

Our Ref: BEK-21894-20210512-M&GR

12 May 2021

Lou Lou's Bakery
Chew Mill Farm
Elker Lane
Billington
Clitheroe
Lancashire
BB7 9HZ

Flood Risk Assessment: Proposed Extension to existing Bakery Building at Chew Mill Farm, Elker Lane, Billington

BEK Enviro (BEK) have been commissioned by Michael and Gemma Rafferty to provide a Flood Risk Assessment for the extension of an existing bakery building at Chew Mill Farm, Elker Lane, Billington, Clitheroe, Lancashire. The proposed increase in floor space is approximately 36 m².

The site is located within Flood Zone 2 of the Environment Agency flood map for planning therefore a Flood Risk Assessment is required. The proposed development is a minor extension to an existing commercial property and therefore Environment Agency standing advice should be followed.

Background

The site is located within Flood Zone 2 of the Environment Agency flood map for planning as shown within the figure below:

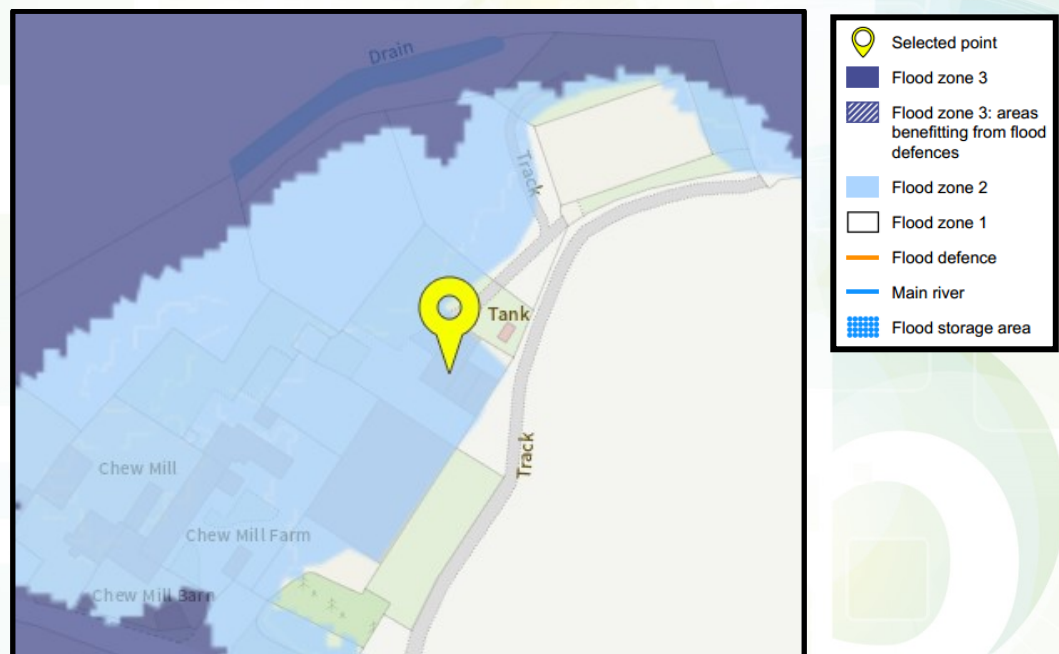


Figure 1: Environment Agency Flood Map for Planning

Flood Risk Assessment: Fluvial Flooding

The Environment Agency Flood Map for planning indicates that the development site is within Flood Zone 2, flood zone 2 is defined as having between a 1 in 100 and 1 in 1000 annual probability of flooding in any one year. The site is located some 240 m west of the River Calder.

The proposed development is for the extension of an existing bakery building to form a new entrance and serving counter. Therefore the development is classified as 'less vulnerable' development within Flood Zone 2.

It is proposed that the extension to the existing bakery will have a finished floor level set no lower than existing floor levels in accordance with Environment Agency Standing Advice.

Flood Risk Assessment: Surface Water Flooding

The Environment Agency Flooding from Surface water map indicates that the location of the proposed extension has a very low risk of surface water flooding as shown within the Figure below:

