FLOOD RISK ASSESSMENT
FOR RESIDENTIAL DEVELOPMENT AT
FUR COTTAGE, FURTHER OLD GATE, HOLBEACH

FINAL REPORT

ECL1819/GR MERCHANT LTD

DATE MAY 2026

ELLINGHAM CONSULTING LTD
Email: tim@ellinghamconsulting.co.uk

CONTENTS

1.0 INTRODUCTION

2.0 SITE LOCATION AND DESCRIPTION
- 2.1 Site Location
- 2.2 Existing Site
- 2.3 Proposed Development
- 2.4 Local Development Documents
- 2.5 Available Flood Risk Information

3.0 FLOOD RISK VULNERABILITY
- 3.1 The Sequential and Exception Test
- 3.2 Vulnerability Classification
- 3.3 Application of the Sequential and Exception Test

4.0 SITE SPECIFIC FLOOD RISK
- 4.1 Local Flood Assets
- 4.2 Sources of Flooding
- 4.3 Probability of Flooding
- 4.4 Historic Flooding
- 4.5 Climate Change
- 4.6 Residual Risk

5.0 FLOOD RISK MITIGATION
- 5.1 Summary of Risks
- 5.2 Mitigation Measures

6.0 CONCLUSIONS

ATTACHMENT 1 – Existing Elevations, Floor, Site & Location Plans (Dwg 4480-26 01)
– Proposed Elevations, Floor & Site Plans (Dwg 4480-26 02)

DISCLAIMER
This document has been prepared solely as a Flood Risk Assessment in support of a planning application for proposed residential development at Further Old Gate, Holbeach. "Ellingham Consulting Ltd" accepts no responsibility or liability whatsoever for any use made of this document other than by the client "GR Merchant Ltd" for the purposes it was originally commissioned and prepared. All comments and opinions made are based upon information available to "Ellingham Consulting Ltd" during the necessary investigative process, and the conclusions and recommendations, could therefore, differ in the event of material subsequently being found erroneous, incomplete, or misleading. "Ellingham Consulting Ltd" therefore, accepts no liability should this prove to be the case.

1.0 INTRODUCTION

This Flood Risk Assessment has been prepared in accordance with National Planning Policy Framework (NPPF) and supporting planning practice guidance (PPG) on Flood Risk and Coastal Change.

In areas at risk of flooding or for sites of 1 hectare or more, developers are required to undertake a site-specific Flood Risk Assessment to accompany an application for planning permission. This Flood Risk Assessment has been produced on behalf of GR Merchant Ltd in respect of a development that consists of the conversion of an agricultural building to form one dwelling at Further Old Gate, Holbeach.

A planning application for the proposed development is to be submitted by GR Merchant Ltd.

2.0 SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at Fur Cottage, Further Old Gate, Holbeach, Spalding, Lincolnshire, PE12 6SU. The National Grid Reference of the site is 53432/32279.

The location of the site is shown in Figure 1.

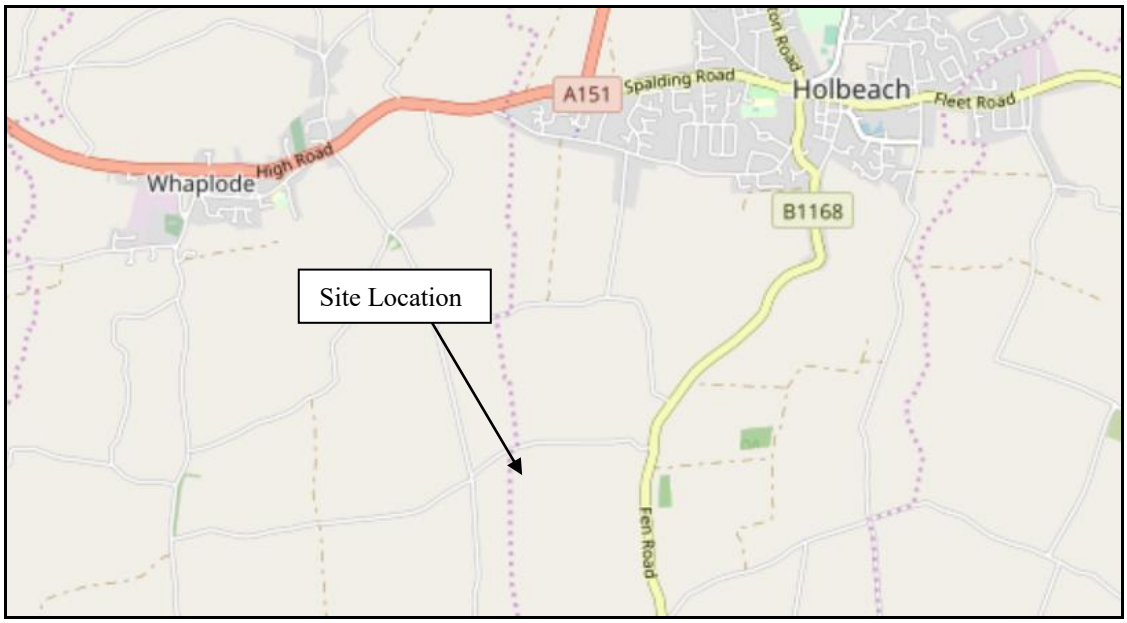


Figure 1 – Location Plan (© OpenStreetMap contributors)

2.2 Existing Site

The site is within the curtilage of a dwelling on the southern side of Further Old Gate. The site consists of an agricultural building and the surrounding land which is on the eastern side of Fur Cottage. The site has an existing access to Further Old Gate. The area of development is approximately 0.05 hectares.

Environment Agency LiDAR data shows that ground levels around the building are typically between +2.7m OD and +2.8m OD. The carriageway level of Further Old Gate adjacent to the site is +2.7m OD. The agricultural land to the south of the site is between +2.2m OD and +2.6m OD.

The site is in the South Holland Internal Drainage Board (IDB) District. Surface water at the site drains naturally through soakaway and hence to the IDB drain system. There is a riparian drain on the eastern boundary of the site and an IDB Ordinary Watercourse on the western side of Fur Cottage.

The online British Geological Survey maps indicate that the site is likely to be underlain by West Walton Formation Mudstone and Siltstone. The bedrock is shown to be overlain with superficial deposits of clay and silt.

2.3 Proposed Development

The proposed development consists of the conversion of an agricultural building to form one residential dwelling. The dwelling will be single storey. A Site Plan is provided in Attachment 1.

2.4 Local Development Documents

The South East Lincolnshire Local Plan 2011 – 2036, adopted in March 2019, is the Local Plan for the district. Policy 4: Approach to Flood Risk states the requirements for flood risk reduction.

The South East Lincolnshire Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) was prepared in June 2017.

The Joint Lincolnshire Flood Risk and Drainage Management Strategy has been prepared by Lincolnshire County Council as the Lead Local Flood Authority. The purpose of the Strategy is to increase the safety of people across Lincolnshire by reducing the number of people at risk of flooding, increasing the resilience of local communities, and reducing the impact of flooding.

2.5 Flood Zones

An extract from the Environment Agency Flood Map for Planning is shown in Figure 2. The site is located within Flood Zone 3, an area with a high probability of flooding.

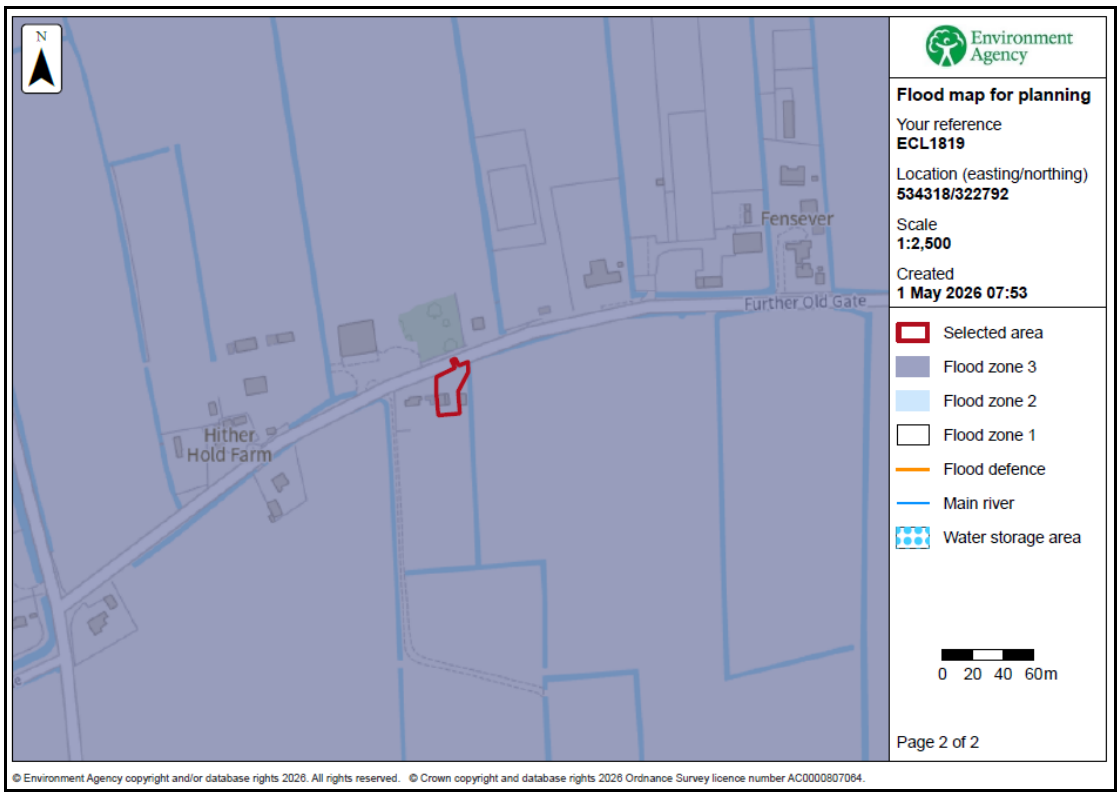


Figure 2 – Environment Agency Flood Map for Planning

The Environment Agency Long Term Flood Risk maps provide an indication of the risk from the primary sources of flooding. The details provided with these maps are summarised in Table 1. The depth of flooding identified is the maximum depth that occurs during a low chance (between 0.1% and 1% chance each year) event.

	Present Day		2050 Epoch	
	Chance of Flooding	**Depth (Low chance)**	**Chance of Flooding**	**Depth (Low chance)**
Rivers and the Sea	The site has a low chance (between 0.1% and 1% chance each year)	No data available	No data available	No data available
Surface Water	The site is outside of the area with a low chance (between 0.1% and 1% chance each year)	Not at risk	The site is outside of the area with a low chance (between 0.1% and 1% chance each year)	Not at risk
Reservoir	Outside of the area at risk.			

Table 1 – Environment Agency Long Term Flood Risk Maps

Table 2 shows the level of risk at the site within the South East Lincolnshire SFRA.

SFRA Map	Present Day	2116
Residual Flood Hazard Map for the 1% fluvial and 0.5% tidal event	The site is outside the 'Low Hazard' area	The site is outside the 'Low Hazard' area
Residual Peak Depth Map for the 1% fluvial and 0.5% tidal	The site is outside the area at risk of flooding.	The site is outside the area at risk of flooding.

Table 2 – Flood Risk within SFRA Maps

3.0 FLOOD RISK VULNERABILITY

3.1 The Sequential and Exception Test

The NPPF requires the application of a Sequential Test to ensure that new development is in areas with the lowest probability of flooding.

The Exception Test is a method to demonstrate and help ensure that flood risk to people and property will be managed, while allowing necessary development to go ahead in situations where suitable sites at lower risk of flooding are not available.

3.2 Vulnerability Classification

Table 2 of the PPG Flood Risk and Coastal Change categorises different types of uses and development according to their vulnerability to flood risk. The proposed development is covered by the description of buildings used for dwellings and is classified as 'More Vulnerable'.

Table 3 of the PPG Flood Risk and Coastal Change sets out Flood Risk Vulnerability and flood zone 'compatibility'. The site is in Flood Zone 3 and the development is 'More Vulnerable' therefore it is necessary to complete the Exception Test.

PPG Flood Risk and Coastal Change defines that the lifetime of the development in terms of flood risk and coastal change is 100 years.

3.3 Application of the Sequential and Exception Test

It is for the Local Planning Authority, using the evidence provided and taking advice from the Environment Agency as appropriate, to consider whether an application passes the Sequential Test.

Paragraph 033 of planning practice guidance (PPG) on Flood Risk and Coastal Change states that 'The Sequential Test does not need to be applied for applications for Change of Use (except for a change of use to a caravan, camping or chalet site, or to a mobile home or park home site)'.

Paragraph 048 of the PPG states that 'A Change of Use may involve an increase in flood risk if the vulnerability classification of the development is changed. In such cases, the applicant will need to show in their flood risk assessment that future users of the development will not be placed in danger from flood hazards throughout its lifetime.' The mitigation measures proposed in Section 5.2 of this flood risk assessment are such that risks to future users are mitigated.

The Exception Test requires consideration of the wider sustainability benefits of a development and that the development would be safe and residual risks managed.

The Local Plan has a target of a net increase of at least 11,681 dwellings in South Holland over the 25-year local plan period. The Plan considers this new housing is

required to ensure the sustainability of the Local Plan area. The proposed development will contribute to this target.

Section 5 of this Flood Risk Assessment describes the flood mitigation measures and the management of the residual risks, demonstrating that this development will be safe and not increase flood risk elsewhere. The development is considered to pass the Exception Test.

4.0 SITE SPECIFIC FLOOD RISK

4.1 Local Flood Assets

The South Holland IDB district is protected by the Wash tidal defences along the Holbeach Marsh frontage with embankment levels at a minimum of +7.0m OD. The Wash tidal defences are 13.0km from the site. The River Nene tidal defences are 13.3km to the east of the site. The River Welland tidal defences are 8.2km to the north west of the site. All three defences are the responsibility of the Environment Agency.

There is a long-term strategy for the maintenance of the Environment Agency defences which is reviewed and updated periodically.

There is an extensive local drainage network managed by South Holland IDB. There is an IDB Ordinary Watercourse on the western side of Fur Cottage. The site and the surrounding land are within the Little Holland catchment and drains to the Little South Holland Drain which discharges to the South Holland Main Drain at the Little Holland Pumping Station. The South Holland Main Drain discharges to the tidal River Nene at the Sutton Bridge Tidal Sluice.

During the operation and maintenance of its pumping stations, associated structures, and channel systems, the IDB seeks to maintain a general standard capable of providing flood protection to its district. A routine maintenance programme is in place to ensure that the Boards assets are commensurate with the standard of protection that is sought.

Current maintenance standards of the South Holland Internal Drainage Board and the Environment Agency are generally good.

4.2 Sources of Flooding

A summary of the sources of flooding is provided in Table 3.

Source of Flooding	Level of Risk
Drainage Network Flooding	The risk is assessed in Section 4.3.
Surface Water Flooding	Based upon the EA maps the risk is very low.
Fluvial Flooding	The risk is assessed in Section 4.3.
Tidal Flooding	The risk is assessed in Section 4.3.
Reservoir Flooding	Based upon the EA maps the site is not at risk of reservoir flooding.
Groundwater Flooding	There is no evidence to suggest the site is at risk of groundwater flooding.

Table 3 – Sources of Flooding

4.3 Probability of Flooding

The probability of flooding associated with blockages in the South Holland IDB drainage system is low due to the maintenance standards achieved and managed by the IDB.

Through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 years and 1 in 100 years, respectively. The risk associated with flood events that exceed the standard of protection provided is lowered due to the Welland & Deeping IDB main drains incorporating freeboard. This freeboard provides storage during the exceedance events.

The site is within an area benefitting from defences. The flood embankments to the Wash and the River Nene and River Welland tidal defences provide protection during a 0.5% annual probability (1 in 200 chance each year) event. The flood risk from the Wash is lowered further by second line defences and various informal banks constructed during the reclamation of Holbeach Marsh.

4.4 Historic Flooding

During the preparation of this assessment, no evidence was discovered of the site being flooded. Previous historic rainfall events of 1968 and 1978, estimated to be greater than 1% annual probability (1 in 100 chance each year), caused no flooding to any residential properties.

4.5 Climate Change

Climate change is likely to impact the site through increased rainfall intensity and duration affecting the local drainage network and increased tide levels.

The tidal flood level during the 0.5% annual probability (1 in 200 chance each year) event inclusive of climate change to 2115 is estimated to be 7.2m AOD. The minimum defence level of the Wash, River Nene, and River Welland embankments is 7.0m AOD. There is a low risk during such an event for wave and wind action to cause overtopping and/or breaching of the tidal defences. However, the second line defences with embankment levels of 6.0m AOD would further reduce the probability of flood water reaching the development site.

4.6 Residual Risk

There is a residual risk of flooding to land close to the Wash, River Nene, and River Welland should a breach of the tidal defences occur. The South East Lincolnshire SFRA includes maps demonstrating the residual peak depth in 2116. The Residual Peak Depth maps within the SFRA show that when the climate change allowances are applied to the 1% annual probability fluvial (1 in 100 chance each year) and the

0.5% annual probability tidal (1 in 200 chance each year) event the site is not at risk. An extract from this map is shown in Figure 3 below.

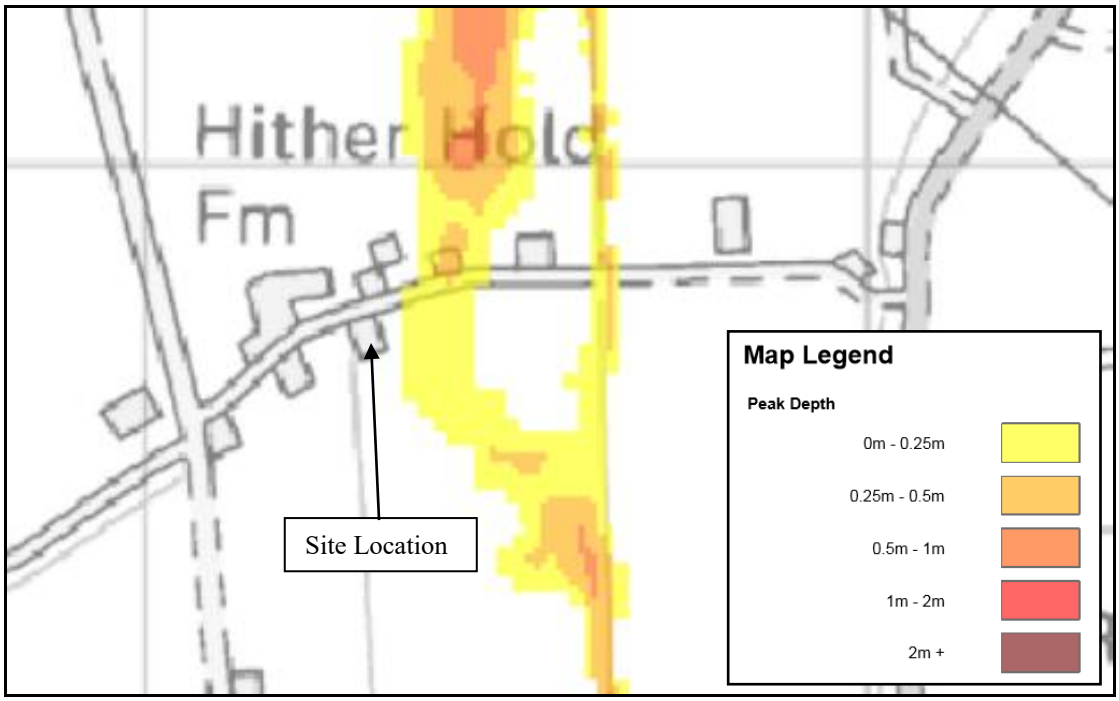


Figure 3 – SFRA 2116 Residual Peak Depth Map

The proposed development is single storey and therefore any mitigation measures will need to consider the 0.1% annual probability (1 in 1000 chance each year) event in 2115. The South East Lincolnshire SFRA includes 0.1% annual probability (1 in 1000 chance each year) maps for specific locations, but these do not cover the site.

Through a comparison of the flood depths in the areas covered by the maps during the 1% and 0.1% annual probability events for 2115 it can be estimated that flood depths are 0.1m higher for the more extreme event. Based upon the areas at risk during the lower return period event and a review of the LiDAR data it is not considered that the site is at risk during a breach during the 0.1% annual probability (1in 1000 chance each year) event in 2115.

5.0 FLOOD RISK MITIGATION

5.1 Summary of Risks

The probability of this development flooding from localised drainage systems is low. The topography around the proposed dwelling further reduces this risk. Failure of Little Holland Pumping Station could lead to an increased level of risk within the IDB catchment.

The probability of the site flooding from any Environment Agency system is less than 0.5% annual probability (1 in 200 chance each year) because of the standards of the existing flood defences. Over time there will be a gradual increase in risk to the site due to climate change. During the design life of the development, it is not anticipated that the site would flood from overtopping of the defences.

The SFRA considers the residual risk associated with a breach in the defences in 2116. The site is not at risk during a breach of the tidal defences.

Any increase in impermeable area associated with the development will be minimal so there is no potential that flood risk will be increased elsewhere due to surface water.

5.2 Mitigation Measures

The site has a low 'actual risk' of flooding. Based upon the information available during the preparation of this flood risk assessment, it is recommended that the finished floor level of the dwelling is 0.3m above surrounding ground level. Furthermore, there should be 0.3m of flood resilient (recovery) construction above finished floor level.

The developer should ensure that the occupier of the dwelling is sufficiently aware of the risk of flooding, and the standard of the existing defences. The Environment Agency operates a flood warning system for properties at risk of flooding to enable householders to protect life or take actions to manage the effect of flooding on property. Floodline Warnings Service is a national system run by the Environment Agency for broadcasting flooding warnings. The occupier of the dwelling should register to receive flood warnings.

Should there be a failure of Little Holland Pumping Station and conditions were such to put properties and land at risk of flooding, the Internal Drainage Board would take emergency action to maintain the drainage level of service by using temporary pumping equipment.

It is recommended that surface water run-off is managed so that stormwater from the development will not affect any adjoining properties or increase the flood risk elsewhere.

6.0 CONCLUSIONS

As a result of the assessment, the following conclusions have been reached.

- The proposed development consists of the conversion of one agricultural building to form one single storey dwelling at Fur Cottage, Further Old Gate, Holbeach.

- The site is located within an Internal Drainage Board catchment and through the operation and maintenance of the pumping stations and the channel system the Board seek to maintain a general standard capable to providing flood protection to agricultural land and developed areas of 1 in 20 and 1 in 100 years, respectively.

- The proposed development is in Flood Zone 3. It is protected by tidal defences on the Wash, River Nene, and River Welland during the 1% annual probability (1 in 100 chance each year) fluvial event and 0.5% annual probability (1 in 200) tidal event including climate change. The site is not at risk during a breach of the tidal defences.

- The site is outside of the area with a residual risk associated with a breach of the defences.

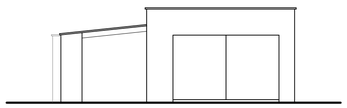
- It is recommended that the finished floor level of the dwelling is 0.3m above surrounding ground level and there is 0.3m of flood resilient construction above finished floor level.

- The development passes the Sequential Test and Exception Test and is therefore suitable for the proposed location.

ATTACHMENT 1

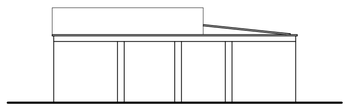
EXISTING ELEVATIONS, FLOOR, SITE & LOCATION PLANS
(DWG 4480-26 01)

PROPOSED ELEVATIONS, FLOOR & SITE PLANS
(DWG 4480-26 01)

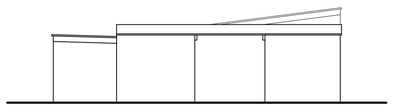


NORTH ELEVATION 1:100

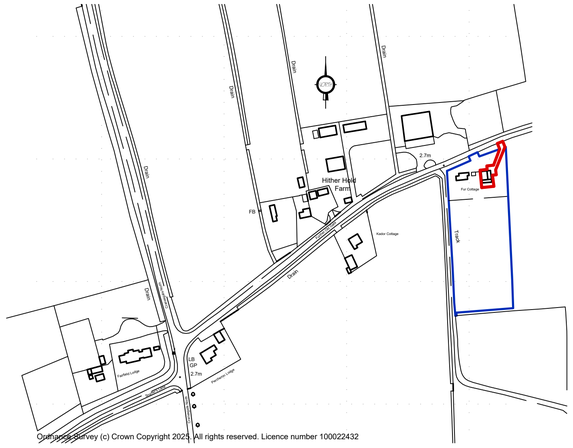
WEST ELEVATION 1:100



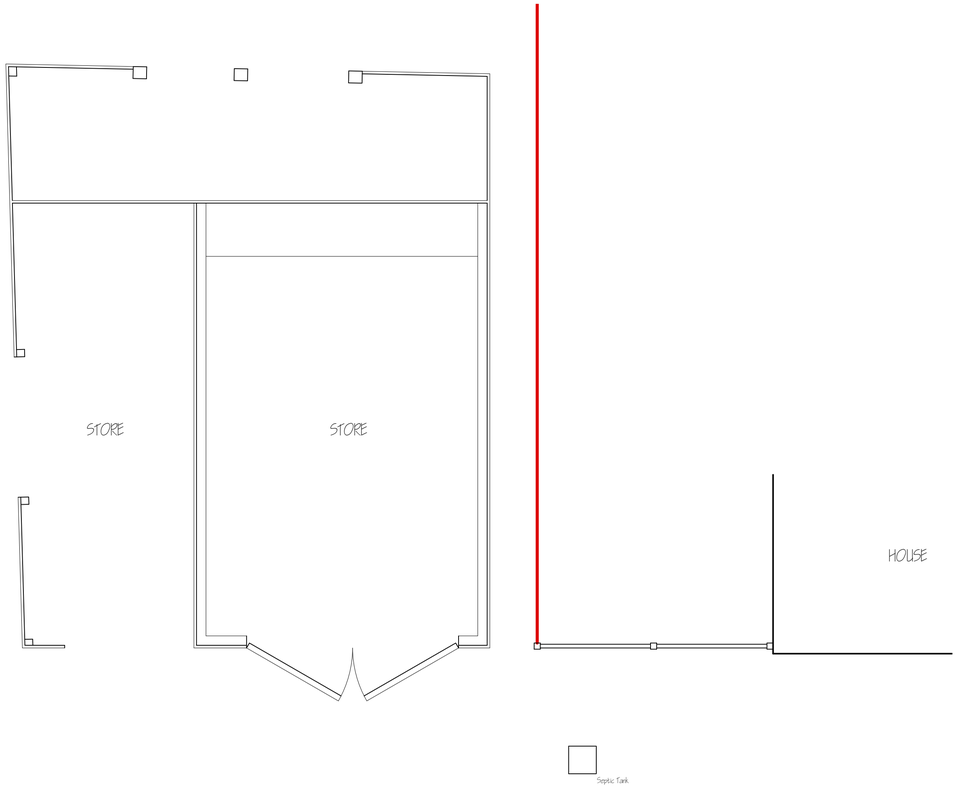
SOUTH ELEVATION 1:100



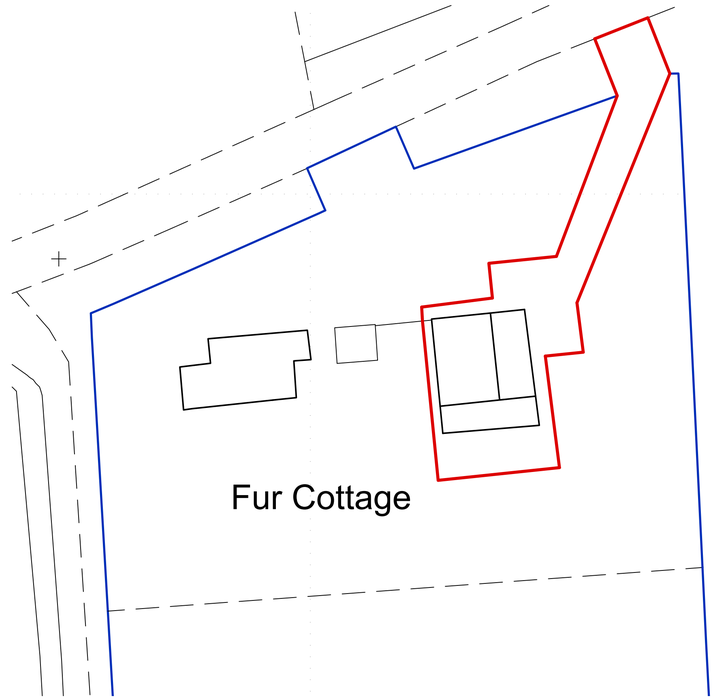
EAST ELEVATION 1:100



LOCATION PLAN 1:2500



GROUND FLOOR PLAN PLAN 1:50



SITE PLAN 1:250

ref:	revision	date
A	AMENDED RED LINE	MAY '2026

G. R. MERCHANT LTD.

ARCHITECTURAL CONSULTANTS

4 Wrights Mews
12A Park Road, Holbeach,
Spalding, Lincs. PE12 7EE
Tel: 01406 490800
E-Mail: office@grmerchantltd.com
Website: www.grmerchantltd.com

Project

PROPOSED PART Q CONVERSION
'FUR COTTAGE', FURTHER OLD GATE
HOLBEACH
SPALDING, LINCS. PE12 6SU

Client

MR R PHILLIPS

Drawing

FLOOR PLAN - EXISTING
ELEVATIONS - EXISTING
SITE & LOCATION PLAN

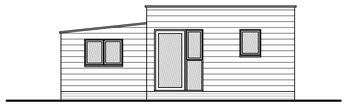
Job Ref.	Drawing No.
4480-26	01A
Date	**Drawn**
APRIL 2026	SLB

Scales

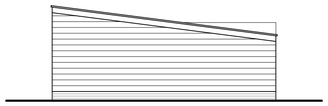
1:50 & 1:100 (Unless Otherwise Stated)

DO NOT SCALE FROM THIS DRAWING

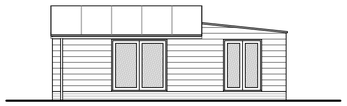
This drawing is copyright and may not be altered, traced, photographed or used for any other purpose other than that for which it is issued. The General Contractor is to check all dimensions on site and report any discrepancies to G. R. Merchant Ltd. All details shown on this drawing including foundations are based upon typical site conditions related to the area. No responsibility can be accepted for abnormal conditions which may be discovered during construction unless reported to the G. R. Merchant Ltd so that design amendments may be considered. Site soil surveys are recommended in respect of foundations to establish specific site conditions before foundation work is undertaken. This drawing is limited in the amount of information contained and does not purport to contain a full specification of the works. It is solely for the purpose of obtaining Planning / Building Regulation approval. This drawing must not be used as a contract document alone. The works will not be supervised or inspected on site by G R Merchant Ltd or any representative thereof. It is the client or their appointed contractor(s) responsibility to control workmanship, substitution of materials, adherance to specification, variations to contract etc.All materials to be new unless otherwise stated and all components and materials etc. to be used fitted and installed etc. in strict accordance with manufacturers instruction and relevant code of practice. Materials shall conform to appropriate British standard specification or BBA certificate or European code equivalent. The Employer / Client shall ensure that the selected contractor is conversant with and adopts all measures necessary to achieve compliance with Health and Safety legislation for Building sites and Work places. The Employer / Client is advised that should the works need to comply with the Construction Design and Management Regulations an independent Principal Designer will be required. The works shall comprise of all that is shown on the drawing and details. Work that may not specifically be shown but may be reasonably inferred as necessary to carry out the works shall be deemed to be included. It is the plot / land owners responsibility to be aware of the Party Wall etc. Act 1996: when building in close proximity to adjoining neighbours boundaries.



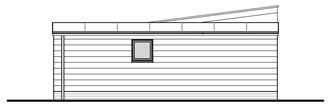
NORTH ELEVATION 1:100



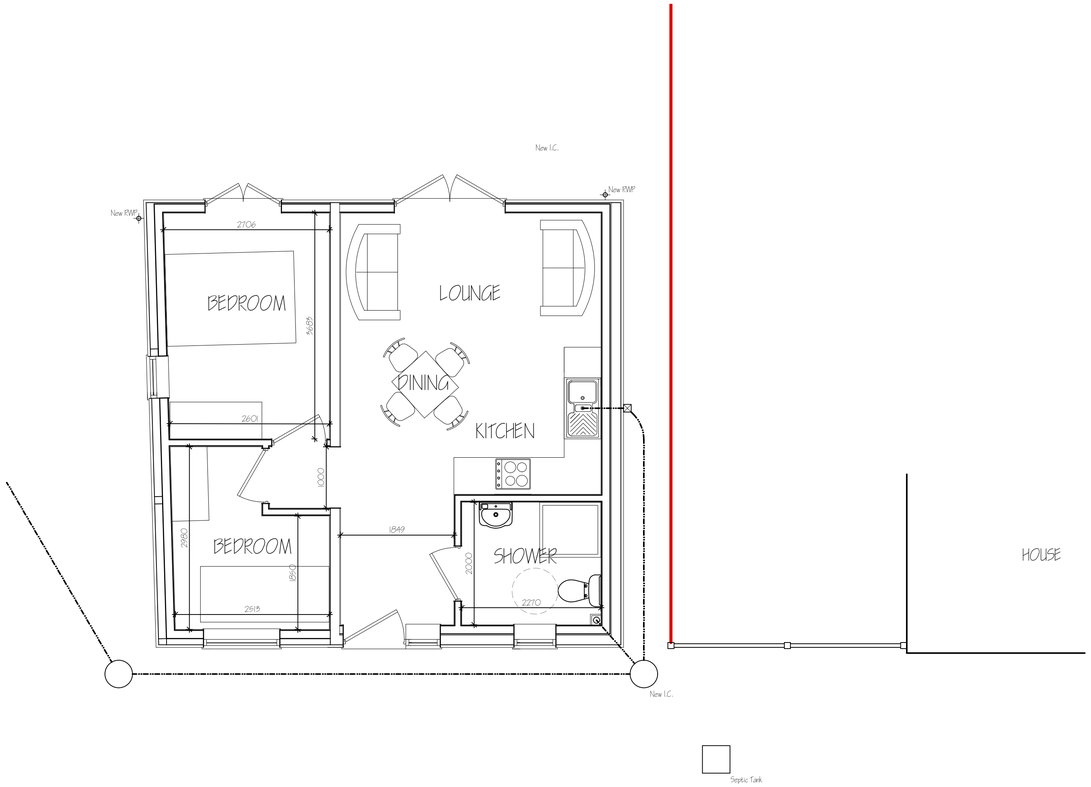
WEST ELEVATION 1:100



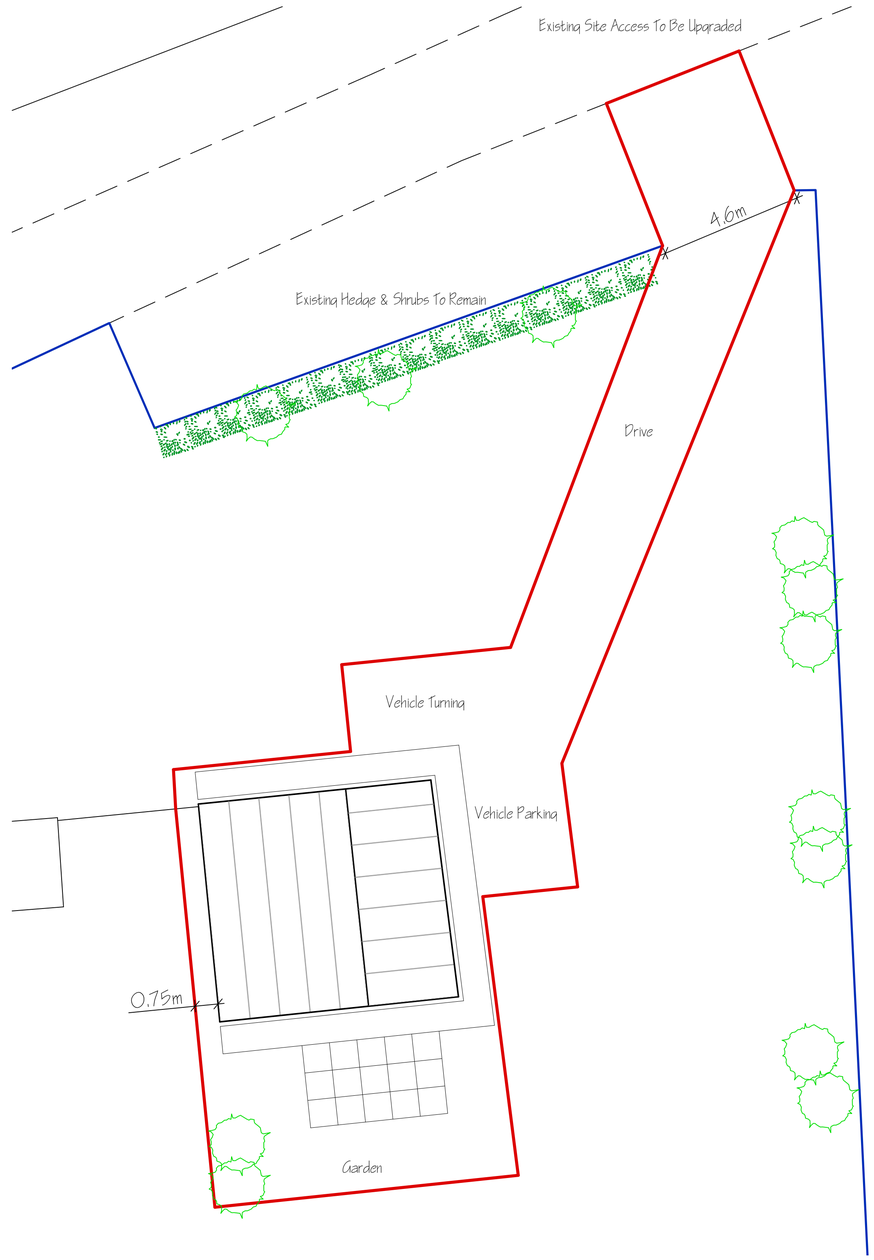
SOUTH ELEVATION 1:100



EAST ELEVATION 1:100



GROUND FLOOR PLAN 1:50



SITE PLAN 1:100

ref:	revision	date
B	AMENDED RED LINE	MAY '2026
A	CLIENT AMENDMENTS	APR 2026

G. R. MERCHANT LTD.

ARCHITECTURAL CONSULTANTS

4 Wrights Mews
12A Park Road, Holbeach,
Spalding, Lincs. PE12 7EE
Tel: 01406 490800
E-Mail: office@grmerchantltd.com
Website: www.grmerchantltd.com

Project

PROPOSED PART Q CONVERSION
'FUR COTTAGE', FURTHER OLD GATE
HOLBEACH
SPALDING, LINCS. PE12 6SU

Client

MR R PHILIPS

Drawing

FLOOR PLAN - PROPOSED
ELEVATIONS - PROPOSED
SITE PLAN - PROPOSED

Job Ref.	Drawing No.
4480-26	02B
Date	**Drawn**
APRIL 2026	SLB

Scales

1:50 & 1:100 (Unless Otherwise Stated)

DO NOT SCALE FROM THIS DRAWING

This drawing is copyright and may not be altered, traced, photographed or used for any other purpose other than that for which it is issued. The General Contractor is to check all dimensions on site and report any discrepancies to G. R. Merchant Ltd. All details shown on this drawing including foundations are based upon typical site conditions related to the area. No responsibility can be accepted for abnormal conditions which may be discovered during construction unless reported to the G. R. Merchant Ltd so that design amendments may be considered. Site soil surveys are recommended in respect of foundations to establish specific site conditions before foundation work is undertaken. This drawing is limited in the amount of information contained and does not purport to contain a full specification of the works. It is solely for the purpose of obtaining Planning / Building Regulation approval. This drawing must not be used as a contract document alone. The works will not be supervised or inspected on site by G R Merchant Ltd or any representative thereof. It is the client or their appointed contractor(s) responsibility to control workmanship, substitution of materials, adherance to specification, variations to contract etc.All materials to be new unless otherwise stated and all components and materials etc. to be used fitted and installed etc. in strict accordance with manufacturers instruction and relevant code of practice. Materials shall conform to appropriate British standard specification or BBA certificate or European code equivalent. The Employer / Client shall ensure that the selected contractor is conversant with and adopts all measures necessary to achieve compliance with Health and Safety legislation for Building sites and Work places. The Employer / Client is advised that should the works need to comply with the Construction Design and Management Regulations an independent Principal Designer will be required. The works shall comprise of all that is shown on the drawing and details. Work that may not specifically be shown but may be reasonably inferred as necessary to carry out the works shall be deemed to be included. It is the plot / land owners responsibility to be aware of the Party Wall etc. Act 1996: when building in close proximity to adjoining neighbours boundaries.