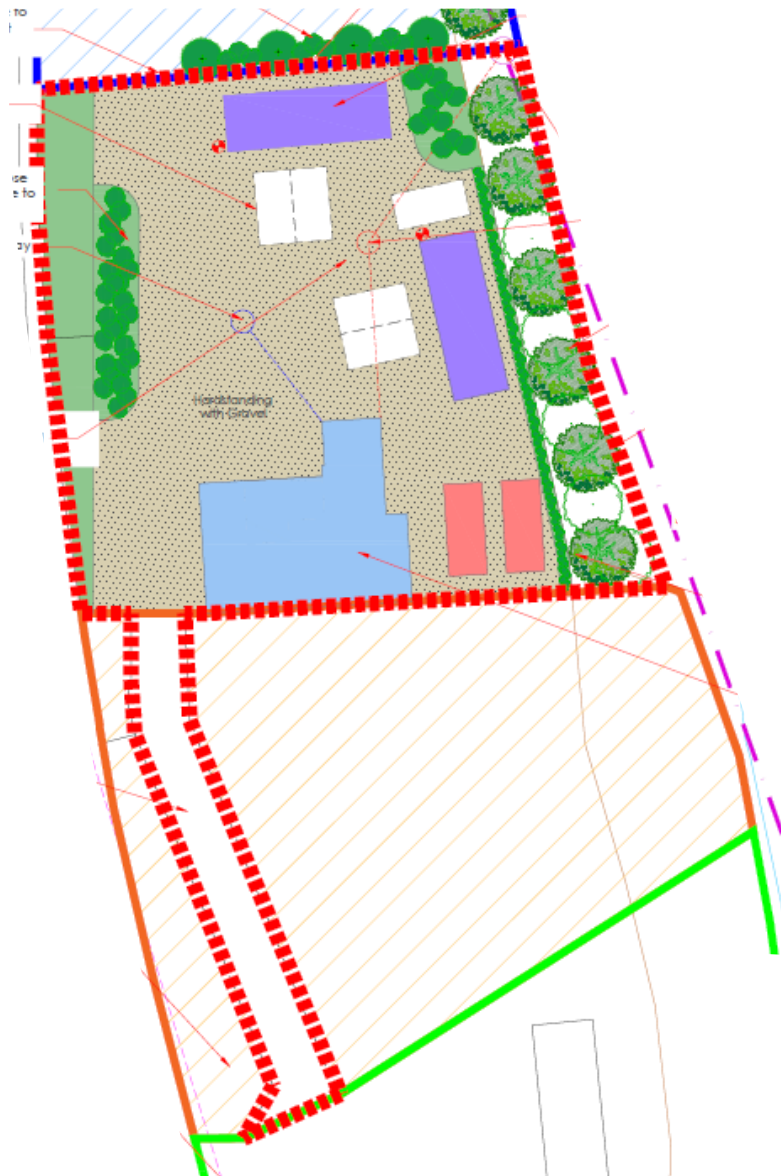


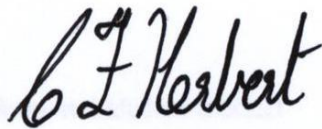
Expansion Of Traveller Site, Pontrhydyfen Flood Consequence Assessment Report



February 2026
Final

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Consultant	Francis Sant Limited
Office	14, Queen St. Carmarthen Carmarthenshire SA31 1JT
Author	Ceirion Herbert
Telephone	01267 233833
e-mail	cherbert@francissant.com

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Signed 

Date November 2025.....

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1 INTRODUCTION

It is proposed to extend a residential compound at Pontrhydyfen by having two additional static caravan pitches, two additional touring caravan pitches, and converting an existing stables block into two dayroom spaces. Although most of the site lies in flood Zone 1, and not at risk of flooding, part of the site is located within a River Flood Zone 2 and close to Flood Zone 3, as shown on the Flood Map For Planning (see Figure 1.1). This indicates that part of the identified site potentially could be at risk during a 1 in 1000 year fluvial event and close to an area affected during a 1 in 100 year event, taking 100 years of climate change into consideration. The applicant appreciates, therefore, the need to assess the consequence of flooding.

