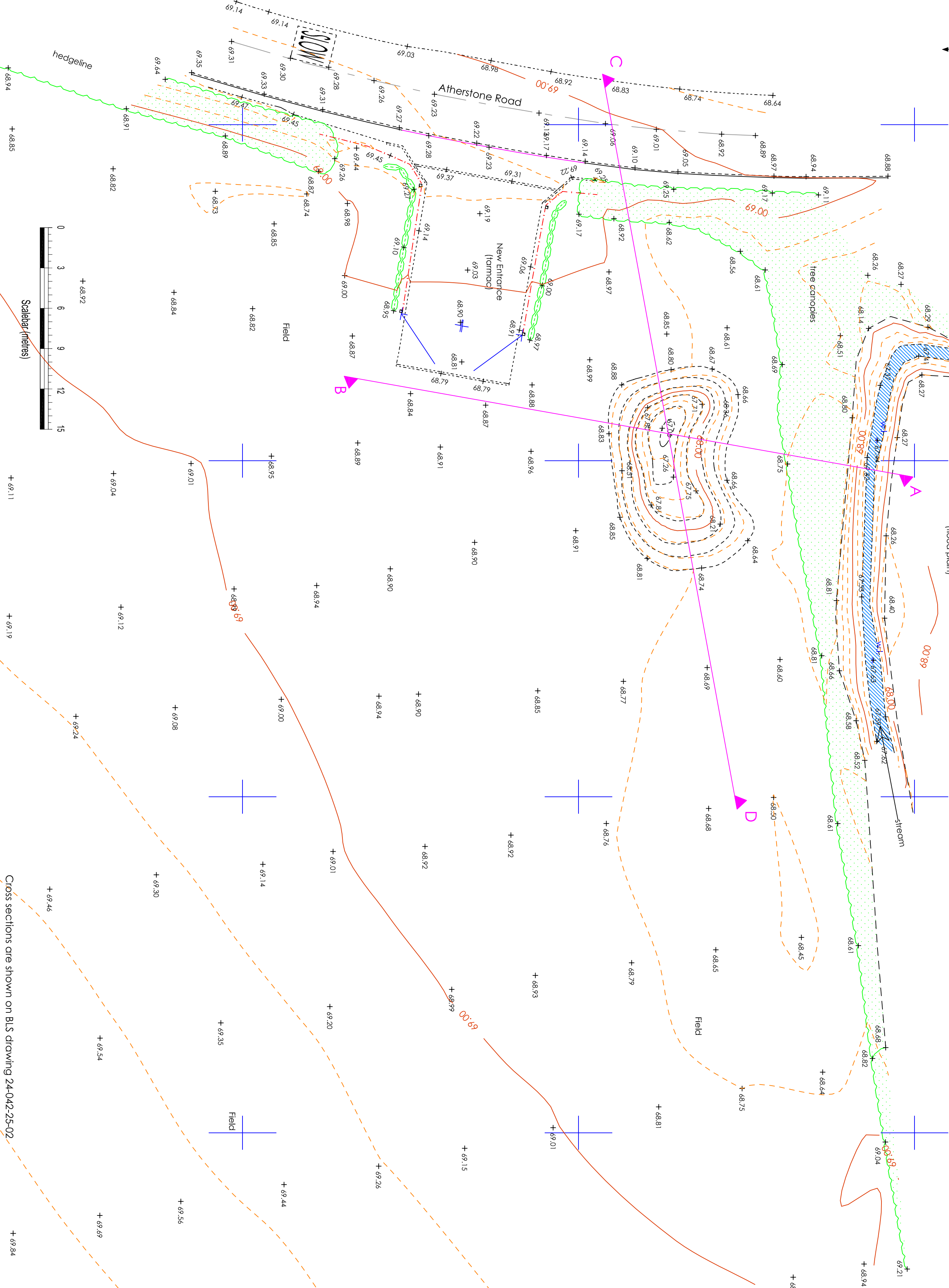
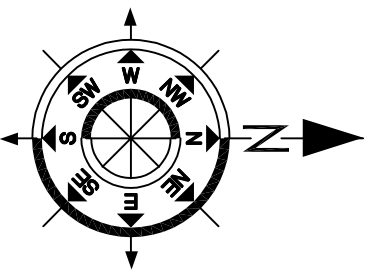
6.0 Recommendations

- Do not raise ground within Flood Zone 2 and 3 as identified in Figure 1. Locate any excavated material outside of the flood zones and mapped flood risk areas.
- Do not line the proposed pond with clay / an impermeable membrane – Allow it to fill and drain naturally, as per the existing ground.
- To mitigate the potential risk of water not draining from the gravel caravan storage, at the northwest corner of the area, create an overflow section (at least 3m in length and no greater than 0.15m above ground) within the perimeter bund.
- Construction (Design and Management) Regulations 2015:
 - The revised CDM Regulations came into force in April 2015, which defines the duties for all parties involved in a construction project, including those promoting the development. One of the designer's responsibilities is to ensure that the client organisation, in this instance Jeremy Johnson, is made aware of their duties (please see [link](#) for Commercial Client) under the CDM Regulations.



