

STANFORD PARTNERSHIP

PROPOSED CONVERSION
AT
OWTHORPE LANE
KINOULTON
FOR
MR N DAVILL

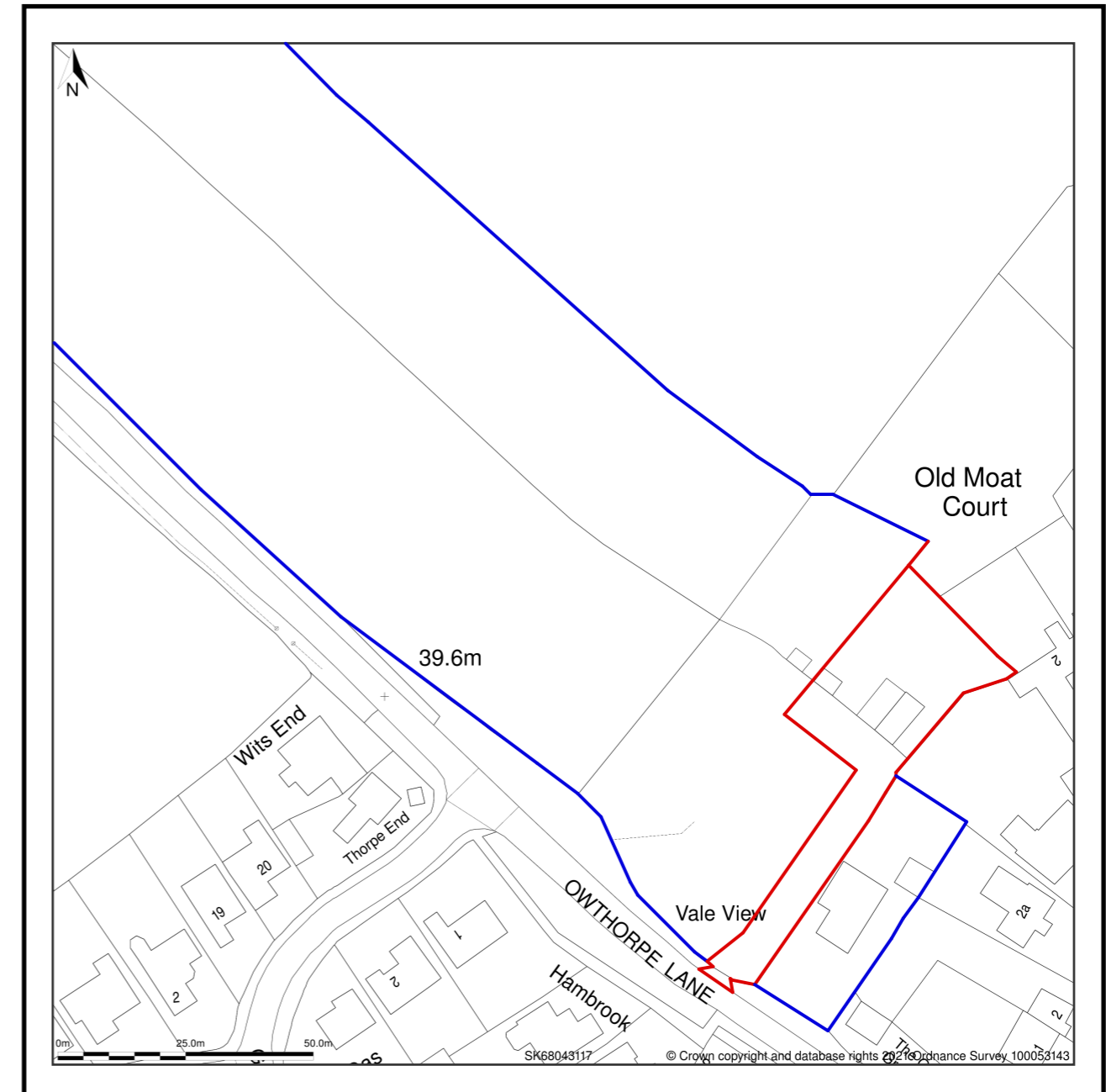
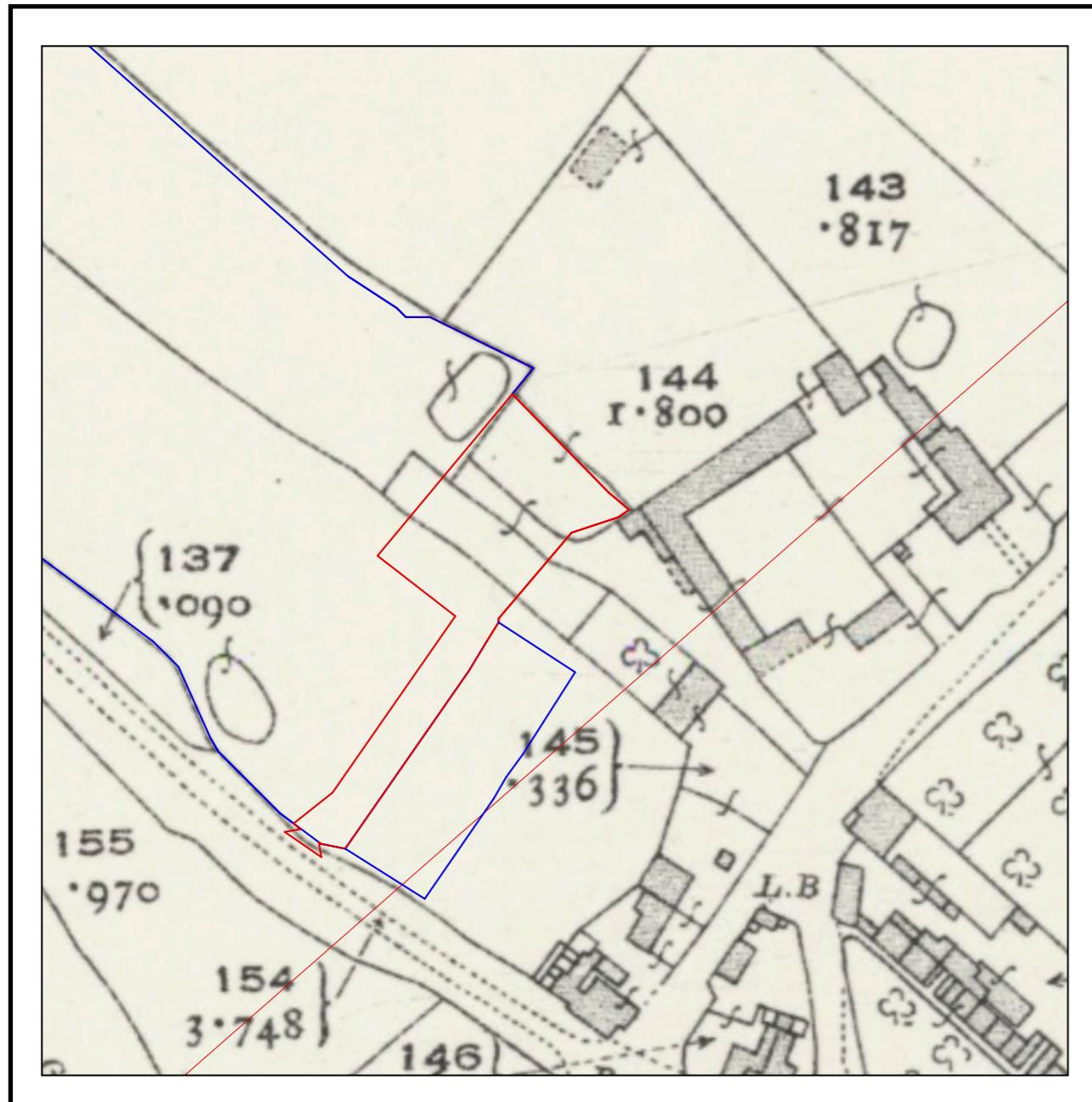
Aerial View

The site is outlined in white showing a parcel of scrub land to the north and the retained grassed fields to the west for agricultural use.

The existing building can be seen shown dotted within the site of the site.

The site is surrounded on three sides by the existing residential settlement of Kinoulton.





Owthorpe Lane, Kinoulton, Nottinghamshire NG12 3EH

Site Plan shows area bounded by: 467944.53, 331077.73 and 468144.53, 331277.73 (at a scale of 1:1250).

OS Grid Ref: SK68043117.

The representation of a road track or path is no evidence of a right of way.

The representation of features as lines is no evidence of property boundary.

The OS symbol and Ordnance Survey are registered trademarks of Ordnance Survey the national mapping agency of Great Britain.