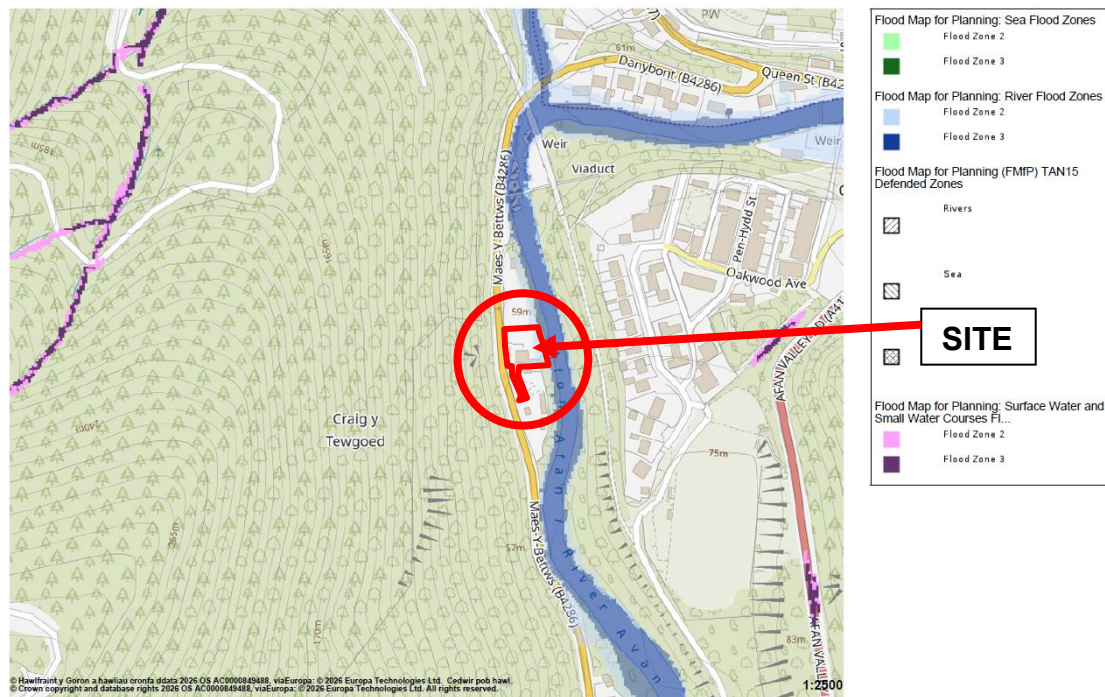


Figure 1.1 – Sea Flood Map For Planning

The prime objective of the Flood Consequences Assessment is to develop an appreciation of:

- The risk and consequences of flooding on the development; and
- The risk and consequences (i.e. the overall impacts) of the development on flood risk elsewhere.

It is noted that no new highly vulnerable development should be permitted, **on greenfield land**, in Zone 3 flood area, regardless of the conclusion of any Flood Consequences Assessments. In addition, Welsh Ministers must be notified of any such proposal a planning authority intends to approve. **In this instance, however, the proposals are limited to a Zone 1 and Zone 2 flood area.**

The assessment should consider a range of potential flooding scenarios including a 1 in 1000 year event with an allowance for climate change in line with current Welsh Government guidance.

This assessment will help the planning authority determine whether the risk and consequences of flooding are acceptable and can be managed over the lifetime of

development. The assessment will also establish whether appropriate measures can be incorporated into the design to ensure that the risk to life, damage to property and disruption to people, over its lifetime, are minimised.

The National Strategy recognises that many communities are located in areas at higher risk from flooding. TAN 15, however, recognises that these communities must be allowed to adapt, change, and regenerate in the knowledge of what the science is showing. Nevertheless, development and redevelopment should be avoided where there is a risk of being impacted by coastal erosion over the lifetime of the development.