Appendix A – Proposed Plans & Topographic Survey





Survey Key:-

BO	Bolliard
BB	Bellino Beacon
BT	BT Cover
CB	Telephone Control Box
CO	Unidentified Cover
Conc	Concrete
EP	Electricity Pole
FH	Fire Hydrant
FW	Foul Water Drain Cover
GU	Drainage Gully Cover
GV	Gas Valve
Gas	Gas Cover
IC	Inspection Chamber Cover
LB	Lamp Post
LP	Lamp Post
MC	Metal Drainage Channel
MH	Manhole Cover (round)
MP	Manhole Post
RWP	Rain Water Pipe
SV	Water Stop Valve
SW	Storm Water Drain Cover
TCB	Telephone Call Box
TL	Traffic Light
TP	Telegraph Pole
TV	Cable TV Cover
WM	Water Meter Cover

	Survey Control Station
	Trial Pit
	Borehole
	Water Level (with dote measured)
	Spot Level
	Tree (spread to scale)

	Fenceline
	Electricity Transmission Line
	Hedge
	Rock Face
	Embankment Slope
	Conflour Lines
	Gas Pipeline
	Water Pipeline

Some of these symbols may not appear on this drawing

Notes :-
Survey is tied to Ordnance Survey grid and level by GPS Smartnet
Contours where shown are at 0.25m intervals and highlighted at 1m intervals
Grid crosses are shown at 25 metre spacings

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Project:
Mythe Farm
Pinwall Lane
Atherstone

Drawing:
Proposed New Pond
off Atherstone Road

Scales:	Drawn / Sheet Size
1:200	mjs/A2
Date:	Drawing No:
Jan 2025	24-042-25-01

Survey Key:-

BO	Bollard
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CB	Telephone Control Box
CO	Unidentified Cover
Conc	Concrete
EP	Electricity Pole
FH	Fire Hydrant
FW	Foul Water Drain Cover
GU	Drainage Gully Cover
GV	Gas Valve
Gas	Gas Cover
IC	Inspection Chamber Cover
LB	Letter Box
LP	Lamp Post
MC	Metal Drainage Channel
MH	Manhole Cover (round)
MP	Marker Post
RWP	Rain Water Pipe
SV	Water Stop Valve
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Project:

Mythe Farm
Pinwall Lane
Atherstone

Drawing:

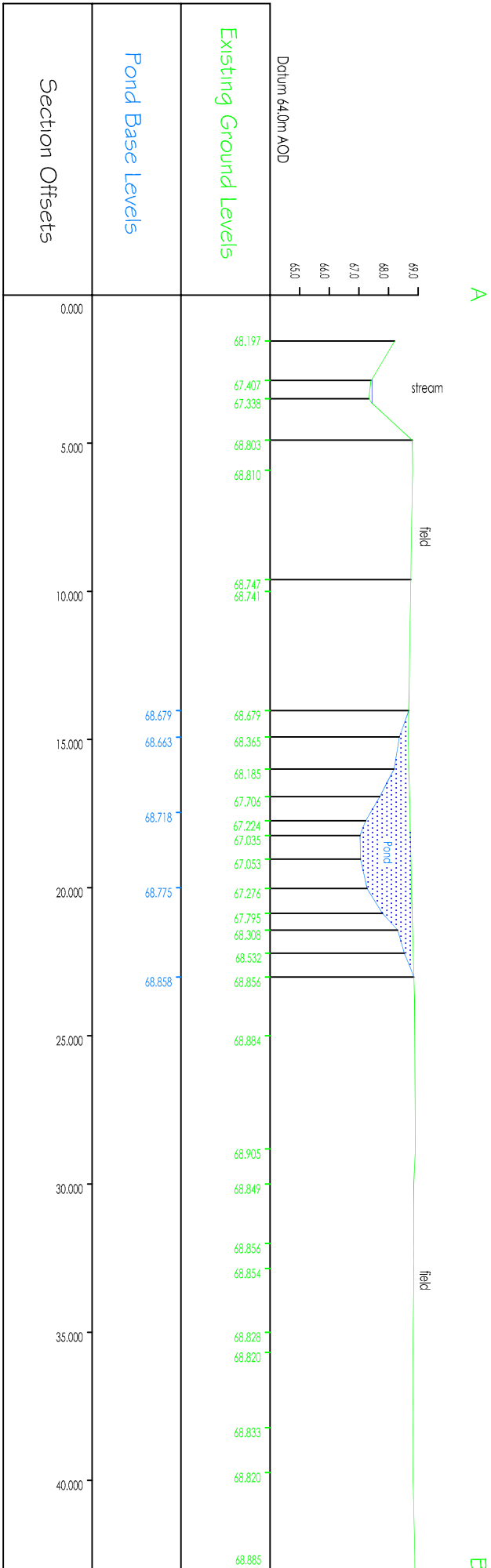
Proposed New Pond
off Atherstone Road
Cross Sections