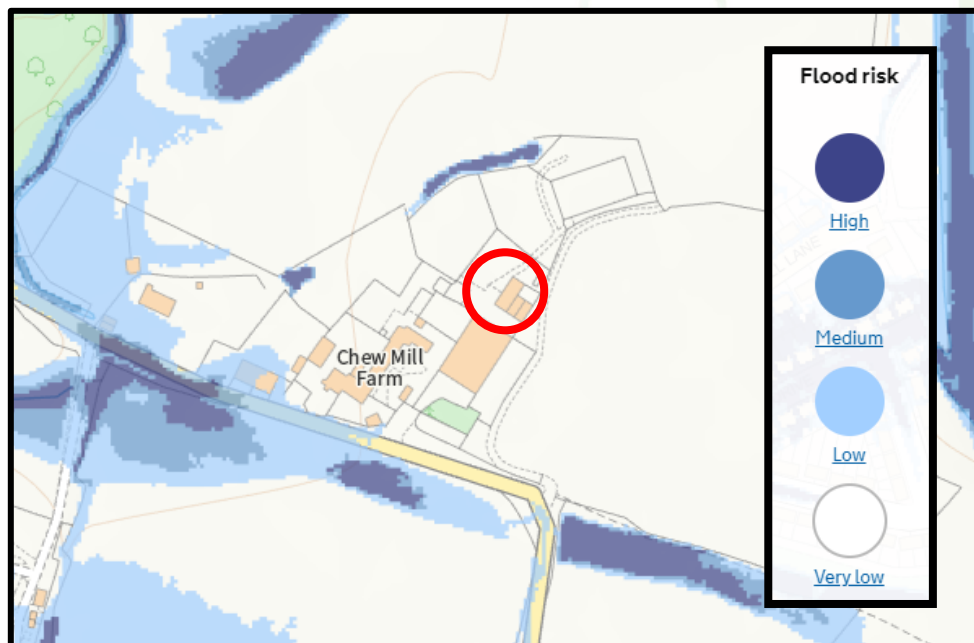


Figure 2: Environment Agency Surface Water Flood Map

Environment Agency Flood Warnings

It is understood that the owners of the site are already registered with the Environment Agency Floodline Warnings Direct Service. The Flood Warning's Direct Service is a free service which enables the Environment Agency to send a direct message when flooding is expected and may affect the development. Flood warnings are designed to provide businesses and residents the time to prepare for flooding. Flood warnings can be sent by telephone, mobile, email SMS test message or fax.



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The Environment Agency also provides a **Floodline 0345 988 1188** service, where occupants can listen to recorded flood warning information for the area or speak to an operator for advice 24 hours a day.

If flooding is forecast, they are able to issue warnings using a set of three different warning types:

- **Flood Alert** – Flooding is possible. Be prepared.
- **Flood Warning** – Flooding is expected. Immediate action is required.
- **Severe Flood Warning** – Severe flood warning. Danger to life.

Flood warnings are issued via a variety of media including:

- **On the flood warnings website** – view up-to-date information about flood warnings in force, monitor the river or sea levels in your area and check out the latest flood risk forecast for the county.
- **Telephone Floodline 0345 988 1188** – listen to recorded information on the latest warnings and predictions or speak to an operator for more general information 24 hours a day. Environment Agency operators can also provide a quick dial number which gives you faster access to information for your area.
- **Television and Radio** – Environment Agency warnings may be played on television and in radio broadcasts.
- **Flood Wardens** – in some areas Flood Wardens are there to alert and support their local community when a flood warning is issued. Call Floodline 0345 988 1188 to find out if this service is available in this area.
- **Sirens/loudwailers** – in some areas the Environment Agency uses loudhailers or siren systems to warn people that a flood warning has been issued. Call Floodline 0345 988 1188 to find out if this type of service operates in your area.
- **Flood warning feeds** – Flood warning (RSS) feeds shows national and regional flood warnings in force and are updated every 15 minutes. The feeds contain a brief summary and link to the full information on the Environment Agency website.

Evacuation Plan

If not already, it is recommended that the owners/managers of the site sign up to receive flood warnings and develop an evacuation plan from the site to a safe area away from Flood Zone 2, in the event that a 'flood alert' is issued by the Environment Agency.

Practical advice is available from the Environment Agency website:
<https://www.gov.uk/government/publications/preparing-your-business-for-flooding>

Flood Resilience Measures

In accordance with Environment Agency standing advice, flood resistance and resilience requirements are required for developments where ground floor levels are lower than the estimated flood level. The site is outside the extents of Flood Zone 3, i.e. design flood level therefore flood resilience measures are not considered to be essential however it may be considered prudent that flood resistance/resilience could be incorporated into the extension.



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The table provided below provides a range of typical flood proofing measures which may, where appropriate be incorporated into the proposed extension.