The Flood Map For Planning are based on the Flood Risk Assessment Maps (see Figure 1.2) plus 100 years of climate change. The maps adopt the precautionary principle and are based on the best known information available at the time. However, a detailed examination of a site can refine an area's risk of flooding.

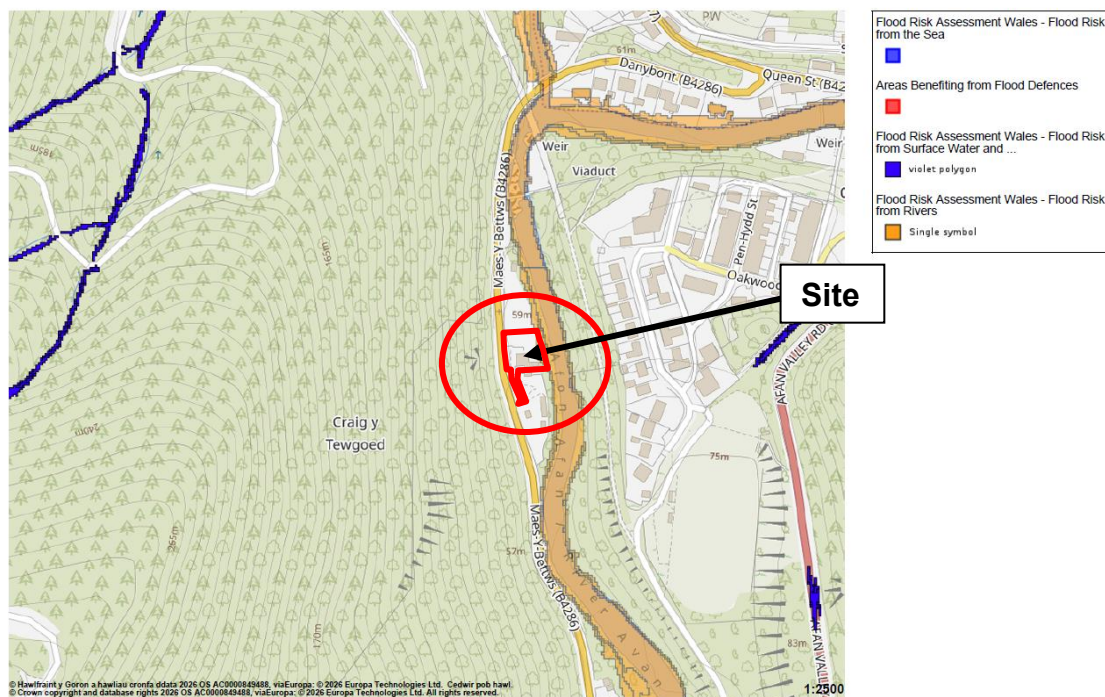


Figure 1.2 – Sea Flood Risk Assessment Map

Considering the site's proximity to the Afon Afan, it is possible that the development could be at risk from fluvial flooding, particularly when taking climate change into consideration. With this in mind, the client recognises the need to undertake a Flood Consequence Assessment to evaluate the risk and the implication of any flooding on the site. The assessment should be in accordance with the requirements of Section 11 of TAN 15. Francis Sant have been employed to undertake this task based on information currently available (ie. no additional modelling).

Section 2 of this report describes the location of the development while the method and risk of flooding, from various sources, are considered in Section 3. Section 4 considers sustainable drainage and potential resilient measures are discussed in Section 5. The conclusions of the study, along with the main recommendations, are provided in Section 6.

2 THE DEVELOPMENT

The development site (coordinates 279285 193930) is located on a plot north of an existing travellers compound, west of Pontrhydyfen and on the western bank of Afon Afan (see Figure 2.1 to 2.3 and Plate 2.1). The plot can be considered as partially developed land in accordance with Welsh Government Circular 002/2025. The site is some 4.5km north east of port Talbot some 4.7km south east of Neath and some 13km east of Swansea.