Scales:-	Drawn / Sheet Size
1:200	mjs/A2

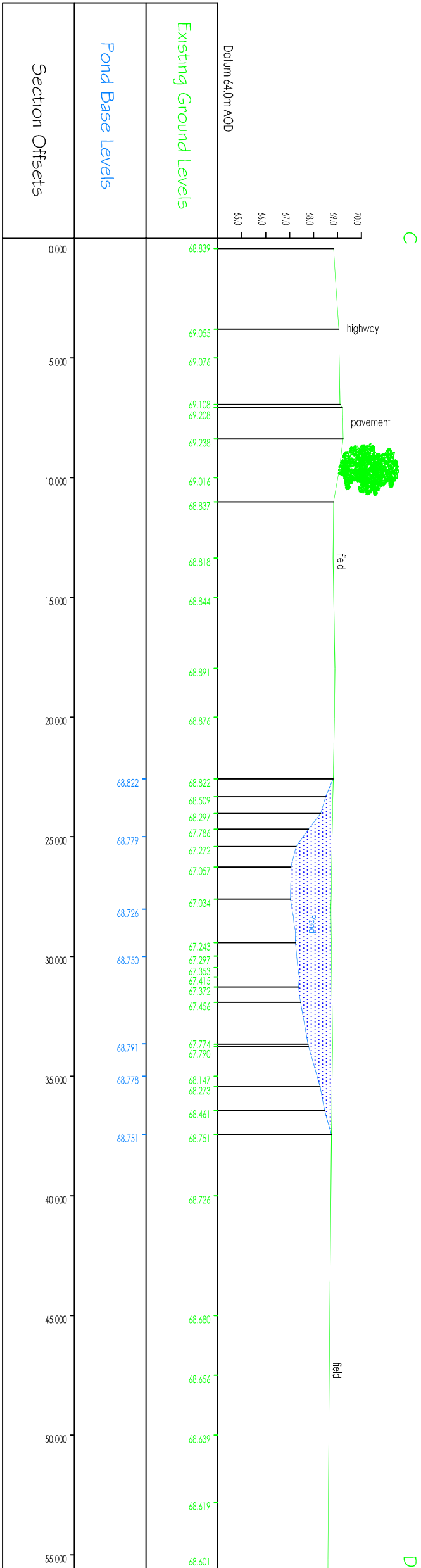
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Cross section locations are shown on BLS drawing 24-042-25-01

Cross Section A-B



Cross Section C-D





Appendix B – EA Product 4 Data

Product 4 (Detailed Flood Risk Data) for Atherstone Road, Pinwall, Atherstone, CV9 3NB

NGR: SP3085999652

Reference number: 378782

Date of issue: 03 October 2024

Model Information

The following information and attached maps contain a summary of the modelled information relevant to the area of interest. The information provided is based on the best available data as of the date of issue.

Model Name	Release Date
River Anker Flood Risk Mapping Study	2006

Flood Map for Planning (Rivers and Sea)

The Flood Map for Planning (Rivers and Sea) indicates the area at risk of flooding, **assuming no flood defences exist**, for a flood event with a 0.5% chance of occurring in any year for flooding from the sea, or a 1% chance of occurring in any year for fluvial (river) flooding (Flood Zone 3). It also shows the extent of the Extreme Flood Outlines (Flood Zone 2) which represents the extent of a flood event with a 0.1% chance of occurring in any year, or the highest recorded historic extent if greater. The Flood Zones refer to the land at risk of flooding and **do not** refer to individual properties. It is possible for properties to be built at a level above the floodplain but still fall within the risk area.