Feature	Considerations to Improve Flood Proofing
External Walls	Careful consideration of materials; use low permeability materials to limit water penetration if dry proofing required. Avoid using timber frame and cavity walls. Consider applying a water resistant coating. Provide fitting for flood boards or other temporary barriers across openings in the wall.
Internal Walls	Avoid use of gypsum plaster and plasterboards; use more flood resistant linings (e.g. hydraulic lime, ceramic tiles). Avoid use of stud partition walls.
Floors	Avoid use of chipboard floors. Use concrete floors with integrated and continuous damp proof membrane and damp proof course. Solid concrete floors are preferable; if a suspended floor is to be used, provide facility for drainage of sub-floor void. Use solid insulation materials.
Fitting, Fixtures and Services	If possible, locate all fittings, fixtures and services above design flood level. Avoid chipboard and MDF. Consider use of removable plastic fittings. Use solid doors treated with waterproof coatings. Avoid fitted carpets. Locate electrical, gas and telephone equipment and systems above flood level. Fit anti-flooding devices to drainage systems.

Typical Flood Protection Measures

Conclusions

The proposed development is for the extension of an existing bakery to create a new entrance and counter and is therefore classified as 'less vulnerable' development and is considered to be a minor extension as it is no larger than 250 m².

The risk of flooding to the site is from the fluvial River Calder located some 240 m east of the site. The proposed finished floor level of the extension will be set at the same height as the existing bakery finished floor levels and no flood resistance/resilience measures are required. However the site owners may consider it prudent to install flood resistance/resilient measures.

I trust the above is satisfactory. Should you require anything further please do not hesitate to contact the undersigned.

Yours sincerely

DAVID EMMOTT

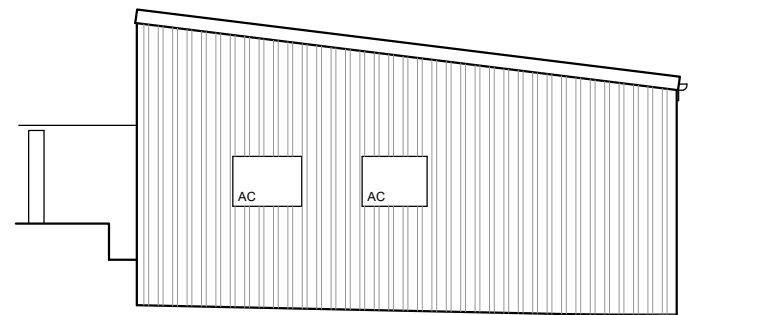
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Annex A – Existing & Proposed Plans