Figure 2.1 – Location Plan

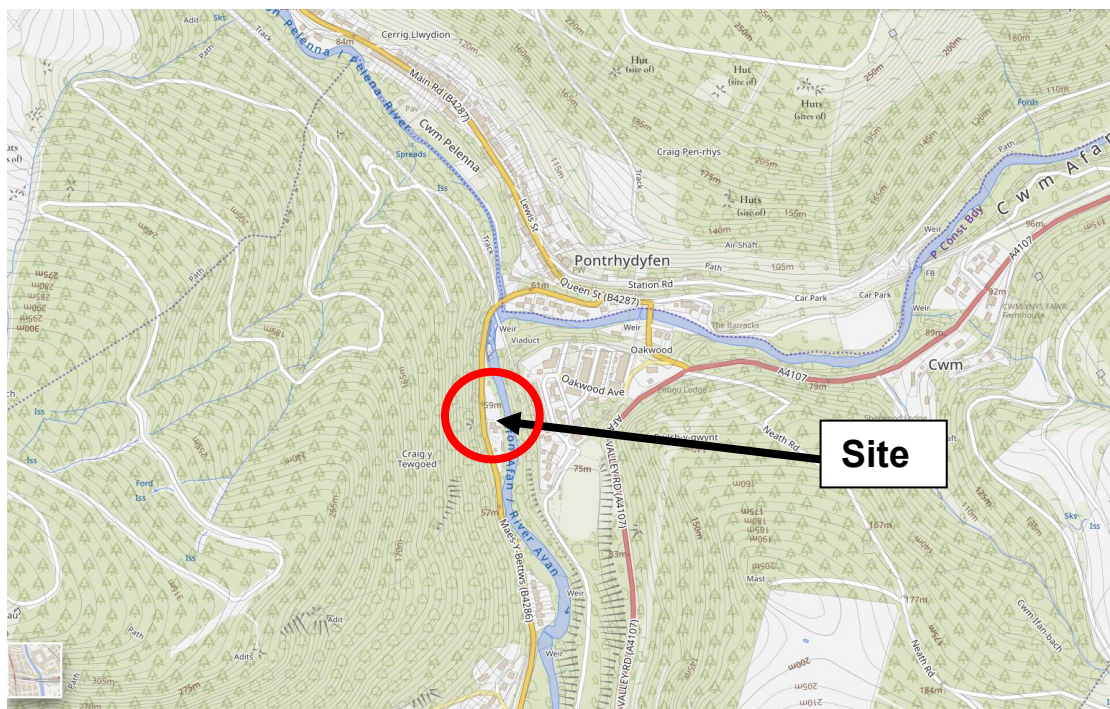


Figure 2.2 – Plan of Area

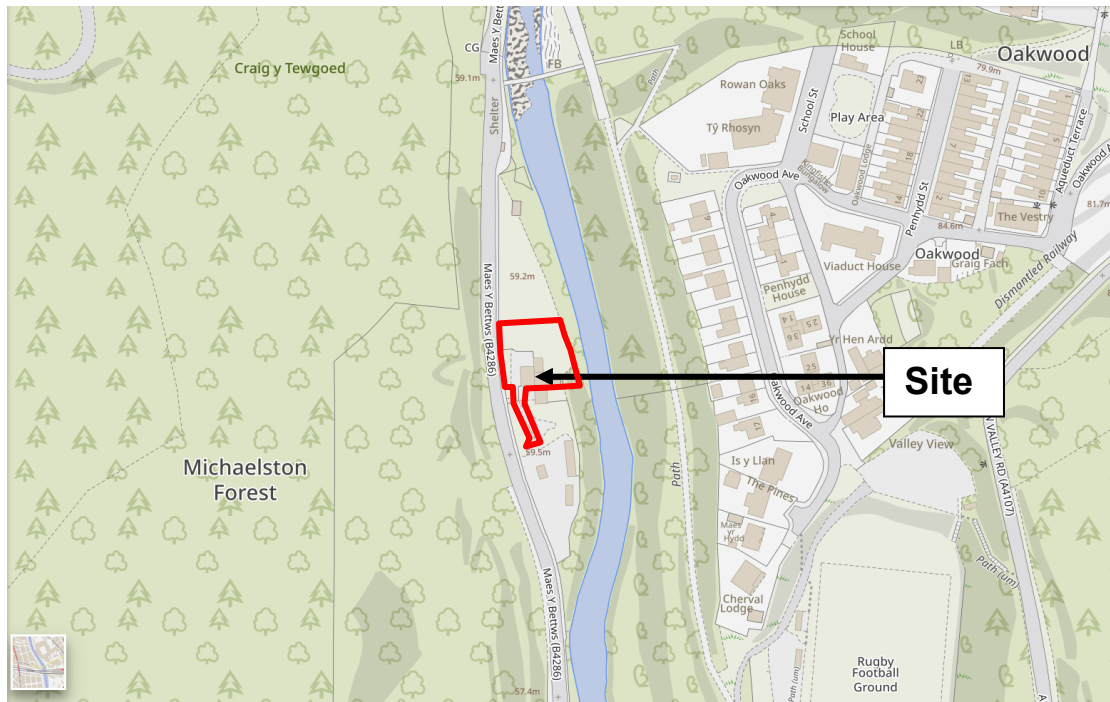


Figure 2.3 – Plan of Site

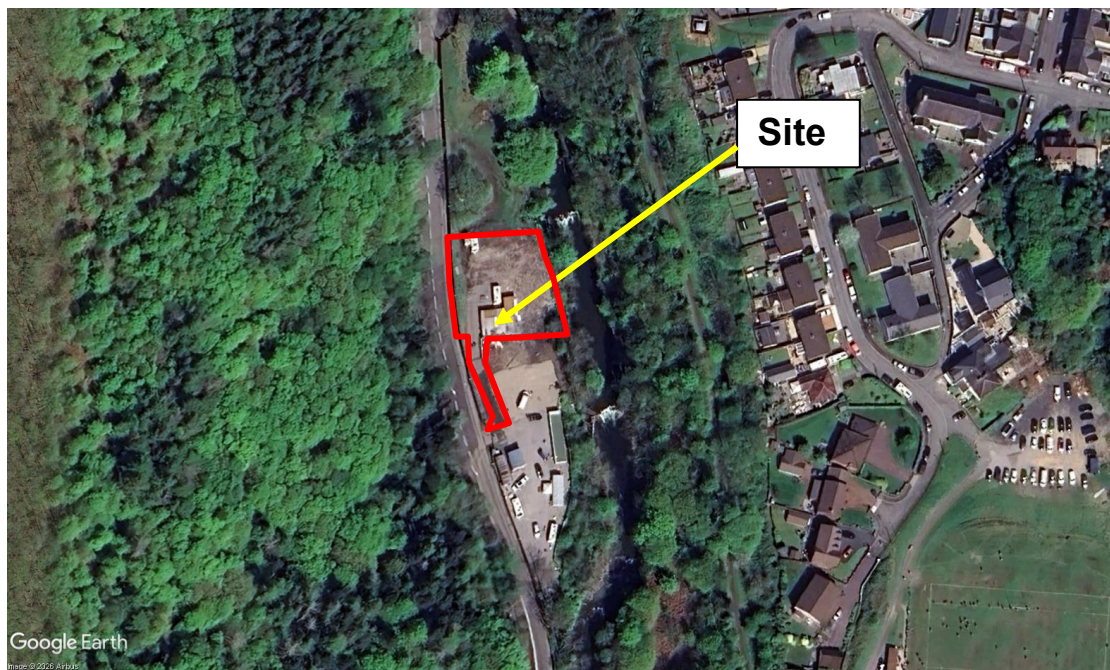


Plate 2.1 – Aerial View of Site

Proposed Development

It is proposed to extend an existing a traveller family compound by adding an additional two static caravan pitches, two touring caravan pitches and converting an existing stable block into two day rooms (see Figure 2.4 to 2.9). It is noted that the shape of the existing building is different than indicated on the OS maps with sections having been demolished.