This Flood Map only indicates the extent and likelihood of flooding from rivers or the sea. It should also be remembered that flooding may occur from other sources such as surface water, sewers, road drainage, etc.

To find out which flood zone a location is in please use: <https://flood-map-for-planning.service.gov.uk/>

Definition of flood zones

- **Zone 1** - The area is within the lowest probability of flooding from rivers and the sea, where the chance of flooding in any one year is less than 0.1% (i.e. a 1000 to 1 chance).
- **Zone 2** - The area which falls between the extent of a flood with an annual probability of 0.1% (i.e. a 1000 to 1 chance) fluvial and tidal, or greatest recorded historic flood,

whichever is greater, and the extent of a flood with an annual probability of 1% (i.e. a 100 to 1 chance) fluvial / 0.5% (i.e. a 200 to 1 chance) tidal. (Land shown in light blue on the Flood Map).

- **Zone 3** - The chance of flooding in any one year is greater than or equal to 1% (i.e. a 100 to 1 chance) for river flooding and greater than or equal to 0.5% (i.e. a 200 to 1 chance) for coastal and tidal flooding.

Note: The Flood Zones shown on the Environment Agency's Flood Map for Planning (Rivers and Sea) do not take account of the possible impacts of climate change and consequent changes in the future probability of flooding. Reference should therefore also be made to the [Strategic Flood Risk Assessment](#) when considering location and potential future flood risks to developments and land uses.

Reduction in Risk of Flooding from Rivers and Sea due to Defences dataset (Replaces Areas Benefiting from Defences dataset)

The Areas Benefiting from Defences dataset (ABDs) is a dataset created by the Environment Agency to show areas that benefit from formal flood defences. This dataset was removed on 30 November 2022 from the Flood Map for Planning portal. A new dataset called Reduction in Risk of Flooding from Rivers and Sea due to Defences has been created:

<https://www.data.gov.uk/dataset/dcdcf96b-3293-4987-8ca8-9b8827f5ccf8/reduction-in-risk-of-flooding-from-rivers-and-sea-due-to-defences>

Instead upon searching for an address or location, users will be informed if their site is within an area assessed as having a reduction in risk of flooding from rivers and sea due to the presence of defences and it will direct users to seek flood risk assessment data (via a [Product 4](#)), which means Environment Agency staff can provide more detailed information relating to the impact of any flood defences in the area.

Please contact if there any queries: FCRM_risk_assessment@environment-agency.gov.uk

Node Data/ Modelled Levels

The attached map will show a selection of 1D model node points near to your site. The fluvial levels for these node points are shown below.

Fluvial Flood Levels (m AOD)

The modelled levels are given in m AOD (N), m AOD indicates metres Above Ordnance Datum (Newlyn).

The information is taken from the model referenced above and does not include the updated climate change figures.

Node Label	Easting	Northing	Annual Exceedance Probability - Maximum Water Levels (m AOD) Undefended						
			4% (1 in 25)	2% (1 in 50)	1.33% (1 in 75)	1% (1 in 100)	1% (1 in 100) inc. 20% Climate Change	0.5% (1 in 200)	0.1% (1 in 1000)
033_3127_50	431224	299170	69.27	69.38	69.44	69.49	69.70	69.60	69.75
033_3127_58	430454	299612	68.20	68.33	68.43	68.50	68.87	68.68	68.97
033_3127_59	430616	299550	68.31	68.43	68.51	68.58	68.92	68.74	69.02
033_3127_60	430751	299437	69.19	69.30	69.36	69.40	69.60	69.50	69.65
033_3127_61	431026	299180	69.24	69.35	69.41	69.45	69.66	69.56	69.71
033_3127_63	430265	299664	68.11	68.26	68.36	68.44	68.83	68.63	68.94
033_3127_64	430704	299497	68.36	68.48	68.56	68.62	68.95	68.78	69.04
033_3127_65	430874	299269	69.21	69.32	69.38	69.42	69.62	69.53	69.67
033_3127_66	430771	299424	69.18	69.29	69.35	69.39	69.59	69.50	69.64

Climate Change

In February 2016 the 'Flood Risk Assessments: Climate Change Allowances' were published on GOV.UK. In July 2022 the climate change allowances for planning applications were further updated to more accurately represent the local catchments <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. The data provided in this product does not include the new allowances. You will need to consider this data and factor in the more up to date allowances to demonstrate the development will be safe from flooding. The fluvial climate change factors are now more complex and a single uplift percentage across England cannot be justified.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it remains the applicant's responsibility to demonstrate through their proposal and flood risk assessments that new developments will be safe in flood risk terms for its lifetime.