Annex B – Environment Agency Flood Map

ANNEX A

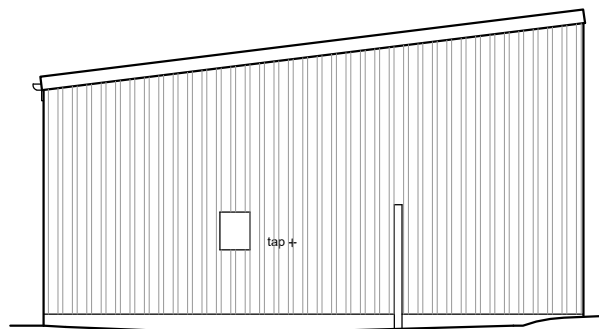
Existing & Proposed Plans



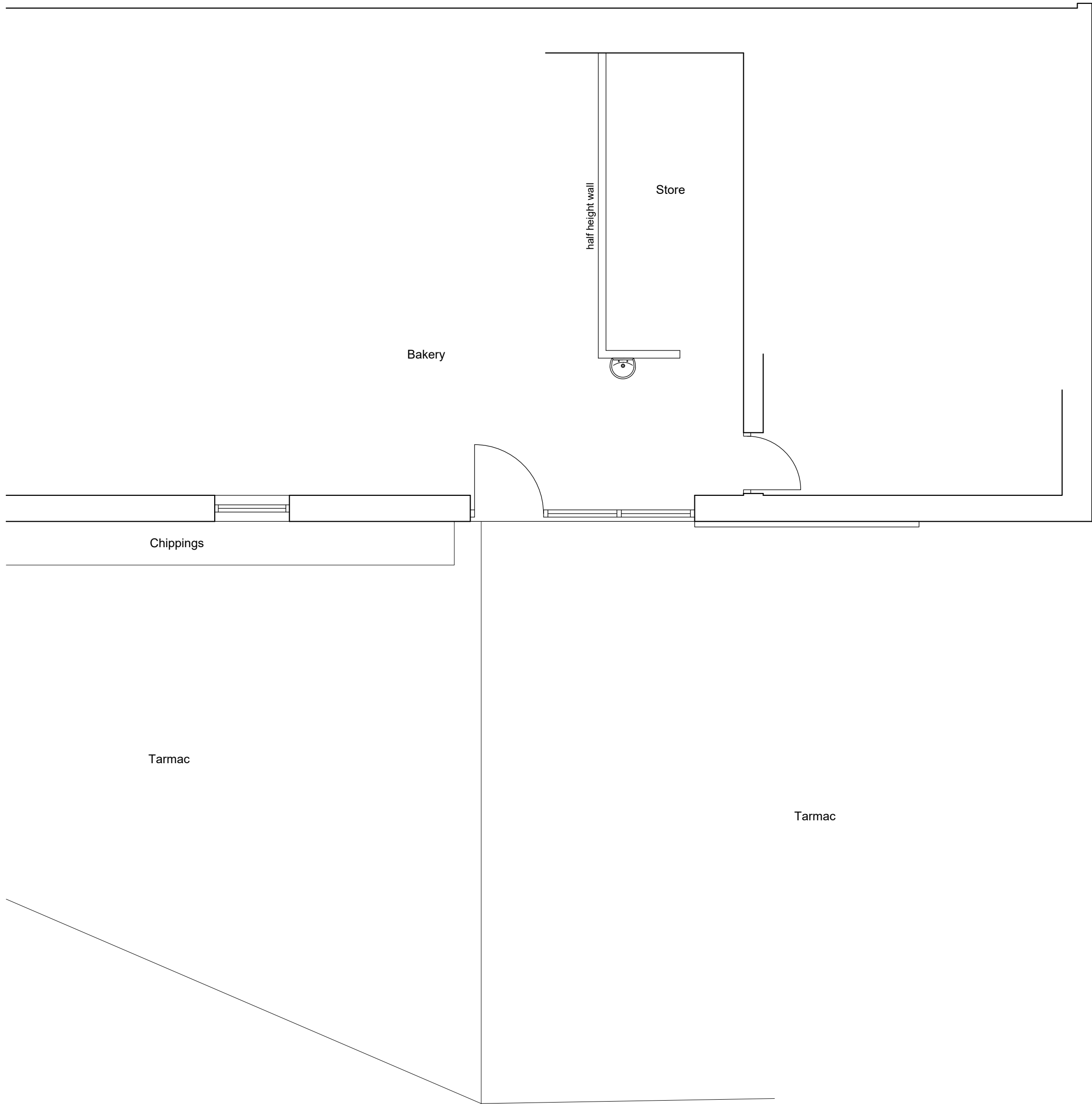
North East Elevation 1:100



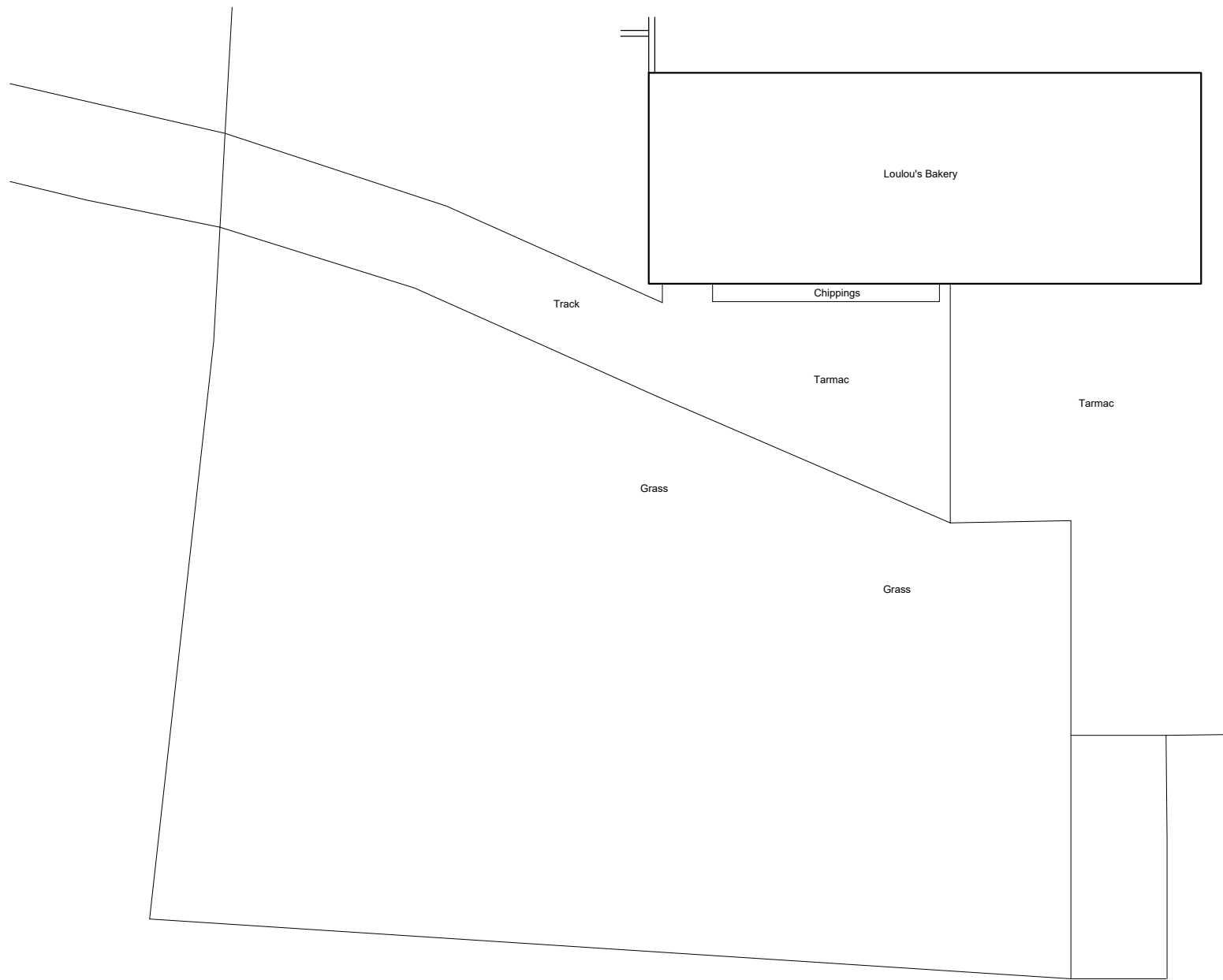
North West Elevation 1:100



South West Elevation 1:100

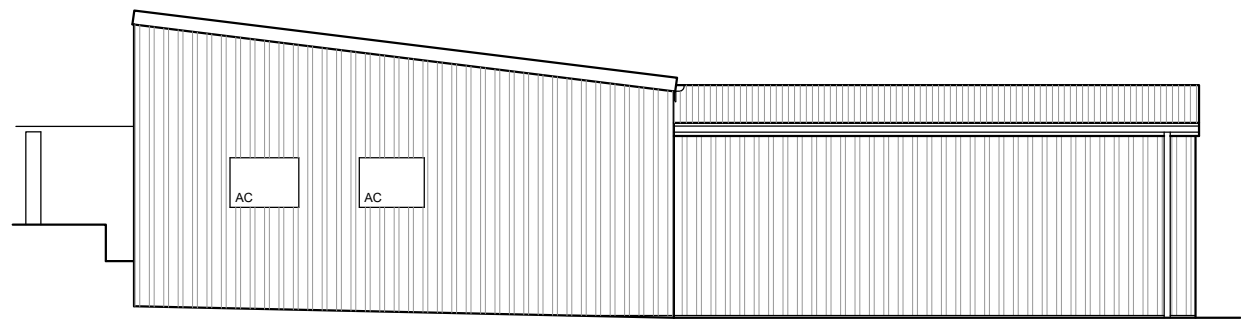


Part Ground Floor Plan 1:50

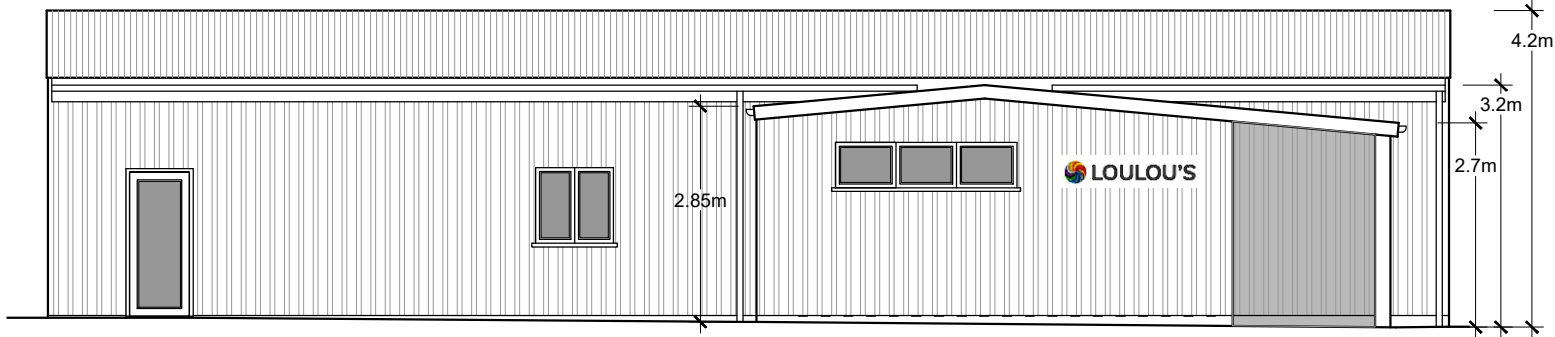


Site Plan 1:200

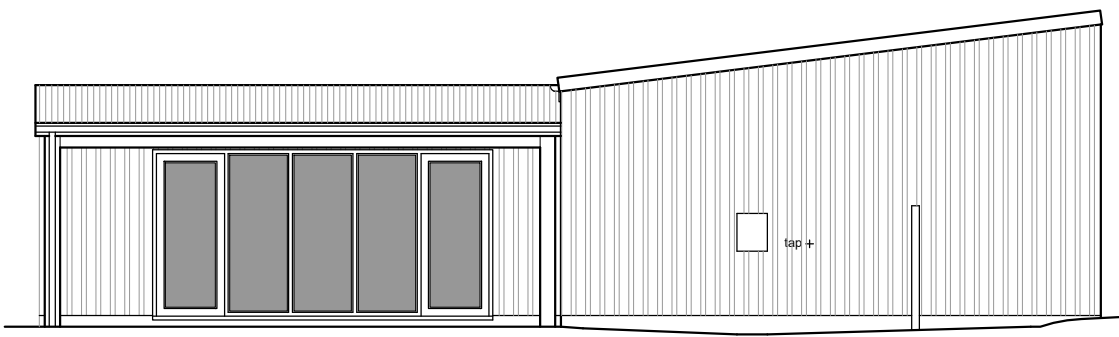
Client Mr and Mrs Rafferty		
Project Proposed Extension to Loulous Chew Mill Farm Elker Lane Billington BB7 9HZ		
Drawing Title Existing Plans and Elevations		
Scale 1:50/100/200 @ A2	Date Apr 2021	Drawn LFR
READ DESIGN LTD		
129 - 01		



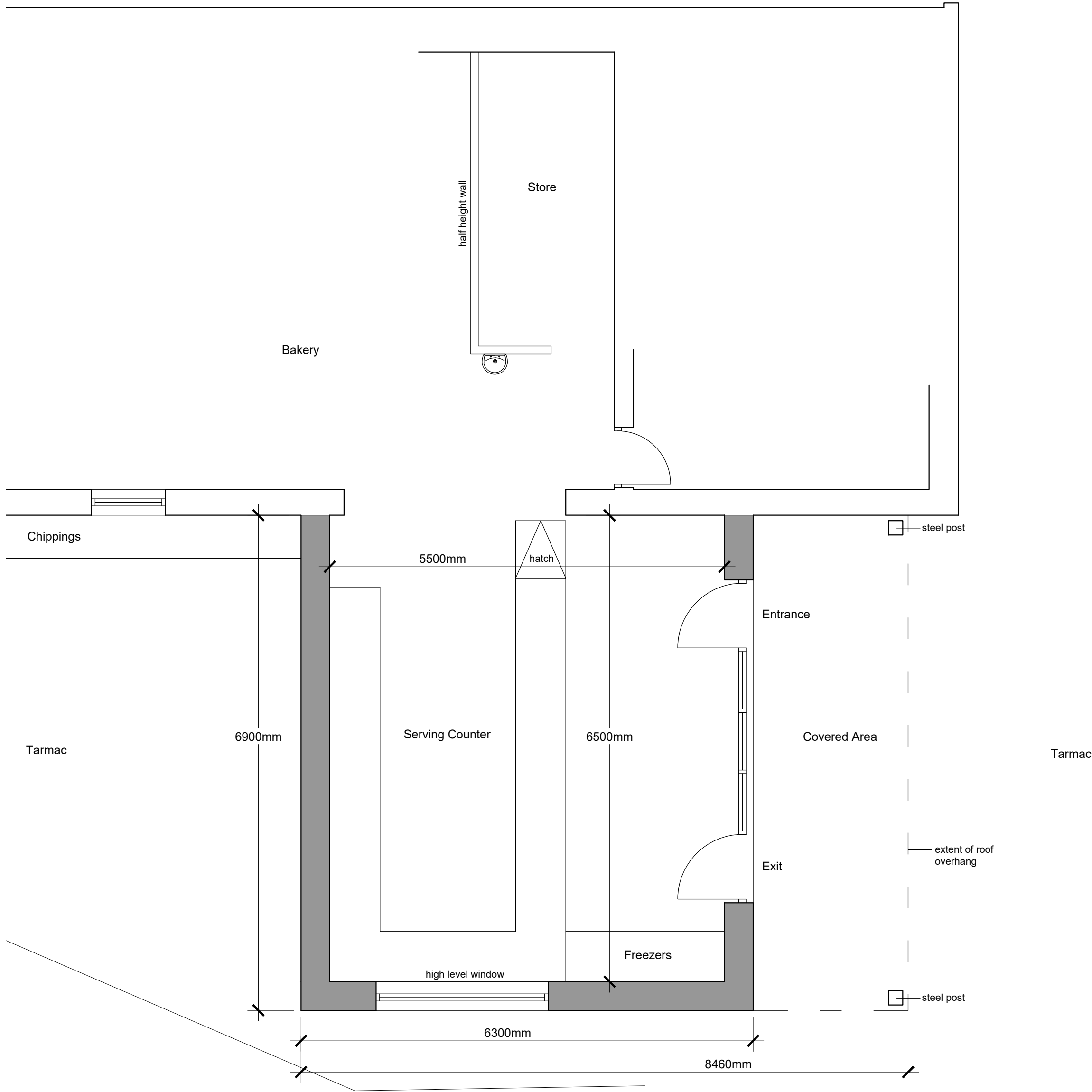
North East Elevation 1:100



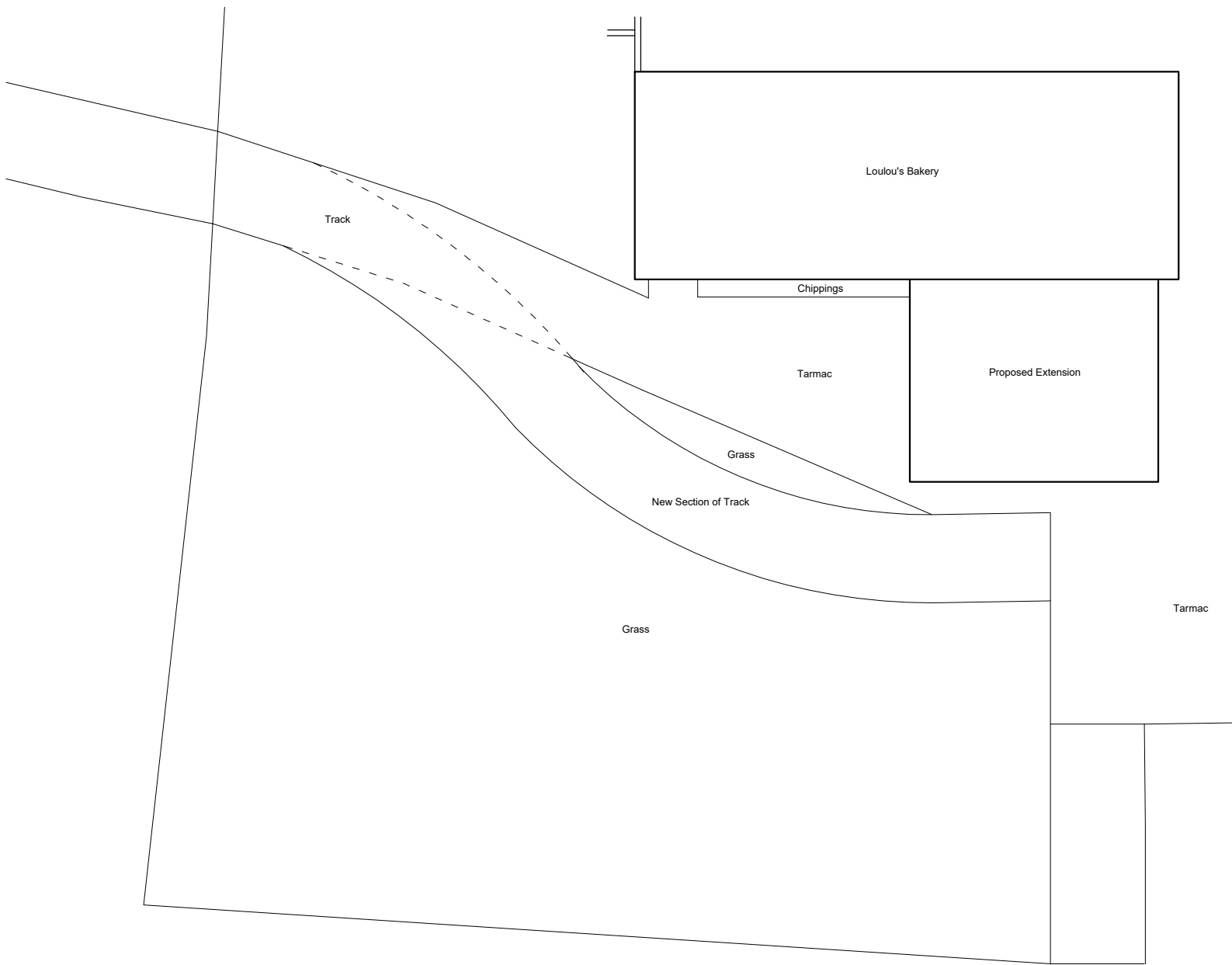
North West Elevation 1:100



South West Elevation 1:100



Part Ground Floor Plan 1:50

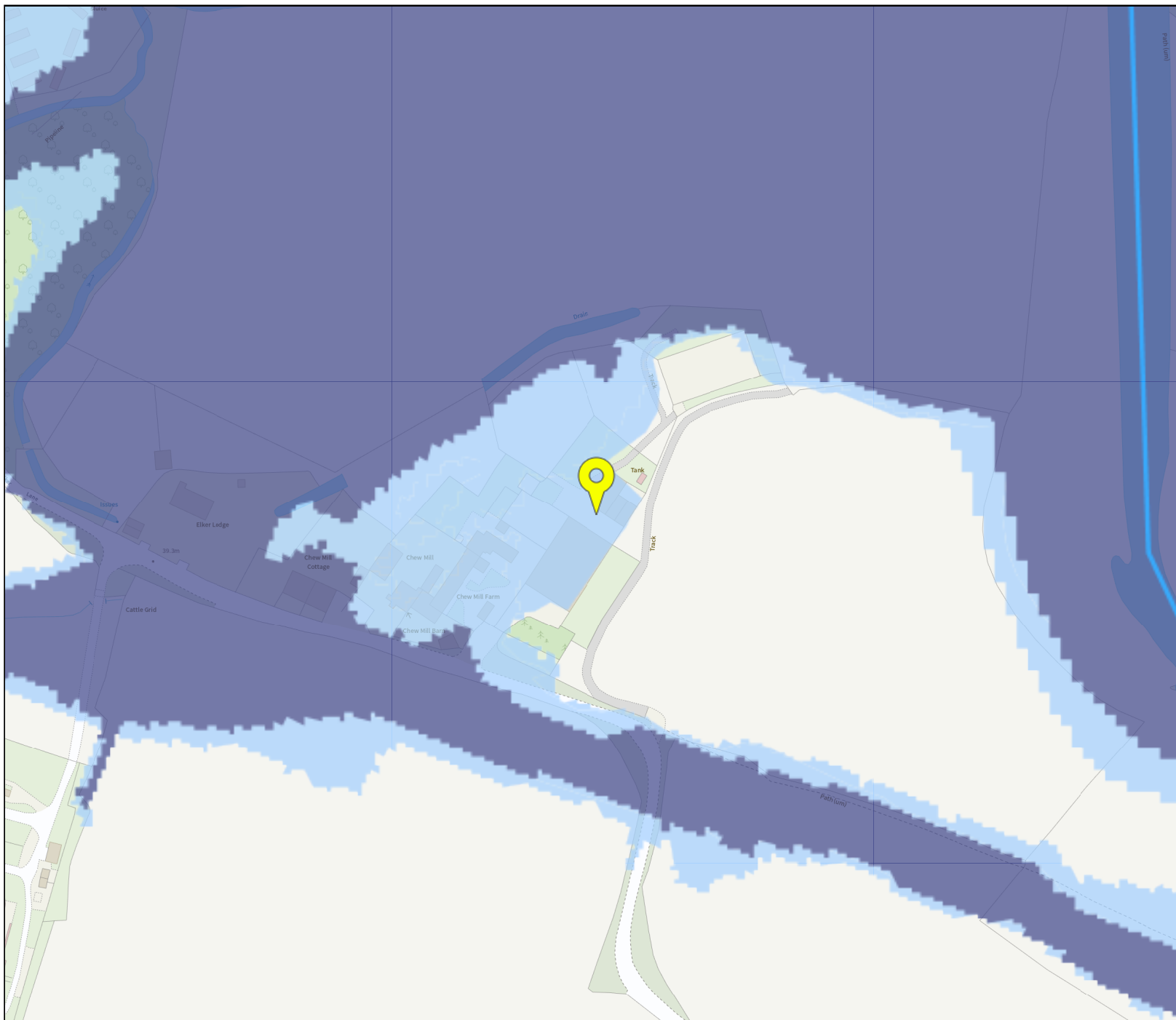


Site Plan 1:200

REV A - Screen removed and dimensions added. 18.04.21

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Scale 1:50/100/200 @ A2	Date Apr 2021	Drawn LFR
READ DESIGN LTD		
129 - 02 A		

ANNEX B Environment Agency Flood Map



Flood map for planning

Your reference

Chew Mill

Location (easting/northing)









371749/436346

Scale

1:2500

Created

10 May 2021 16:21

-  Selected point
-  Flood zone 3
-  Flood zone 3: areas benefitting from flood defences
-  Flood zone 2
-  Flood zone 1
-  Flood defence
-  Main river
-  Flood storage area

0 20 40 60m