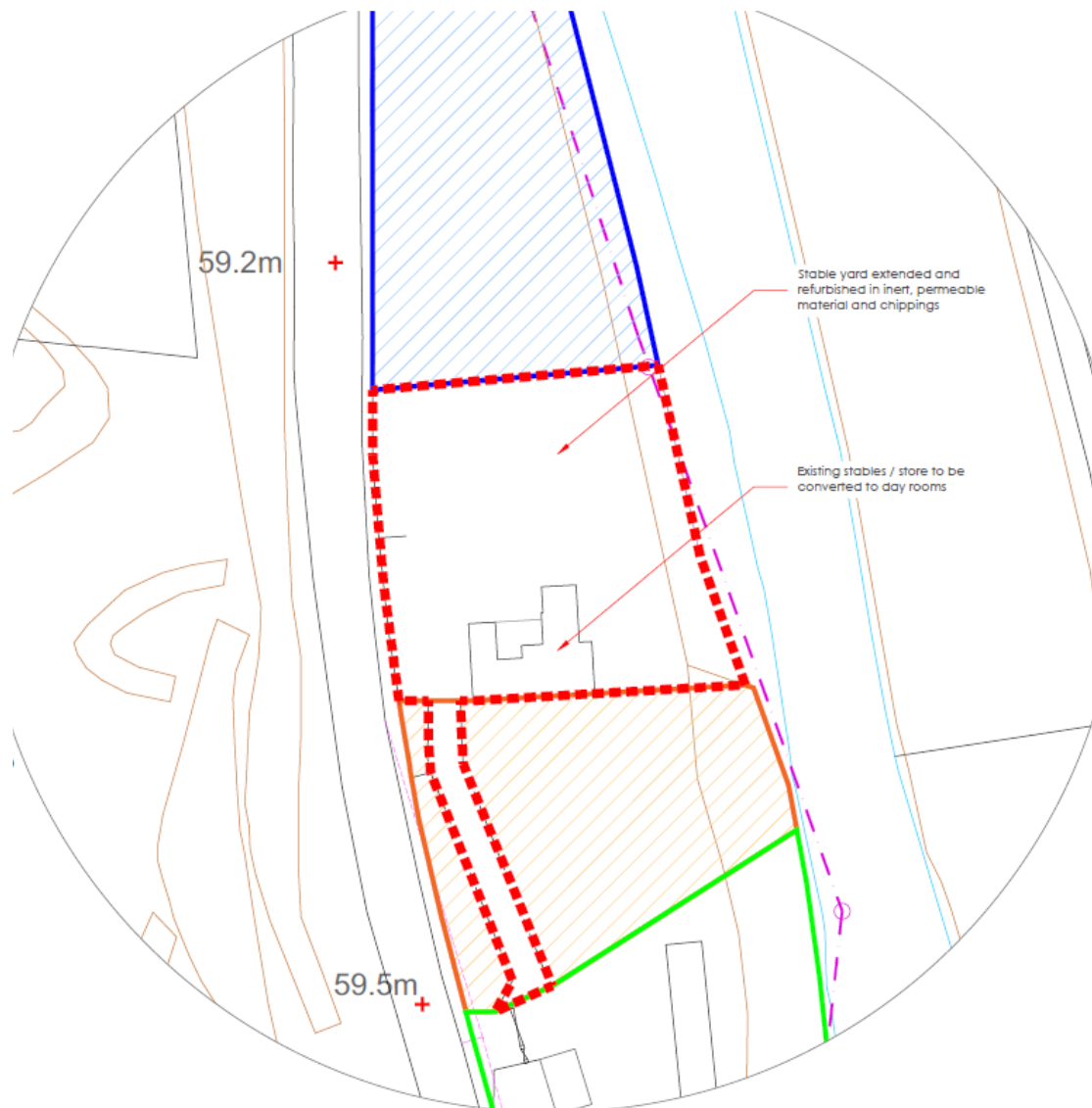


Figure 2.4 – Plan of Site