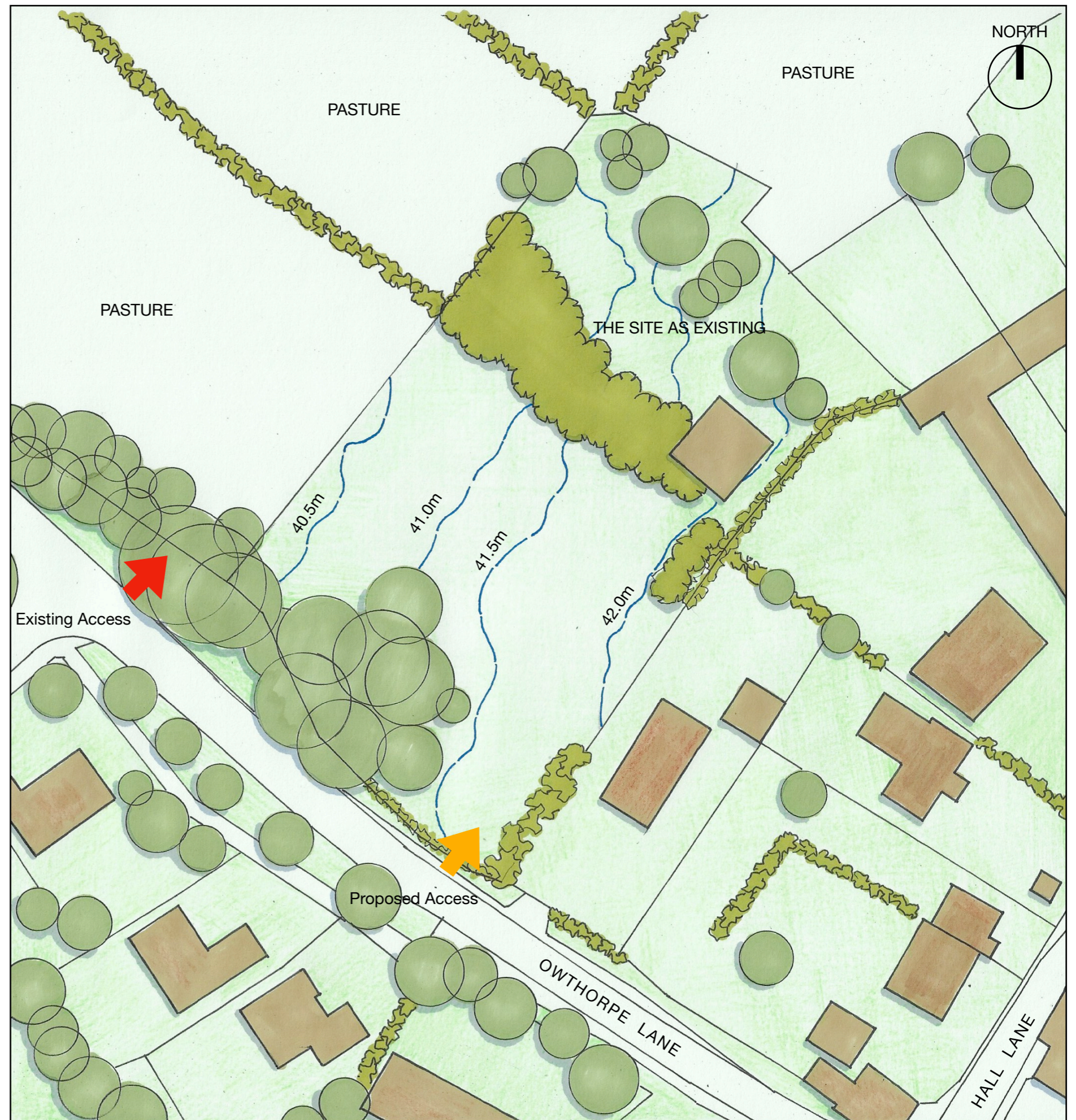
Extract from Ordnance Survey map 1920 showing land was originally part field, part field access and part land immediately around the crew yard possibly holding pens. The pond has disappeared and has probably been filled as there is no evidence of it now.

Access to the Site

There is an existing access as shown by the red arrow which gives access to all the land including the application site.

After discussion with the Planning Authority the proposed access is shown by the yellow arrow. This option was shown to be highway compliant in the previous application (20/01716/OUT) using 43 x 2.4 metre visibility splays.

The access to the boundary from the roadside would be permeable tarmac and thereafter recycled road planings with rolled gravel finish up to the entrance to the proposed conversion. The access drive will be a minimum of 3 metres wide with 1 metre verges.



The Site

The Site is situated on the north east edge of Kinoulton, it comprises a small part of a group of 3 fields, which is mainly grassland. There is an existing building, a redundant milking parlour is in an area of scrub. There are boundary hedgerows, and a number of broadleaf trees across the Site and along the frontage to Owthorpe Lane to the south. Further detail is available in the Arboricultural Assessment Report and the Ecological Appraisal attached to this application.

Hall Farm and Manor Farm are located to the north east, accessed off Hall Lane, while existing residential properties are located adjacent to the Site off Hall Lane and at Old Moat Court to the east. Residential properties located along Owthorpe Lane front and side onto the Site to the east and south. Arable land is located directly to the west and north of the site divided by existing hedgerows, while a small group of dwellings is located further along Owthorpe Lane approximately 200m to the west.

A number of Public Rights of Way (PRoW) are located within the wider landscape with the PRoW Bridleway Kinoulton BW3 located along Hall Lane to the north east. PRoW Footpath Kinoulton FP5 is located in close proximity to the site off Owthorpe Lane. (See map extract on next page).

The application site is not currently being used for agricultural purposes and is unkempt with piles of rubble and concrete waste stored to the rear. There are large areas of dense scrub within it. This area is not identified for set aside either. The surrounding grass fields adjacent are currently used for hay.

View of the Site from the South West



View of the Site from the North West



Landscape Character

The Greater Nottingham Landscape Character Assessment (LCA) was undertaken in 2009, the LCA divides the landscape into broad landscape types and more detailed landscape character areas. Kinoulton and the Site are located within the Regional Character Area, 'Vale of Belvoir' and the Landscape Character Type 'Vale Farmlands'.

The key characteristics of the Vale of Belvoir include:

- Level to gently undulating landform
- Medium to large scale field patterns
- Vernacular style red brick farmsteads and small rural villages
- Rural lanes, often with wide grassed verges
- Relatively extensive areas of grassland/pasture with grazing livestock
- Permanent pastures, sometimes with well preserved ridge and furrow
- Scattered distribution of hedgerow trees
- Smaller scale, more intimate landscapes adjacent to villages

Localised areas of well-wooded parkland •

Guidelines and Recommendations:

- Conserve and restore the traditional pattern of land use and remote rural character of the landscape. *The proposed conversion will not damage the rural character as it is hidden away.*
- Conserve the historic settlement pattern of small rural villages. *The settlement pattern will not change as this is a conversion of an existing building.*
- Promote measures for maintaining the ecological diversity and historic character of the Vale pasture.
- Identify opportunities for conversion of arable land back to pasture. *The surrounding land in ownership is already pasture.*
- Conserve and strengthen the historic pattern and features of hedgerows and rural lanes. *The historic field pattern remains and is likely to stay pasture as the fields are too small for economic*



The Existing Building

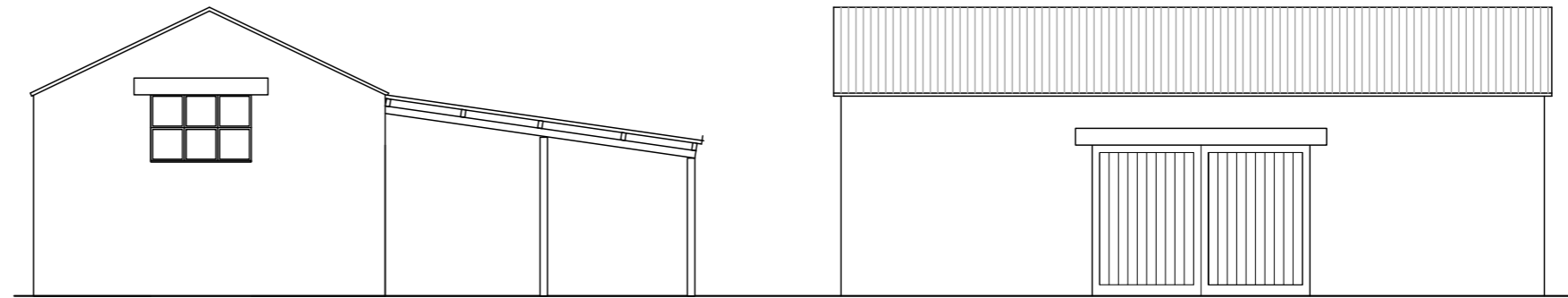
The existing agricultural building on site is constructed from 200mm thick dense blockwork masonry with an attached open barn constructed from timber.

Inside the building is an open structure with metal roof trusses supporting fibre cement based corrugated roofing panels. The building remains watertight.

The floor is concrete with a channel set in leading us to believe this was a milking parlour. Three phase electricity is connected in the south western corner of the building.

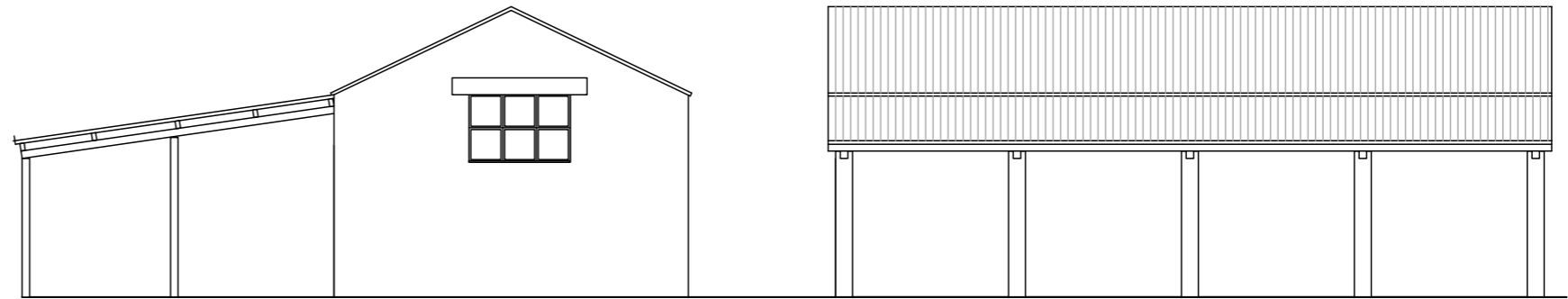
There are some cracks in the superstructure as a result of self seeded saplings that have grown adjacent to the wall in the recent past. There are easily repairable with steel straps and masonry pointing. There are substantial foundations to the enclosed shed.

The open barn is constructed from timber with the same roof covering



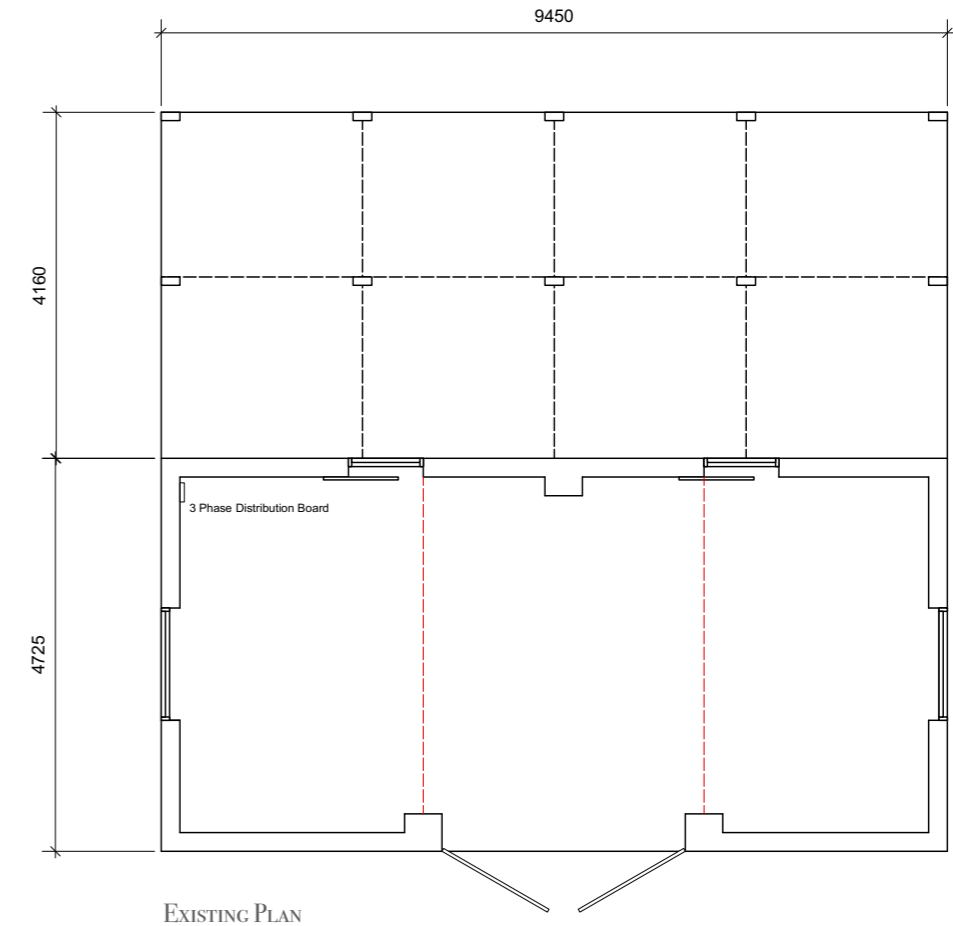
EXISTING NORTH EAST ELEVATION

EXISTING SOUTH EAST ELEVATION



EXISTING SOUTH WEST ELEVATION

EXISTING NORTH WEST ELEVATION



EXISTING PLAN

View of open barn looking South East.



View of existing building North West gable.



View of the interior.



The Proposal

The proposed development will be entirely screened from the immediate neighbours and as such will have no impact upon the the character of the surroundings.

Apart from the existing electric and water service it will be self sufficient.

In the interests of creating a sustainable environmentally sound new home we will clad the outside with a highly insulated timber framed shell that will allow us to insulate to passive house standards.

The construction of the insulated envelope including the wall and the roof is partially self supporting and adds to the structural integrity of the whole.

The photographs opposite show exactly the style and feel of the proposed conversion within a very similar environment. We are not proposing formal gardens but a house set within the natural environment much as the photograph here.

Surface water will ultimately go to a soakaway on site but a rain water harvesting system will recycle this water for re-use before any surplus goes to the soakaway.

Foul water and waste will go to a bio digester that after treatment has an outfall of clean water.

The development has a clear delineation of conversion and new in a from that echoes the agricultural origins and retains tax scale and form of such buildings.

It also allows good glazed south and west aspects to aid solar gain in the winter months minimising any heating load.



These photographs demonstrate exactly the kind of setting we are trying to create.



Size of development

The gross area of the proposed development is 105.8 sq metres.
The gross area of the existing development is 84.7 sq metres.

The gross internal area is 85.6 sq metres.

Following discussions with the Planning Department it has been decided to put forward a proposals that remove the lean to construction and create a separate block to define the agricultural origins of the original building. There is a small entirely glazed link that joins the two parts.

This creates an increase in footprint area of 21.1 sq metres gross which represents 25% of the existing.

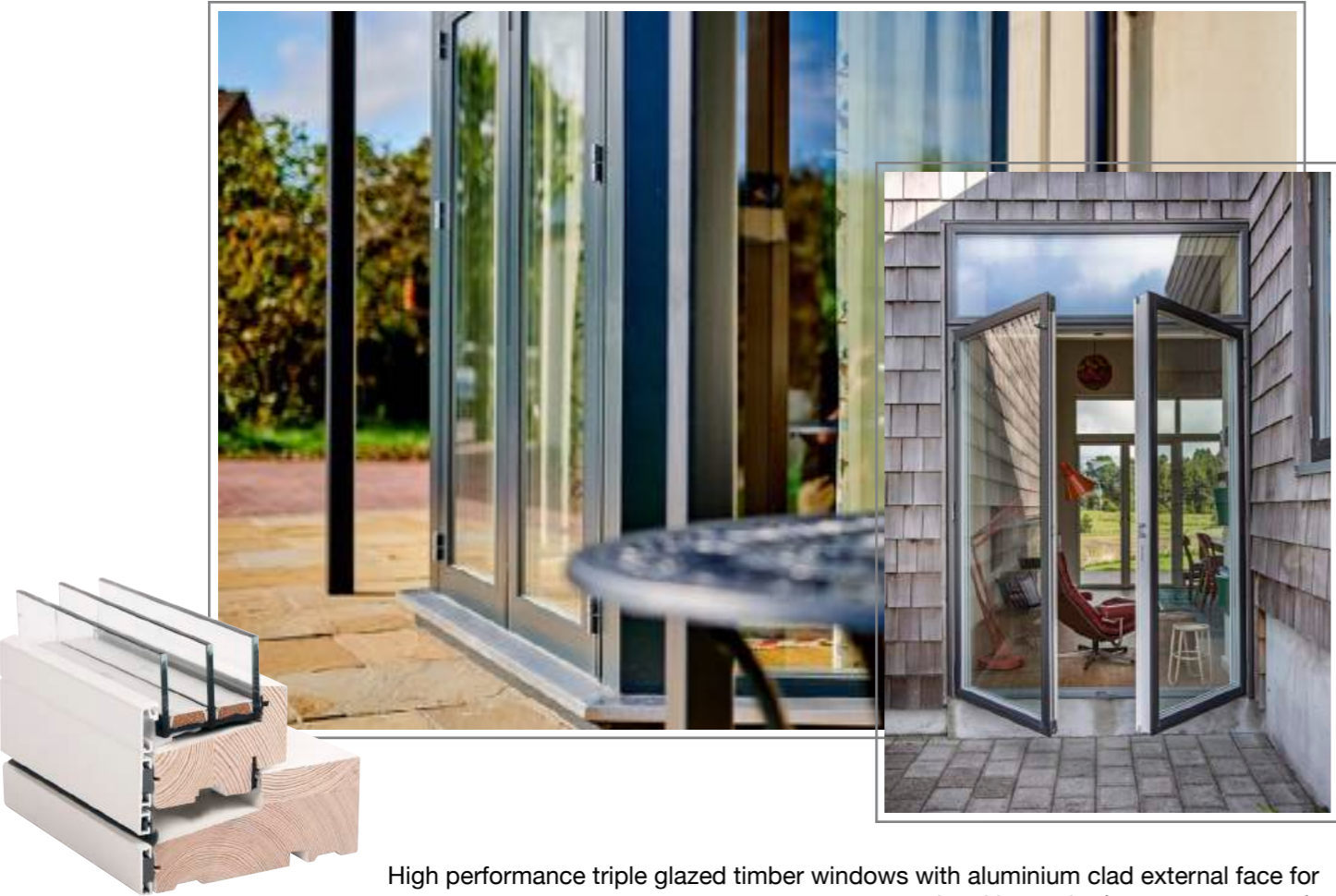
The site area including the access track is 1396 sq metres.

Materials

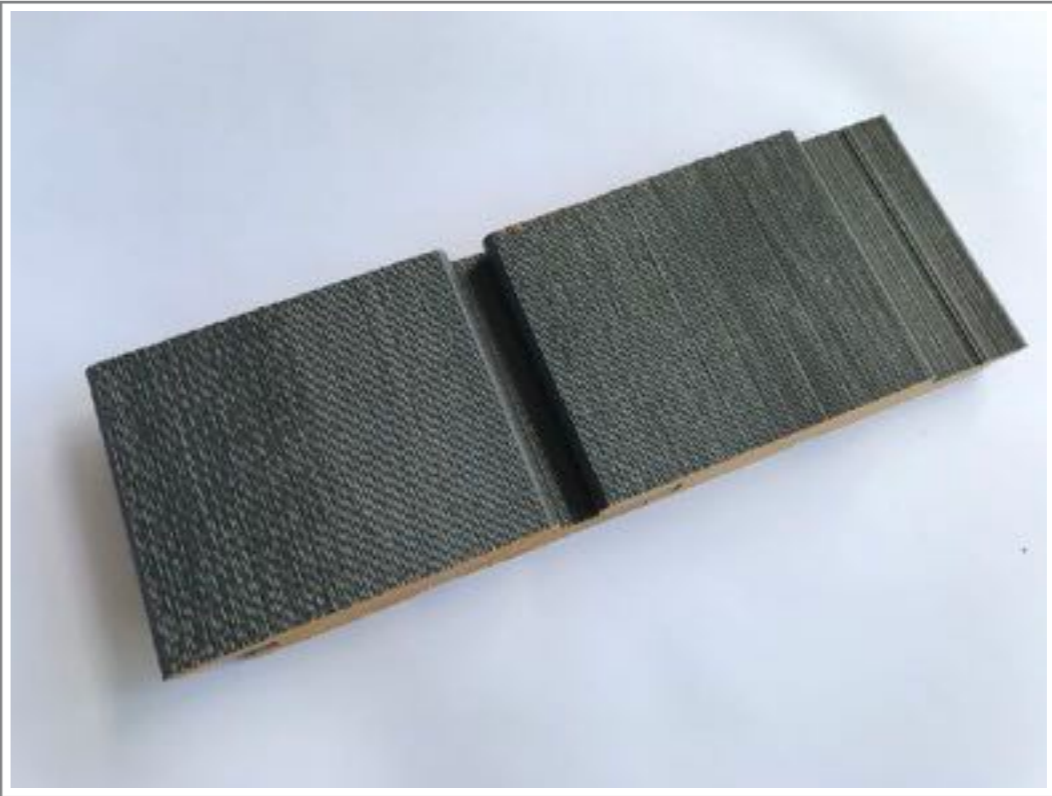
Materials are specified to be sustainable choices:



Urban Colourcoat standing seam steel panel roof in a light grey with matching rainwater goods.



High performance triple glazed timber windows with aluminium clad external face for exceptional longevity (80 year guarantee).



Thermally treated Scots Pine cladding with Microtex finish and factory coated opaque stain to single storey part of house.



Rolled Breedon gravel parking court and footpaths where shown on drawing no. 307/09.



Outside sitting area to be decked in natural timber slightly raised above the ground level.



Pergola constructed in a similar manner to thesis pictures formed with substantial sections of timber. Tensile solar reflective fabric can be fitted to sunny aspects.

Local Plan Part 2: Land and Planning Policies

Policy 22 Development within the Countryside

There is currently Neighbourhood Plan for Kinoulton or identified settlement boundary. It is our understanding that it is the Council's view is that the site is within open countryside and not part of the settlement. Therefore policy 22 'Development in the Countryside' of the Rushcliffe local Plan part 2 applies which allows re-use of buildings. This allows re-use of buildings for housing subject to requirements set out here:

Developments will be permitted where:

a) *the appearance and character of the landscape, including its historic character and features such as habitats, views, settlement pattern, rivers, watercourses, field patterns, industrial heritage and local distinctiveness is conserved and enhanced;*

The re-use and of this building and landscape will achieve this maintaining important features.

b) *except for replacement dwellings, conversions and changes of use, it does not constitute isolated residential development which is separated from the physical edge of the settlement;*

The proposed dwelling will not be isolated as it is attached to the settlement.

c) *it does not create or extend ribbon development;*
It does not do this.

d) *built development is well integrated with existing buildings, where appropriate; and*

This is not applicable as there are no existing buildings on site or in view.

e) *the development will not seriously undermine the vitality and viability of existing district and local centres, and centres of neighbourhood importance.*

This is not applicable but another family will add to the vitality of the services in the village. Drainage which is a concern in the village will not be affected as surface water remains on the site and foul waste is dealt with by an on site biodigester that has an outfall of clean water

The application site does not constitute isolated residential development which is separated from the physical edge of the settlement' it is attached to the settlement and the nearest property is just 20m metres away.

Policy 22 Justification

6.11 The Local Plan does not identify the settlement boundary for Kinoulton beyond which Policy 22 will apply. The location of the proposal and its relationship to the physical edge of the settlements will determine whether the application is within the settlement or within the open countryside. For example developments that extend beyond the identifiable settlement boundary are considered within the countryside. Existing outlying buildings, or larger clusters of buildings, separated from the identifiable boundary of the settlement by more than a small scale infill plot are within the open countryside and development located between these buildings and the settlement would be subject to Policy 22. Policy 11 will be applied where a development is located within a settlement.

6.20 The re-use and adaptation of certain buildings to dwellings makes a valuable contribution to the housing stock and to retaining the amenities of surrounding areas. Part 2 b) of the policy therefore permits, in principle, the conversion and change of use of existing buildings within the countryside for appropriate uses, including housing. The proposal should however comply with the development requirements outlined in Policy 22. In addition, it should not lead to the loss of employment uses and ensure that the architectural or historic qualities of the building are retained.

National Planning Policy Framework 2021

Paragraph 150 of the revised NPPF July 2021 allows for the re-use of buildings in the countryside. Part D allows for the re-use of buildings provided that the buildings are of permanent and substantial construction.

This is the case as can be seen from the photographs. The building is of uncomplicated construction and requires some remedial works due to tree root damage but remains solid and waterproof.

150. *Certain other forms of development are also not inappropriate in the Green Belt provided they preserve its openness and do not conflict with the purposes of including land within it. These are:*

(a) *mineral extraction;*

(b) *engineering operations;*

(c) *local transport infrastructure which can demonstrate a requirement for a Green Belt location;*

(d) *the re-use of buildings provided that the buildings are of permanent and substantial construction;*

(e) *material changes in the use of land (such as changes of use for outdoor sport or recreation, or for cemeteries and burial grounds); and*

(f) *development, including buildings, brought forward under a Community Right to Build Order or Neighbourhood Development Order.*

Sustainable Construction at Owthorpe Lane

It is intended to convert the agricultural building to passive house standards. The core focus of Passivhaus standards is to dramatically reduce the requirements for space heating and cooling, whilst creating excellent indoor air quality and comfort levels.

Passivhaus (or Passive House) is an advanced low energy construction standard for buildings, providing excellent health and comfort conditions, whilst using very little energy for heating and cooling.

Good quality design and craftsmanship paired with superior windows and doors, high levels of insulation and heat recovery ventilation are the key elements that set Passivhaus construction apart from standard building regulations.

Passivhaus standard can be achieved in a number of ways, this home has been designed under the principle of “fabric first”, meaning the highly insulated building envelope will minimise the amount of energy required to heat the house. This allows us to achieve extremely high energy performance ratings. This will be done with the most sustainable of materials, timber.

SIPs

Structurally insulated panels have been the standard for a number of years. Because the insulation is blown in to the panels it is fully bonded ensuring that there are no gaps.

High Performance Timber

Cross laminated timber is the next generation of construction and is made up of layers of solid timber. It is usually insulated externally with a wood-fibre board, making it the greenest construction product available. We aim to use this technology (so long as supply is available).

High Performance Windows and Doors

High quality windows and doors can provide a *net gain* to the energy performance. Very low U-values of 1.2 W/(m².K) with a standard product manufacturer (such as Nordan) can be achieved. Triple-glazing can update this up to extremely low: 0.7 W/(m².K).

Solar Gain and Shading

The designs has large areas of glazing which can be used to harness solar gain. The living spaces has the ability to be cross ventilated, allowing the homeowner to passively control the internal environment. In some cases glazing will require solar protection to avoid overheating in the summer

so we will employ tensioned solar shades that can be stored away in the winter and achieve up to 96% reflection of solar rays..

Smart Ventilation Design

Although natural ventilation design is possible with airtight construction details and low infiltration rates a mechanical ventilation heat recovery system gives greater control, this has extract and supply air terminals in all rooms of the house connected to a central unit that controls the air in an efficient and balanced way.

All the air in the home is filtered and fresh with the entire volume of air changing approximately every 30 minutes. This reduces moisture, pollutants, odours and humidity, which helps with health and allergies, security and protection from outside noise.

Renewable Heating Systems

Renewable technology will be used to heat the house. This will include an air source heat pump or ground source heat pump and solar panels on on south westerly facing roof.

Drainage

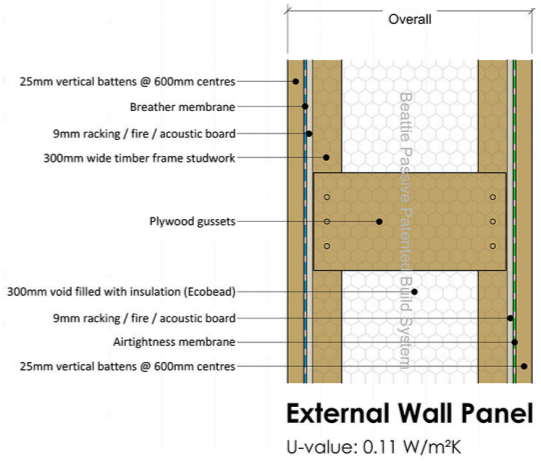
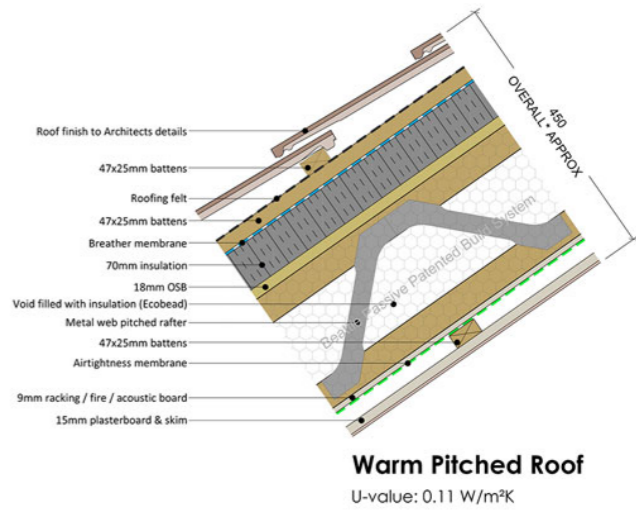
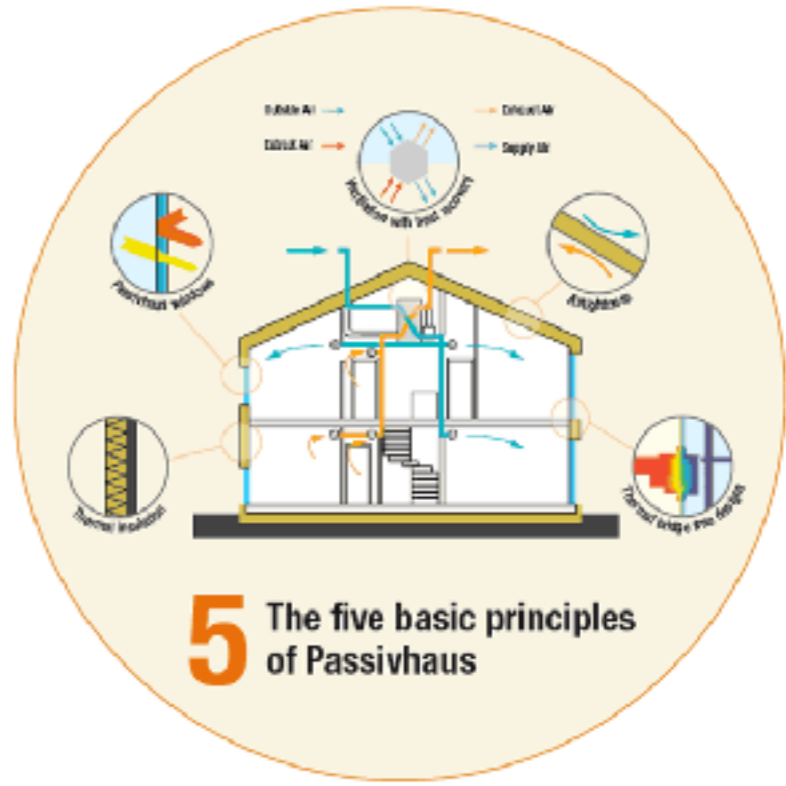
Surface water will ultimately go to a soakaway on site but a rainwater harvesting system will recycle this water for re-use before any surplus goes to the soakaway.

Foul waste will go to a bio digester treatment plant on site that has an outfall of clean water that can then be sent to the soakaway.

Zero-Carbon Future

As a practice we aim to meet the challenge of the zero carbon economy, and we are constantly looking at ways of improving our designs and to set an example of how we can protect our planet in the challenging times ahead.

But we also realise that true sustainability comes when we build houses that fit in to our beautiful landscapes and built-environments, ones that future generations will cherish and preserve.



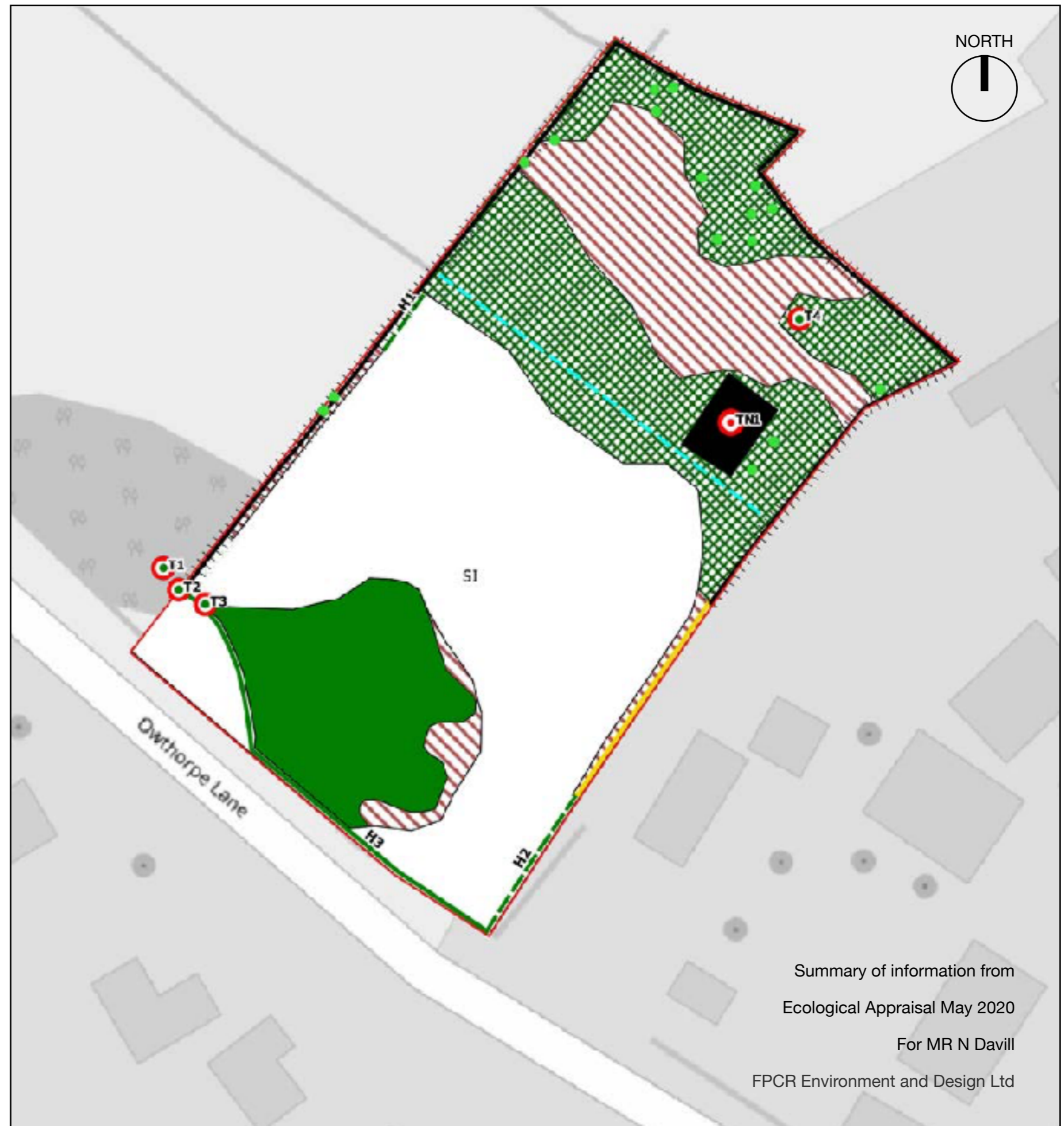
Ecology & Conservation Summary

The Ecological Appraisal (phase 1) habitat survey was carried out to assess the ecological value of the application site and the semi improved grassland to the south west which creates the road frontage. No works are proposed outside the application site although this area remains in the ownership of the applicant. Proposed items to promote bio diversity such as bat does in the road frontage trees can still take place as suggested.

There were no statutory sites of international or national nature conservation importance present within, or adjacent to, the proposed development site.

One statutory designated site (Kinoulton Marsh SSSI) was situated within 1km of the proposed development site. This site is designated for marsh and open water habitats and wetland plant communities, none of which were present within the proposed development site nor were they connected to the development site. The site falls within the 1km SSSI Impact Risk Zones (IRZ) for Kinoulton Marsh SSSI. However, at this distance only 'residential developments of 100 unit or more' or 'residential development of 50 or more houses outside existing settlements/urban areas' need to consider impacts upon this SSSI.

No non-statutory sites were located within the site, or within 1km of the application site.



Site and Context Analysis

The site consists of dense scrub (with dry ditch) and tall ruderal vegetation which forms a large part of the application site and will be lost as a result of the development. Whilst these areas provided some limited diversity to the habitats present within the site, these were dominated by common and widespread species including self seeded immature cherry, bramble and nettle and were of limited ecological value. Consequently, any loss of these habitats is not considered a statutory ecological constraint to the development.

There are a semi-mature apple and some cherry trees in the north and north-east of the site, amongst dense scrub and tall ruderals. These are to remain.
















Approximately half of the survey area comprised poor semi-improved grassland. The proposed access rack runs through the area using the existing gated access route. Poor semi-improved grassland is also not a Habitat of Principal Importance and is well represented in the local area. Consequently, any loss of this habitat is not considered a statutory ecological constraint to the development.

There are no formal hedgerows on site. Only one formal hedgerow was present within the survey area (H3) and was assessed as being of moderately high ecological value and, as it comprised greater than 80% native woody species, it is a Habitat of Principal Importance under Section 41 of the NERC Act 2006.

Three semi-mature ash trees (at the road frontage) and one apple tree (in the north east of the site) were assessed to have low potential for supporting roosting bats.

Great crested newt present within P3, P4 and P5 are not affected by this development. It is considered that Great crested newts are unlikely to be present within P1 / P2 and if present would be unlikely to utilise the terrestrial habitats within the development site and that if these habitats were lost to development (in accordance with the Natural England rapid risk assessment) this would result in a negligible effect.

No invasive fauna or flora were observed within the survey area at the time of survey.

KEY	to diagram above		Fence
	Site Boundary		Dry ditch
	Tree with bat potential		Scrub (line)
	Target note		Broadleaved woodland - semi-natural
	Broadleaved tree		Buildings
	Wall		Other tall herb and fern - ruderal
	Intact hedge - species-poor		Poor semi-improved grassland
	Defunct hedge - species-poor		Scrub (dense/continuous)



The interior of the site. The mounds to the left are piles of rubble covered in brambles.

Achieving Passivhaus Standard

Passivhaus is a building standard that is truly energy efficient, comfortable and affordable at the same time. The standard is achieved through a fabric first approach, which means that it focuses on maximising the performance of the components, and materials that make up the building fabric itself.

Gold standard for Ultra Low -Low Energy Homes:

- Exceptionally high levels of insulation - super- insulated walls, floors and roofs create an affordable comfortable and healthy environment.
- Extremely high performance windows with insulated frames reduce heat loss and optimise solar gain.
- Airtight building fabric prevents air/heat escaping from the building.
- Thermal bridge free design and construction prevents heat losses and condensation.
- A mechanical ventilation and heat recovery system provides a constant supply of tempered, filtered fresh air, which is allergy free.
- A mechanical ventilation and heat recovery system provides a constant supply of tempered, filtered fresh air, which is allergy free.

Once the house has been created, the energy efficiency of a timber frame building remains a positive asset to the environment.

A timber frame home provides a highly insulated shell with little unplanned ventilation, this means the the building will heat up more quickly and stay warmer much longer This is in line with the Government's commitment to soon make all new homes carbon neutral.

THE LOW CARBON APPROACH

Wall U value: 0.11/Wm2K 300mm continuous EPS insulation over clad with 60mm phenolic insulation

Roof U value: 0.11/Wm2K 300mm continuous EPS insulation over clad with 60mm phenolic insulation

Floor U value: 0.11/Wm2K 400mm continuous EPS insulation

Windows U value: 0.9/Wm2K Triple glazed with e-glass

Air tightness: 1.0m3/m2/hr @ 50pa

In addition to the continuous insulation, the designs a continuous vapour check layer and in theists methodical taping and point sealing regime.

Low Impact Heat: In-line heater in MVHR system and logburner in Living Room.

Definition

Passive house...is a voluntary standard for energy efficiency in a building, which reduces the building's ecological footprint. It results in ultra-low energy buildings that require little energy for space heating or cooling.

Passive design is not an attachment or supplement to architectural design, but a design process that integrates with architectural design.

Planning for Climate Change

To help increase the use and supply of renewable and low carbon energy and heat, plans should:

- provide a positive strategy for energy from these sources, that maximises the potential for suitable development, while ensuring that adverse impacts are addressed satisfactorily (including cumulative landscape and visual impacts);
- consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and
- identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for co- locating potential heat customers and suppliers.

We have tried to follow all these yet aims in the design of One Acre Wood and produces two homes that are fit for our country's plans to become carbon neutral within a few decades.

Access

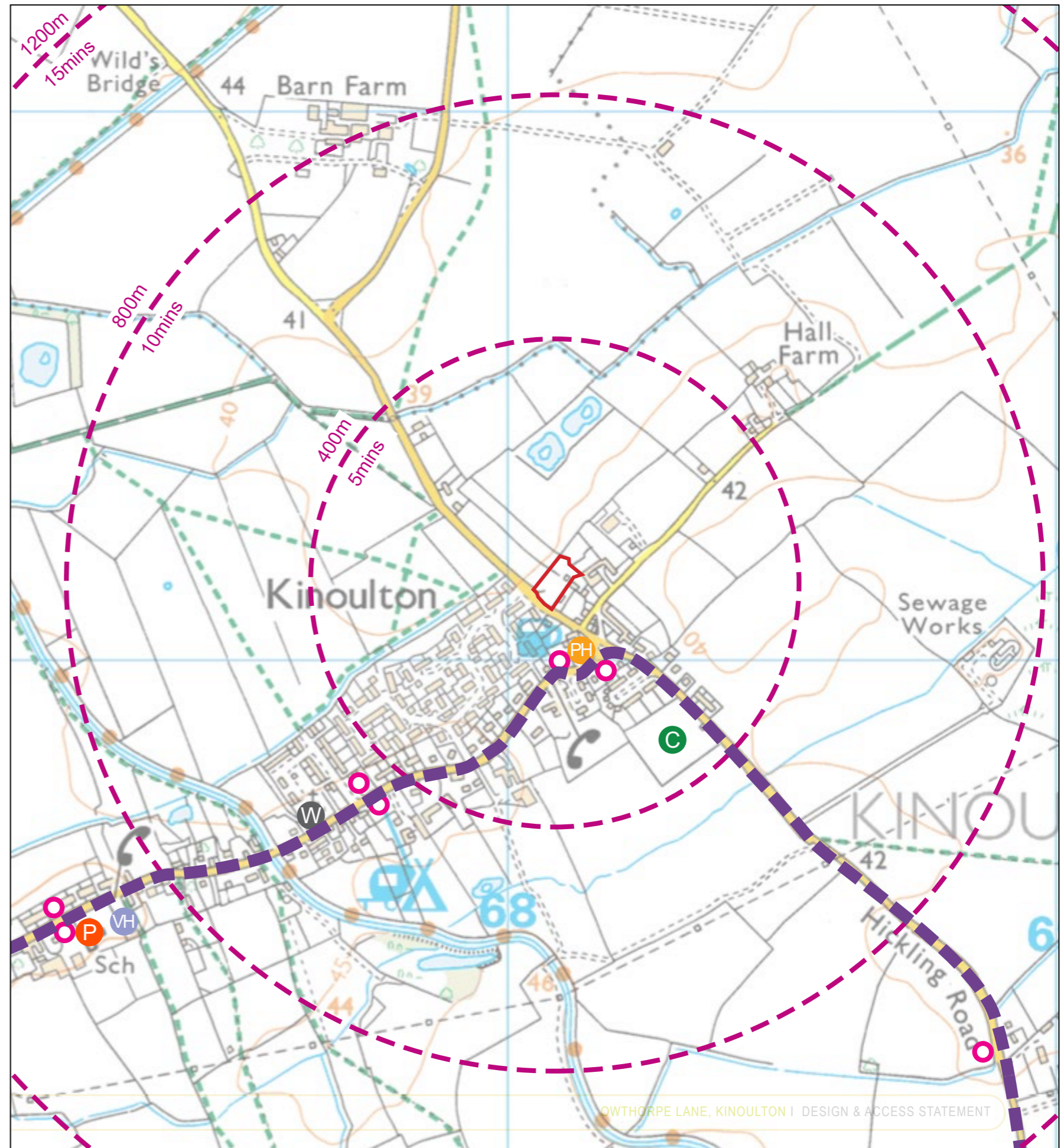
The site is sustainably located with good access to the village centre and community amenities including:

- Primary School
- Village Hall
- Public House
- Cafe/Coffee Shop
- Flower Shop just outside the village towards Hickling

Transport Connectivity

Local bus services connect the village to Hickling and local major service centres Keyworth, Gamston and West Bridgford. These in turn have good access to Nottingham, Grantham and Newark as well as to major routes via the M1 and A1.

There are mainline train stations within 20 minutes drive at Nottingham, Grantham and Newark offering different networks.



OWTHORPE LANE, KINOULTON | DESIGN & ACCESS STATEMENT

Sustainability in Transport

We will install Solar Panels on the house to provide energy to run an electric family car with a high capacity charging point on site. The solar panels will be integrated with the roof covering to form a smooth sleek finish.

A typical family car uses 360 Wh/mile - therefore running a car of an average of 12000 miles per year requires 4320 kWh per year. This energy can be achieved by the installation of a 6 kW dedicated system which will run at approximately 75% efficiency in this part of the country. This would allow the operation of a family car, run entirely on sustainable sources for the whole year.

The proposed solar panel installation on each house will generate 7200 kWh per annum. This leaves approximately 3000kWh towards running electrical appliances within the household. This demand is likely be between 3000-4000kWh for an average household.

This far offsets the need to travel to any major service centre by car (although there are regular buses) and indeed runs a family car on sustainable energy for a whole year.

Data provided by Audi UK and the Energy Saving Trust and OVO Energy Guide..



Integrated solar panels.



Home electric vehicle charging point

Sustainability in Building Design and Construction

Sustainability is a broad term describing a desire to carry out activities without depleting resources or having harmful impacts, defined by the Brundtland Commission as 'meeting the needs of the present without compromising the ability of future generations to meet their own needs.' (ref. Brundtland Commission, Our Common Future, 1987).

Some broader descriptions include social and economic welfare although these can confuse the basic issue of the depletion of resources.

Sustainability in building developments is a vast and complex subject that must be considered from the very earliest stages as the potential environmental impacts are very significant (ref. Technology Strategy Board).

The built environment accounts for:

- 45% of total UK carbon emissions (27% from domestic buildings and 18% from non-domestic).
- 72% of domestic emissions arise from space heating and the provision of hot water.
- 32% of landfill waste comes from the construction and demolition of buildings.
- 13% of products delivered to construction sites are sent directly to landfill without being used.

SIPS construction within a factory environment reduces construction waste dramatically.

The green benefits of timber frame buildings.

With today's ever changing climate, it is becoming more and more important that we are aware of the impact on the environment made by construction of the many new homes required in this country.. Timber frame construction can play a vital part in achieving a sustainable building solution and can make a positive impact on climate change.

Timber is non toxic, organic, and is the only reusable mainstream building material. Every year more forest is planted than actually used.

Timber frame uses far less energy to produce than a traditional brick house and produces 3-4 tonnes less of carbon dioxide throughout its build cycle.

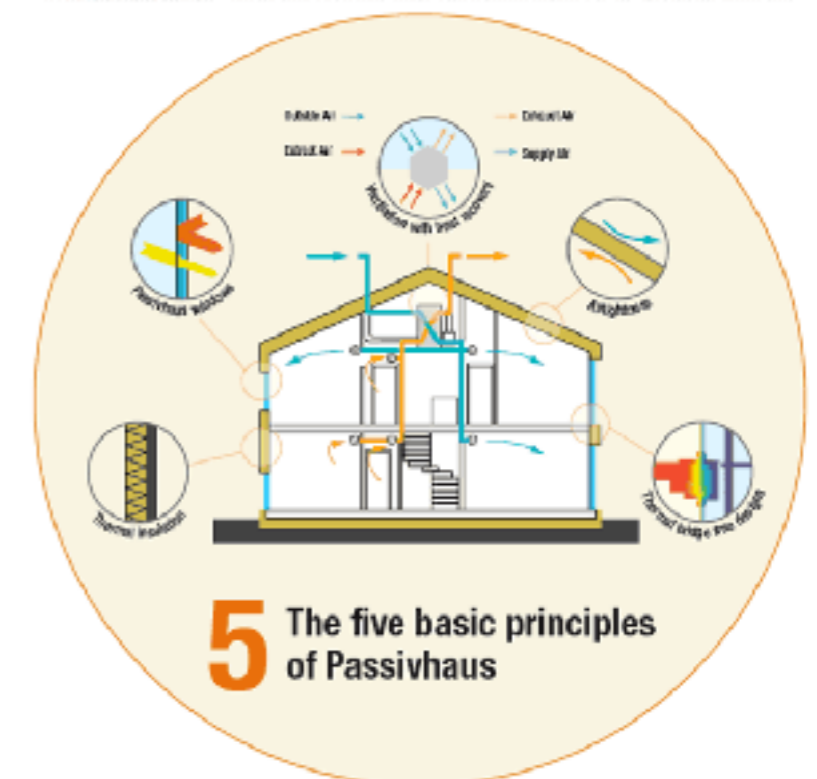
We can use efficient off-site building methods dramatically reducing waste and improving quality. We can even use recycled insulation.

Energy efficient timber frame building

Once a house has been built, the energy efficiency of a timber frame building remains a positive asset to the environment. A timber frame home provides a highly insulated shell with little unplanned ventilation, this means the building will heat up more quickly and stay warmer much longer.

Building a home using timber can reduce the energy needed for space heating by half. If every house built in the last 50 years was built to today's standards then 300 million tonnes of CO2 production would have been avoided. Being aware that even the most basic timber frame will exceed today's standards, the benefits to the environment and trebling term running costs become impossible to ignore.

This is in line with the Government's is commitment to soon make all new homes carbon neutral.



Rainwater Harvesting

The average rainfall for Kinoulton is 17.25 mm per month. That equates to an average of 4639 litres of water falling on the roof per month.

In the Winter months the average is 14.00mm per month That equates to an average of 3764 litres of water falling on the roof per month.

In the Summer months the average is 20.33mm per month. That equates to an average of 6185 litres of water falling on the roof per month.

During the summer months watering the garden for just 10 minutes each day will use 340 litres per day which will use all the harvested rainwater.

(Based upon flow rate specification of 30m length of 15mm diameter hose).

It is possible to use use harvested rainwater for more than 50% of household use. Based upon the target use of 110 litres per day per person for a four person household this would equate to a use of 220 litres per day or 6600 litres per month. This means all the harvested water is likely to be used all the time.

Description

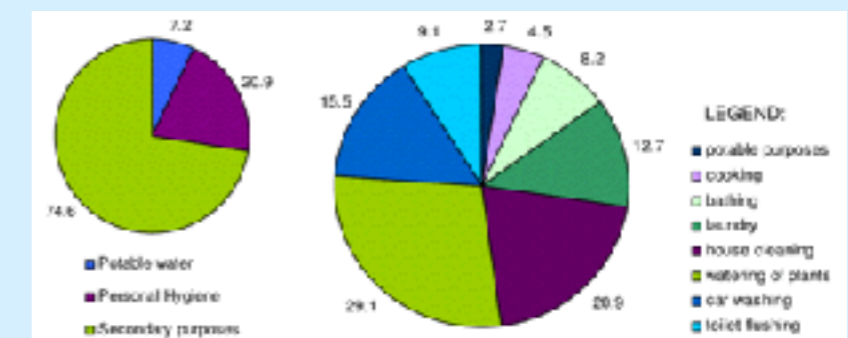
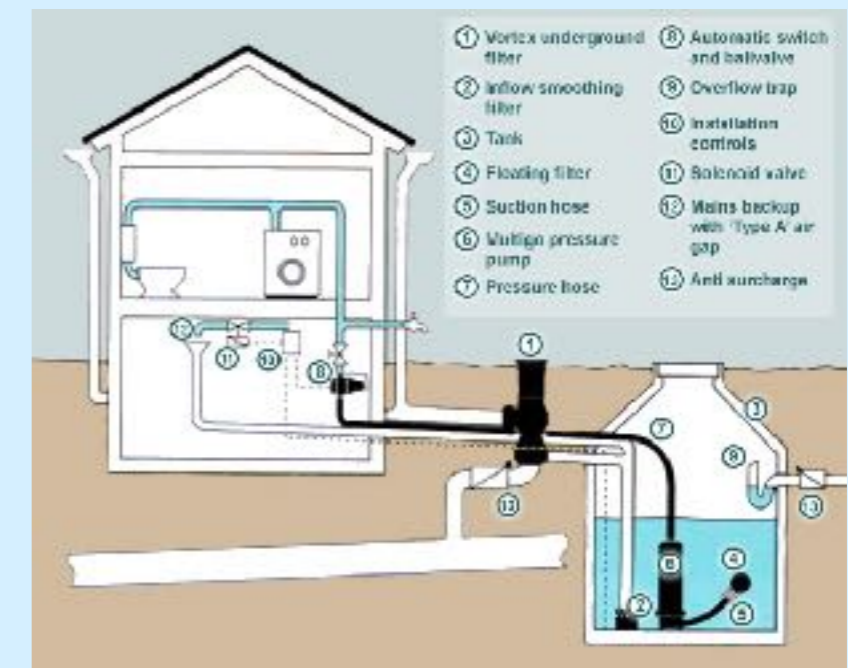
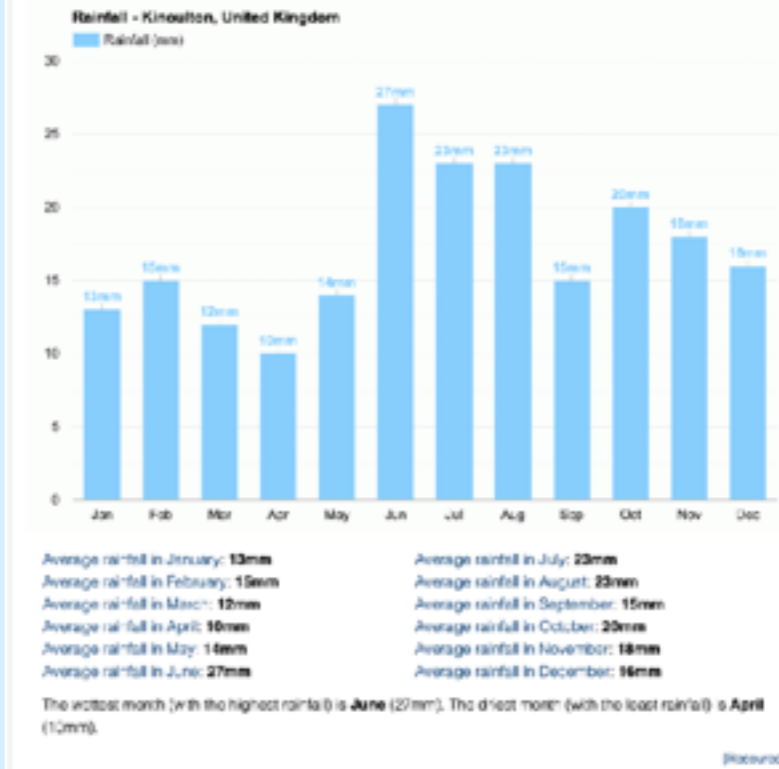
Direct-supply Rainwater Harvesting system package, comprising of
 PLATIN Flat tank 1500 litres
 Telescopic dome shaft Mini green, with PE-lid, for pedestrian loading
 PLATIN Filter package 3 House, Minimax-PRO filter internal
 Pump package Home Direct

The Direct-supply system is designed to support WC's, washing machines, irrigation and outside cleaning purposes. Rainwater is collected from the roof of the property and is fed into the underground tank via the downpipes. On entry to the tank, the water passes through a filter, to prevent any debris going into the tank. With this system, there is a mains water top-up unit located within the property. This unit supplies mains water to the underground tank when the rainwater level is low. The operation on this unit is controlled via a float switch. There is a pressure sensitive pump located in the underground tank. When a valve or tap is opened, water will be pumped under pressure until the valve is closed, allowing for the system to repressurise turning power off to the pump.



Direct Supply Platin Tank

Average rainfall Kinoulton, United Kingdom



APEX Biodigester Sewage Treatment Plant

The APEX Biodigester sewage treatment plant superceeds our very successful Falcon Range.

Designed for use where the installation of a septic tank is either unacceptable or impractical and a connection to the main sewer impossible. These plants are particularly useful for situations where intermittent flow, very low flow and seasonal fluctuating flow rates cause serious problems for other sewage treatment systems. They are ideal for **campsites, caravan parks, holiday parks**, etc. as the APEX Biodigester has a unique recycling system which balances the flow in these situations.

The plant illustrated is a Apex 70 person system.



The **Apex biodigester sewage treatment plant** offers an extremely efficient and unobtrusive means of sewage disposal.

Manufactured entirely from robust and corrosion free materials, the Apex biodigesters incorporate unique and patented features to ensure simplicity and efficiency of operation whilst being able to consistently achieve the ever more stringent standards of discharge effluent quality being required by the Environment Agency. Available in a range of sizes to suit virtually any application from a single residential property, caravan parks, hotels and restaurants or a major industrial / commercial complex, the Apex meets the specific requirements of each individual situation.

The Apex Biodigester has the EN 12566-3 2005.

It was the ONLY electric sewage treatment plant in the 'ECO HOMES' section at the Homebuilding and Renovating show, due to its very low electric consumption, very high effluent quality and minimal servicing requirement and recyclable construction materials.

What makes the Apex Different?

The Apex is special.

It has a feature that set it apart from normal Domestic Sewage Treatment Plants:

1. Automatic Settled Sludge Return (SSR)

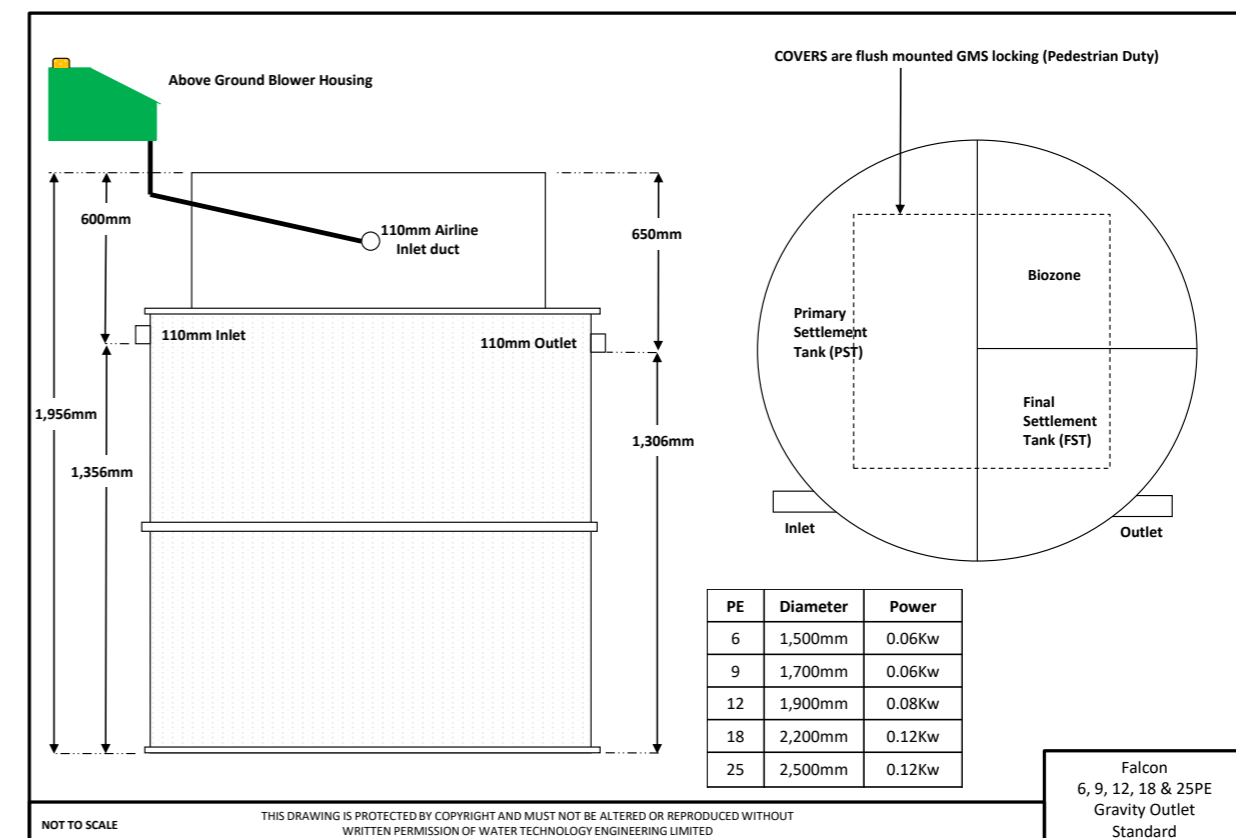
Automatic Sludge Return

This used to be a feature of most small treatment systems, but was removed in a Cost Saving exercise by most manufacturers because:

- No-one knew what it was for
- No-one therefore asked any questions about it when it was removed by the manufacturers
- It saved the manufacturers hundreds of pounds per plant, so almost all the competitors followed suit and joined the price war.

What Does The SSR Do?

The SSR recycles live sewage digesting bacteria from the final settlement tank to the first settlement tank to mix with the raw incoming sewage and start the digestion process. As the Apex is a gravity system, the same volume of sewage effluent that has been returned then flows to the biozone digestion chamber, loaded with food from the first settlement tank, which acts as a 'larder' and feeds the bacteria in the biozone even when you are on holiday. This is a continual process and the bacteria can be kept alive for 4 months by this feature. It also allows the plant to work efficiently even when severely underloaded. The Apex kept this process as, although it added to the cost of production, it is such a valuable feature for reliable sewage treatment and houses which are occupied by only one or two people.



Flood Risk Analysis

Data is provided by the Environment Agency. This shows there is no evident flood risk to the site.



Flood map for planning

Your selected location is in flood zone 1, an area with a low probability of flooding.

This means:

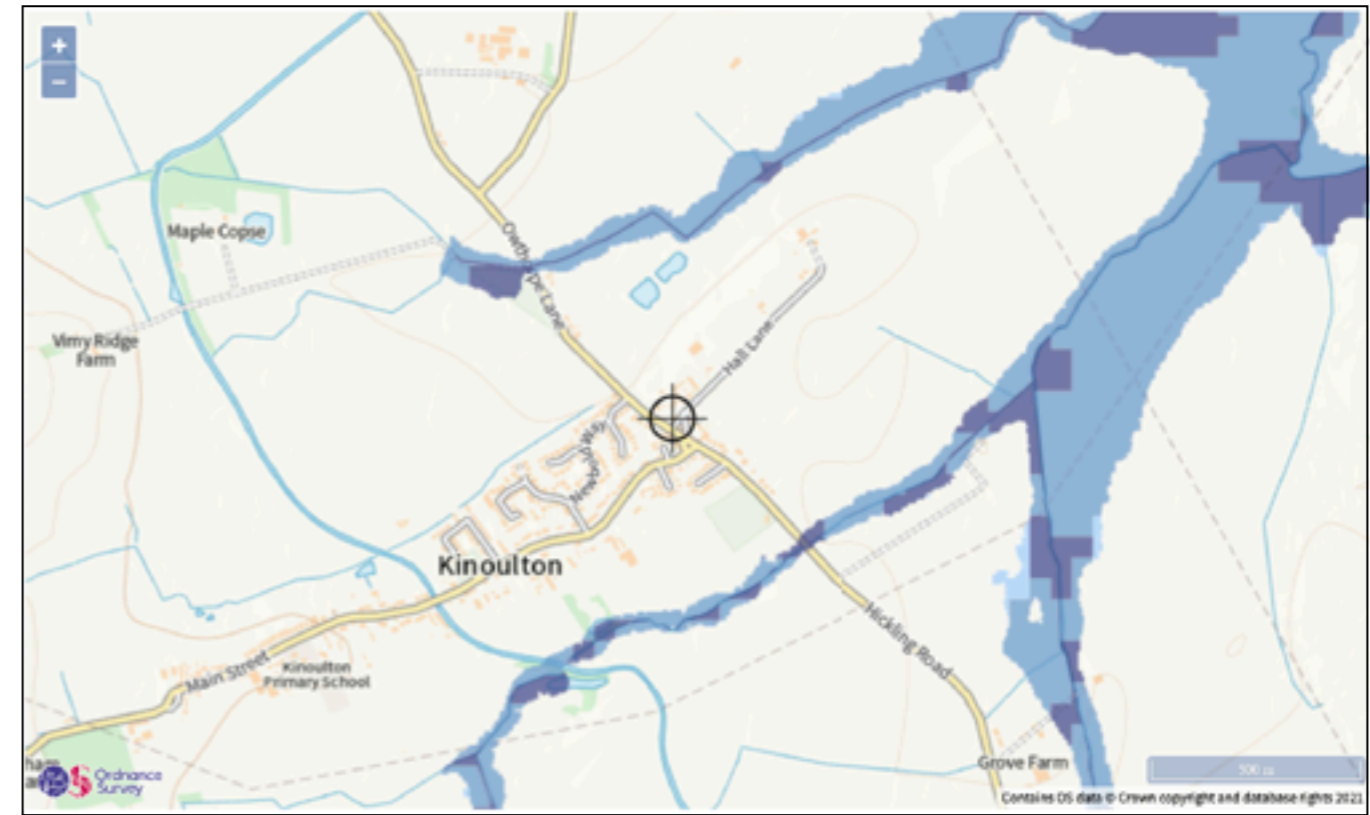
- you don't need to do a flood risk assessment if your development is smaller than 1 hectare and not affected by other sources of flooding
- you may need to do a flood risk assessment if your development is larger than 1 hectare or affected by other sources of flooding or in an area with critical drainage problems

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

The Open Government Licence sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/>



Extent of flooding from rivers or the sea

Legend: High Medium Low Very low Location you selected



Surface water flood risk: water depth in a high risk scenario

Flood depth (millimetres)

Legend: Over 900mm 300 to 900mm Below 300mm Location you selected

Design & Access Report, Proposed Conversion of Redundant Milking Parlour, Owthorpe Lane, Kinoulton. 20th October 2021.

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