Recorded Flood Outlines

Following examination of our records of historical flooding we have no record of flooding in the area. The absence of coverage for an area does not mean that the area has never flooded, only that we do not currently have records of flooding in this area. It is also possible that the pattern of flooding in this area has changed and that this area would now flood or not flood under different circumstances.

You may also wish to contact your Local Authority or Internal Drainage Board, to see if they have other relevant local flood information.

Flood Defences

Flood defences do not completely remove the chance of flooding. They can be overtopped by water levels which exceed the capacity of the defences.

If flood defences are located in your area, you can access this data here:

<https://data.gov.uk/dataset/cc76738e-fc17-49f9-a216-977c61858dda/aims-spatial-flood-defences-inc-standardised-attributes>

<https://data.gov.uk/dataset/76828b72-3c9c-4700-83c7-d7c36047d322/flood-map-for-planning-rivers-and-sea-spatial-flood-defences-without-standardised-attributes>

Planning development/s

If you have requested this information to help inform a development proposal, then you should note the information on GOV.UK on the use of Environment Agency Information for Flood Risk Assessments. You can also request pre application advice:

<https://www.gov.uk/planning-applications-assessing-flood-risk>

<https://www.gov.uk/government/publications/pre-planning-application-enquiry-form-preliminary-opinion>

Supporting Information

River modelling: technical standards and assessment guidance

The link below contains standards for the flood risk management industry on how to build and review hydraulic models and provide evidence for flood risk management decisions.

<https://www.gov.uk/government/publications/river-modelling-technical-standards-and-assessment>

Where modelled fluvial flood levels for any watercourse have not been produced/provided by the Environment Agency the Applicant/their Consultants will need to undertake suitable hydraulic calculations or modelling to determine any missing/required flood return periods

e.g. the 3.3 % AEP (1 in 30 Year) Functional Flood event level (and flood plain outline) at the site. Please Note: On 25 August 2022 the definition of the functional flood level changed to the 1 in 30 year return period, for more information see <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

Hydraulic calculations/modelling must be undertaken by a suitable person, and any modelling software chosen should be capable of producing the required output. For any hydraulic modelling carried out as part of a FRA, a technical description of the model should be provided, including the name and version of the software used, referring to published papers/reports where appropriate to provide technical detail and to demonstrate the applicability of the model(s) to the situation in question.

Surface Water

Managing the risk of flooding from surface water is the responsibility of Lead Local Flood Authorities. The 'risk of flooding from surface water' map has been produced by the Environment Agency on behalf of government, using information and input from Lead Local Flood Authorities.

You may wish to contact your Local Authority who may be able to provide further detailed information on surface water.

It is not possible to say for certain what the flood risk is but we use the best information available to provide an indication so that people can make informed choices about living with or managing the risks. The information we supply does not provide an indicator of flood risk at an individual site level. Further information can be found on the Agency's website:

<https://flood-warning-information.service.gov.uk/long-term-flood-risk>

Flood Risk from Reservoirs

The Flood Risk from Reservoirs map can be found on the Long Term Flood Risk Information website:

<https://flood-warning-information.service.gov.uk/long-term-flood-risk/map?map=Reservoirs>

Flood Alert & Flood Warning Area

We issue flood alert/warnings to specific areas when flooding is expected. If you receive a flood warning you should take immediate action.

You can check whether you are in a Flood Alert/Warning Area and register online using the links below:

<https://www.gov.uk/check-flood-risk>

<https://www.gov.uk/sign-up-for-flood-warnings>

If you would prefer to register by telephone, or if you need help during the registration process, please call Floodline on 0345 988 1188.

The associated dataset for flood warning areas is available here:

<https://data.gov.uk/dataset/flood-warning-areas3>

The associated dataset for flood alert areas is available here: <https://data.gov.uk/dataset/flood-alert-areas2>

Flood Risk Activity Permits

We now consider applications for works, which may be Flood Risk Activities, under Environmental Permitting Regulations. This replaces the process of applying for a Flood Defence Consent. You may need an environmental Permit for flood risk activities if you want to do work:

- in, under, over or near a main river (including where the river is in a culvert)
- on or near a flood defence on a main river
- in the flood plain of a main river
- on or near a sea defence

Please go to this website to find out more about how to apply:

<https://www.gov.uk/guidance/flood-risk-activities-environmental-permits>.

Please be aware that Bespoke and Standard Rules permits can take up to 2 months to determine and will incur a charge.

Further details about the Environment Agency information supplied can be found on the GOV.UK website: