

WATER NEUTRALITY STATEMENT FOR THE PROPOSED DEVELOPMENT AT KIRDFORD VILLAGE HALL, KIRDFORD, BILLINGSHURST, WEST SUSSEX, RH14 0LY.

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Executive Summary

H2Ogeo provided this Water Neutrality Statement to accompany a planning application for the proposed development at Kirdford Village Hall.

There is no anticipated change to visitor numbers as a result of the proposed development therefore, providing the mitigation measures and recommendations are in place the Water Neutrality Statement demonstrates that the proposed development would not increase the rate of water abstraction for drinking water supplies above existing levels in the Arun Valley.

The new fixtures and fittings will need to comply with at least Performance Level 3 of the BREEAM Standards.

The proposed development will not contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.

1 Introduction

Natural England cannot, with certainty, conclude that the Sussex North Water Supply Zone, that includes water supply from a groundwater abstraction, is not having an adverse effect on the integrity of:

- Arun Valley Special Area Conservation (SAC);
- Arun Valley Special Protection Area (SPA); and
- Arun Valley Ramsar Site.

Natural England have advised that developments within this zone must not add to this impact.

The Local Planning Authority (LPA) have requested a Water Neutrality Statement is provided to accompany planning applications to demonstrate that the proposed development does not increase the rate of water abstraction for drinking water supplies above existing levels.

1.1 Scope of Work

H2Ogeo was contacted by the Client and requested to provide a proposal for a Water Neutrality Statement to support a planning application to be submitted to Chichester District Council (CDC) Local Planning Authority (LPA).

The Water Neutrality Statement aims to demonstrate that the proposed development will not *contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.*

The proposal was accepted and the Water Neutrality Statement is presented in this report.

A Statement of Limitations is presented at the start of this report.

1.2 Background

This Water Neutrality Statement (WNS) has been provided in support of a proposed planning application for an extension to Kirdford Village Hall including a new full staircase, new storage area in roof space, 1x female WC, 2x unisex WCs (including 1x disabled WC) and 1x mens facility with two urinals.

The planning drawings are presented in Annex A showing the proposed development.

1.3 Sussex North Water Resource Zone (WRZ)

Southern Water supplies water to Crawley Borough, Horsham District, the northern part of Chichester District, southern Waverley and the South Downs National Park from its Sussex North Water Resource Zone (WRZ).

Within the WRZ there are a number of water sources, one of which is the groundwater abstraction from the Hardham source, one of a number of groundwater and surface water abstractions around Pulborough¹ presented in Figure 1 along with the proposed site and boundary of the Sussex North WRZ.

The Hardham Groundwater abstraction is located approximately 9.2km south of the proposed site that lies in the central northern portion of the WRZ.

¹ https://www.horsham.gov.uk/_data/assets/pdf_file/0019/104482/EYP-JBAU-XX-XX-RP-EN-0001-A1-C03-Water_Neutrality_Assessment_Part_A.pdf

2 Site Location and Setting

The site address is Kirdford, Billingshurst, West Sussex, RH14 0LY.

The proposed development is centred on National Grid Reference: TQ 01730 26772 (Easting: 501730, Northing: 126772) and presented in Figure 2.

2.1 Existing Site

The existing site consists of Kirdford Village Hall surrounded by access, car parking, residential properties and to the east green space.

The existing building layout is presented in Annex A and consists of an entrance hall, mens and womens WC, kitchen, main hall, rear hall and a first floor room with storage in the eaves.

2.2 Proposed Development

The proposed development is at the front of the building and comprises an extension of the north western corner of the building, upgrading the facilities and increased storage on the first floor in the new eaves.

The main hall will remain the same as will the upstairs and rear hall, no additional users/visitors are envisaged as a result of the proposed development.

The proposed planning drawings are presented in Annex A.

2.2.1 Proposed Fixtures & Fittings

A comparison of the fixtures and fittings between the existing and proposed is summarised in the table below:

Table 1 Existing vs Proposed Fixtures & Fittings

Fixture/Fitting	Number in Existing	Number in Proposed	Gain/Loss
WC	3	3	0
Urinal	0	2	+2
Wash-Hand Basin	2	4	+2
Kitchen Sink	1	1	0

Overall the proposed development will result in an increase of two urinals and two wash-hand basins.

3 Baseline Water Consumption

This section outlines the existing baseline water consumption for the site. The site is not on a metred mains connection therefore water bills have not been provided in this report.

To understand the existing baseline consumption and be able to compare it to the proposed consumption modelling of the consumptive fixtures and fittings has been undertaken.

3.1 Existing Mains Water Consumption

The existing fixtures and fittings are dated and have been in situ for many years. For the purpose of this Water Neutrality Statement it has been assumed they have a Base Performance Level efficiency as outlined in BREEAM UK New Construction Version 6.1 Technical Manual (SD5079).

The Base performance levels are presented in Table 2:

Table 2 BASE Performance Level

Fixture/Fitting	BREEAM Base Performance Level	Unit
WC	6	Litres Effective Flush
Urinal	7.5	Litres/Bowl/Hour
Wash-Hand Basin	10	Litres/Minute
Kitchen Tap	10	Litres/Minute

To calculate the mains water consumption the following conservative scenario has been modelled for an individual attending the Village Hall as part of a group of 30:

- One use of the WC;
- Use of a wash-hand basin for 20 seconds;
- Consumption of 500ml of through drinks/refreshments; and
- Kitchen tap accounts for 300ml consumption and 500 Litres/Person for washing up and cleaning surfaces.

The table below summarises the consumption by use factor:

Table 3 Existing Mains Water Consumption

Fixture/Fitting	BREEAM Base Performance Level	Unit	Use Factor	Litres
WC	6	Litres Effective Flush	1	6
Wash-Hand Basin	10	Litres/Minute	0.3	3
Kitchen Tap ²	10	Litres/Minute	0.08	0.8
			Total	9.8

The total mains water consumption in this example is 9.8 Litres/Person.

² Kitchen tap accounts for 300ml consumption and 500 Litres/Person for washing up and cleaning surfaces

4 Proposed Demand

The proposed demand has been modelled using the new fixtures and fittings which must meet the Performance Level 3 or better of the BREEAM Standards:

Table 4 Proposed Mains Water Consumption – Performance Level 3

Fixture/Fitting	BREEAM Base Performance Level	Unit	Use Factor	Litres
WC	3.75	Litres Effective Flush	1	3.75
Urinal	1.5	Litres/Bowl/Hour	1	1.5
Wash-Hand Basin	5	Litres/Minute	0.3	1.5
Kitchen Tap	6	Litres/Minute	0.08	0.8
			Total - Urinal	6.05
			Total – WC	3.80

Two scenarios have been modelled to account for the introduction of urinals on site, these are 1x urinal use and 1x toilet use.

The modelled mains consumption for a visitor will range from 3.80 to 6.05 Litres/Visit.

5 Mitigation Measures

By upgrading water efficient fixtures and fittings to Performance Level 3 or better of the BREEAM Standards the mains water consumption will be less than the existing baseline.

This is due to the same number of visitors/users anticipated as a result of the proposed extension.

The proposed development does not change the potential capacity of the Village Hall and therefore, providing the new fittings are more efficient than existing, the development will be water neutral.

6 Conclusion

The existing conservative modelled mains consumption for an individual is 12.8 Litres/Person/Visit and, through upgraded facilities, this would reduce to between 5.12 and 7.37 Litres.

Table 5 Water Neutrality Summary

Existing Consumption (Litres /Day)	Proposed Development Mains Consumption (Litres/Day)	Mains Water Savings Achieved (Litres/Person/Visit)	Water Neutrality Achieved
9.8	3.8 to 6.05	3.75 to 6.00	YES

There is no increase in visitor numbers associated with the proposed development therefore, providing the fixtures and fittings are more efficient than existing, there will be no increase in mains water consumption.

This Water Neutrality Statement demonstrates that, with the suggested mitigation, the proposed development will reduce the overall mains water consumption and therefore will not contribute to an existing adverse effect upon the integrity of the internationally designated Arun Valley Special Area of Conservation, Special Protection Area and Ramsar sites by way of increased water abstraction.

This development would be water neutral.

7 Figures

Figure 1 Sussex North WRZ

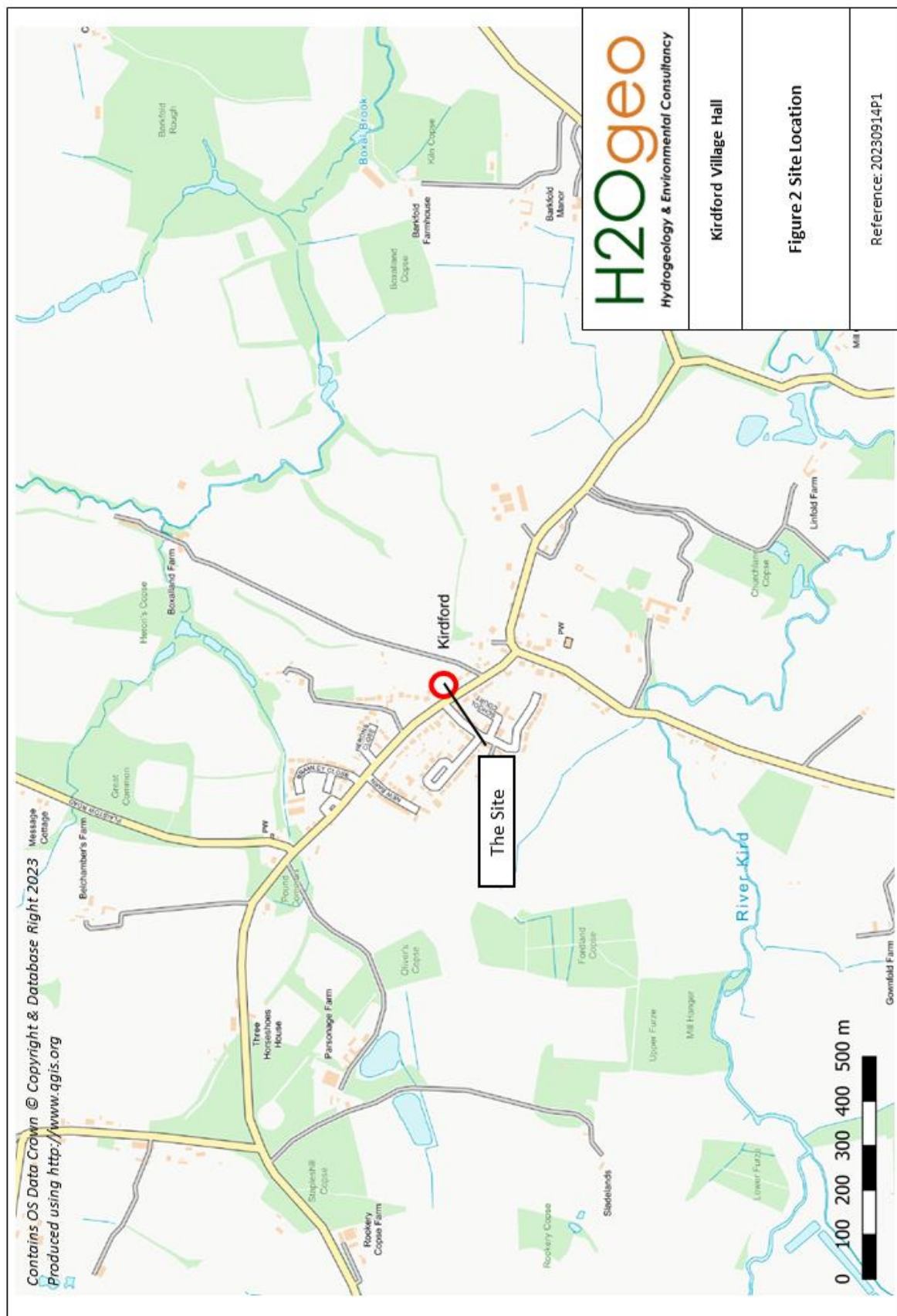
Figure 2 Site Location

Figure 1 Sussex North WRZ



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Kirdford Village Hall
Figure 1 Sussex North Water Resource Zone
Reference: 20230914P1

Figure 2 Site Location



8 Annexes

Annex A - Planning Drawings

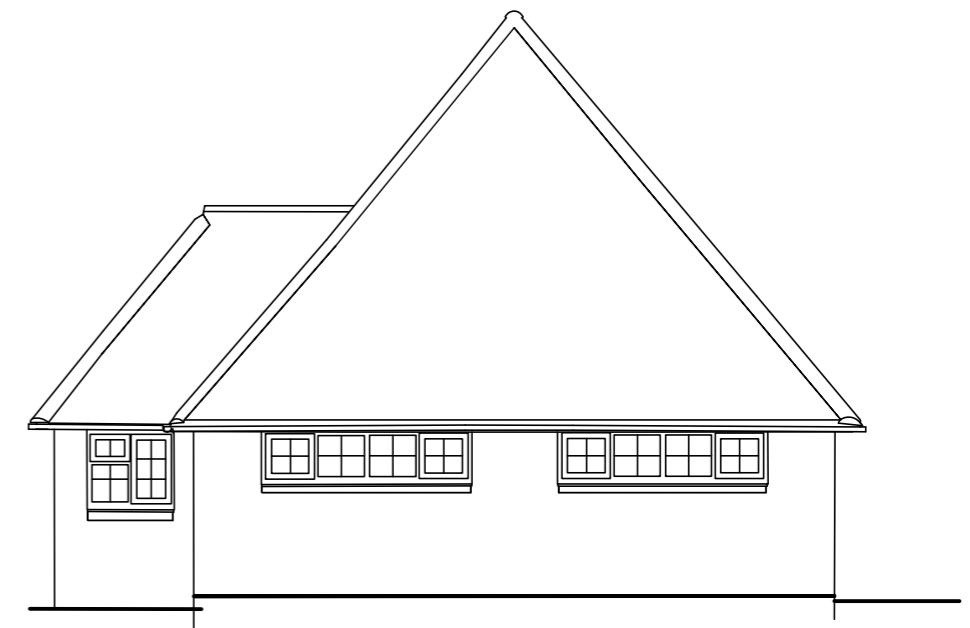
Annex A - Planning Drawings



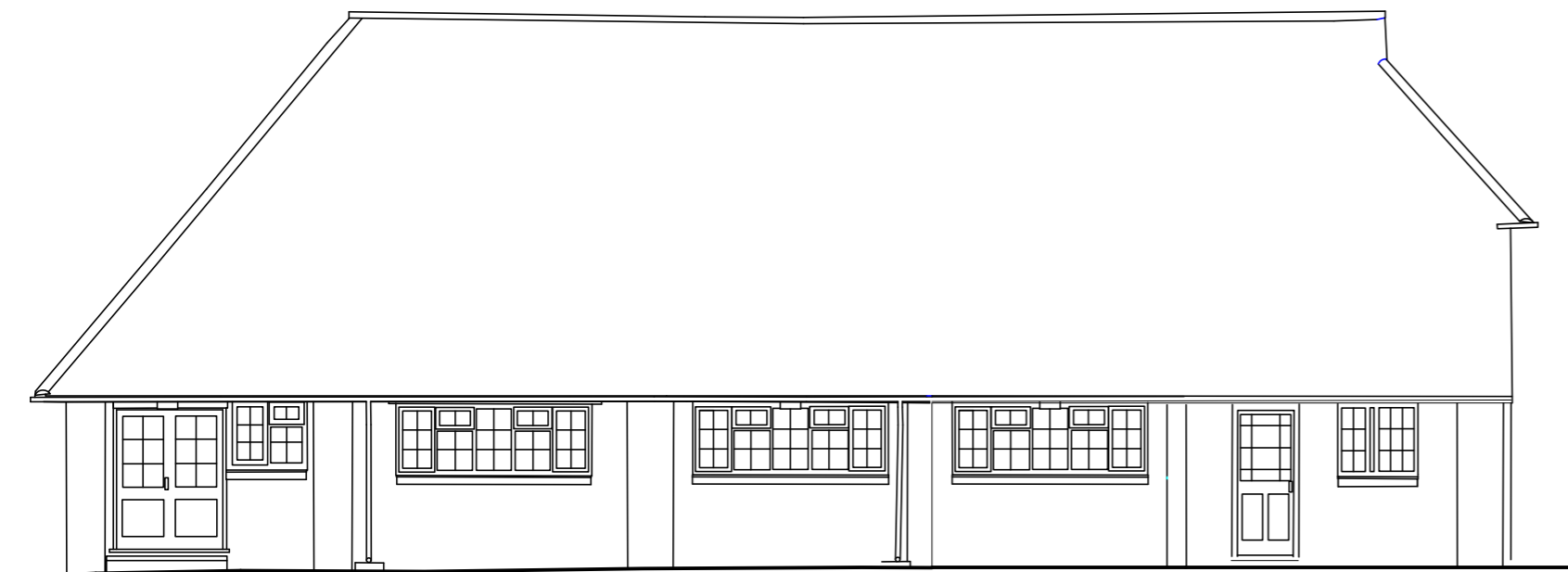
Side South Elevation



Front West Elevation



Rear East Elevation



Side North Elevation

Title **Kirdford Village Hall**

Job :- **Proposed Single Storey Extension**

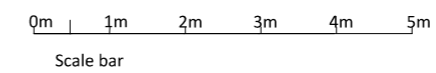
Drawing :- **Existing Elevation**

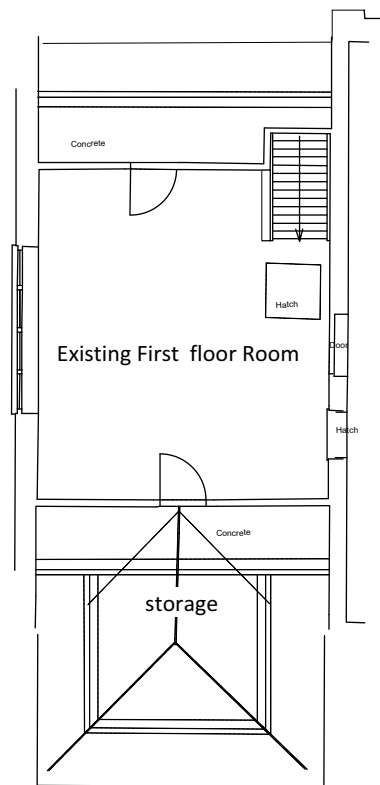
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All Dimensions to be checked on site prints to scale @A3

Issue : Planning

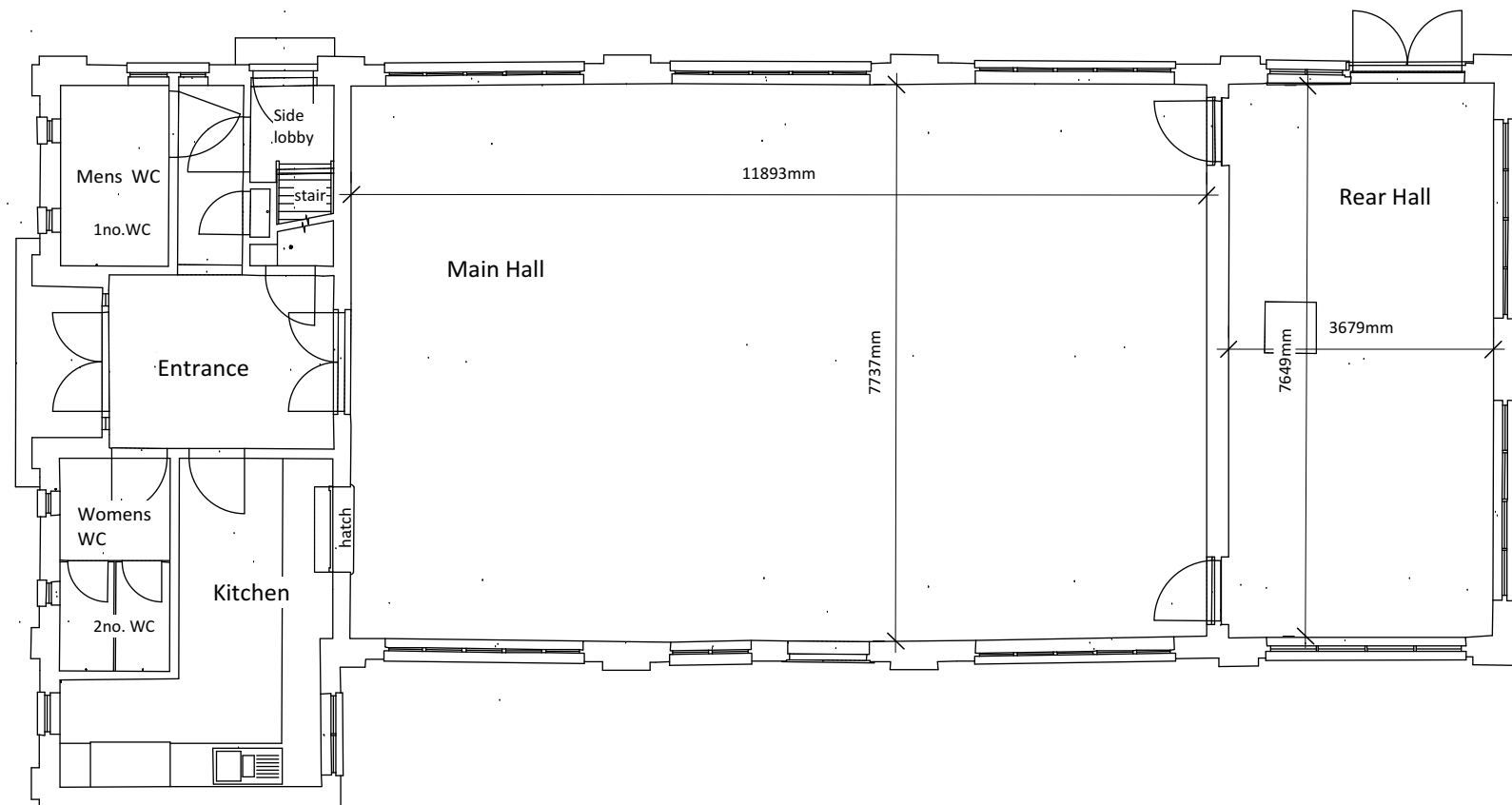
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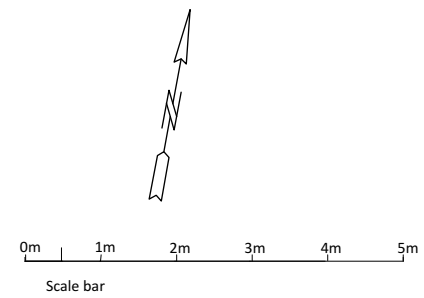




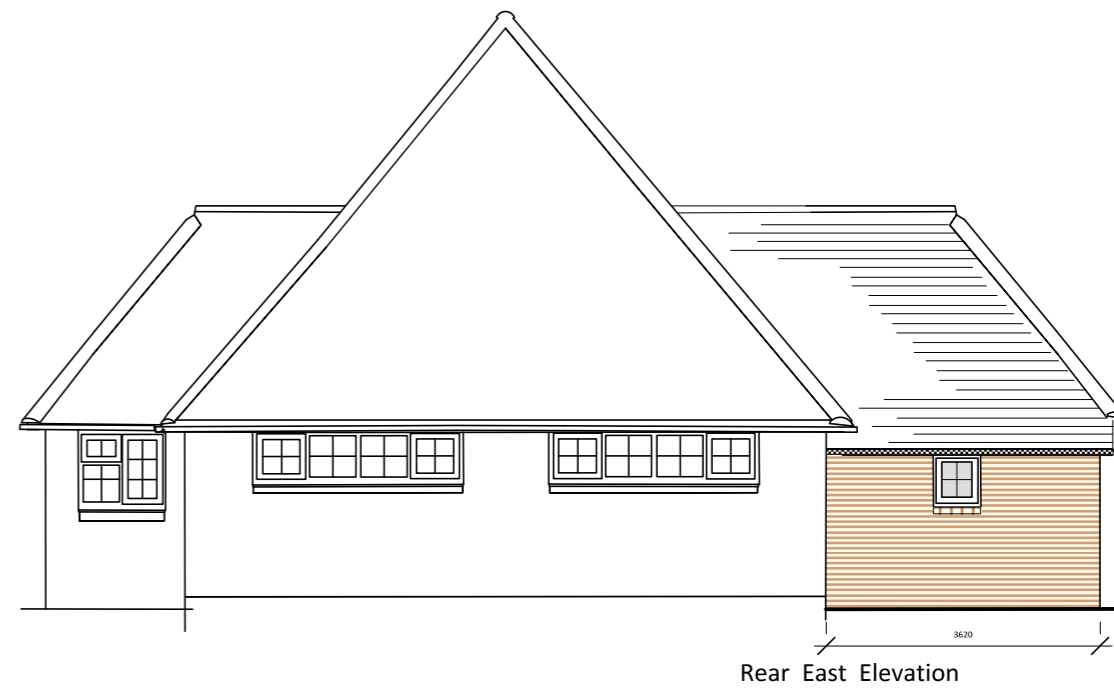
Existing First Floor



Existing Ground Floor

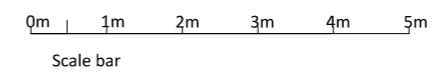


Title	Kirdford Village Hall
Job :-	Proposed Single Storey Extension
Drawing :-	Existing Ground Floor plan
Scale: 1 :100	Date: May 2023
Drawing No: 70391/ExFP	
All Dimensions to be checked on site prints to scale @A3	
Issue: Planning	
S. R. Burrell MRICS BSc DipBldgCons Chartered Surveyor	Burrell, Plaistow Road, Ifold West Sussex. RH14 0TU Telephone : 01403 751609 Email: srburrellmrics@gmail.com



Proposed Side North Elevation

NB: South side elevation remains unchanged as existing, not shown



Title	Kirdford Village Hall
Job :-	Proposed Single Storey Extension
Drawing :-	Proposed Elevation
Scale: 1 :100	Date: Sept 2023 Drawing No:70391/PEL/R All Dimensions to be checked on site prints to scale @A3
Issue :	Planning
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