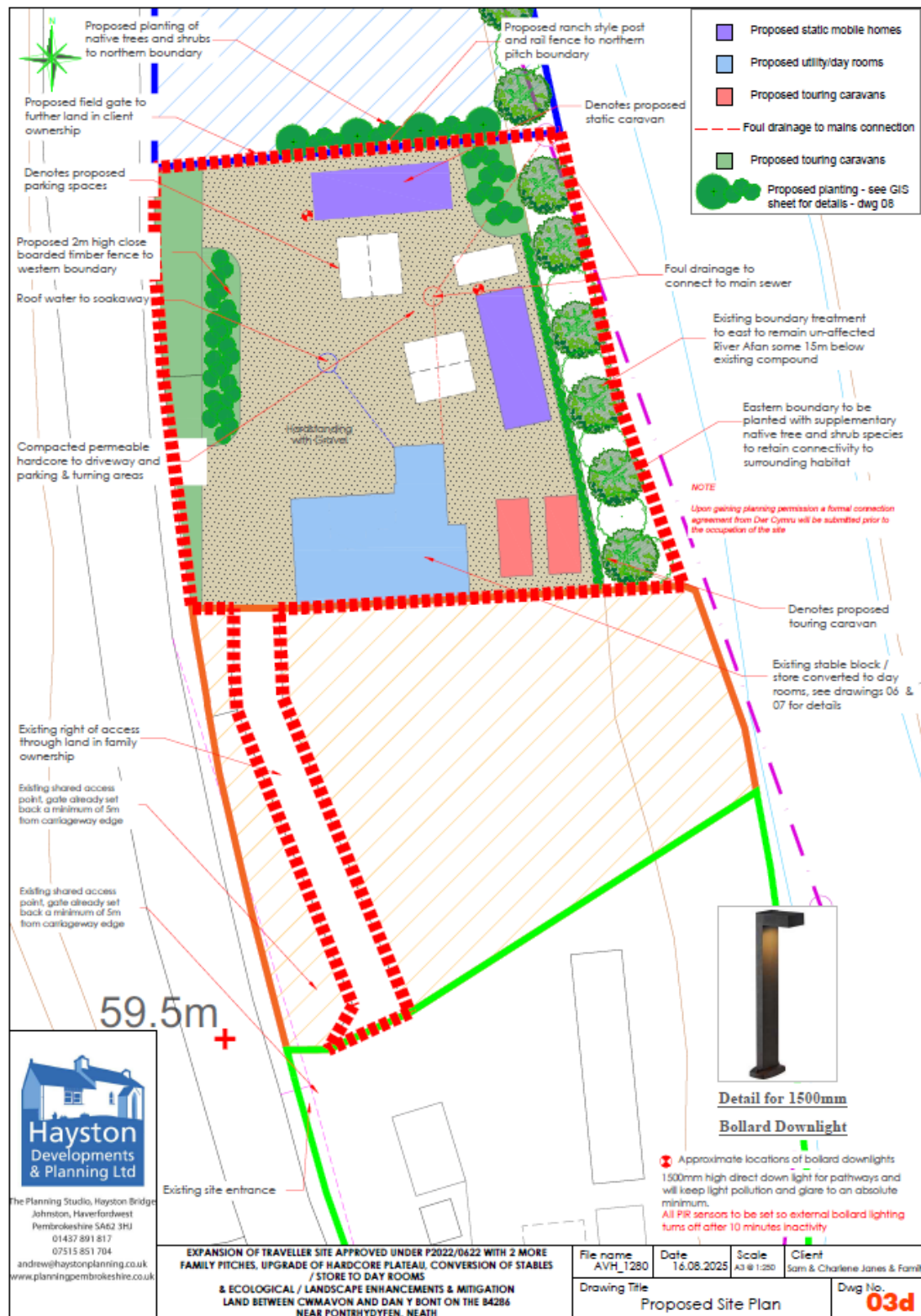


Figure 2.5 – Plan of Proposed Scheme

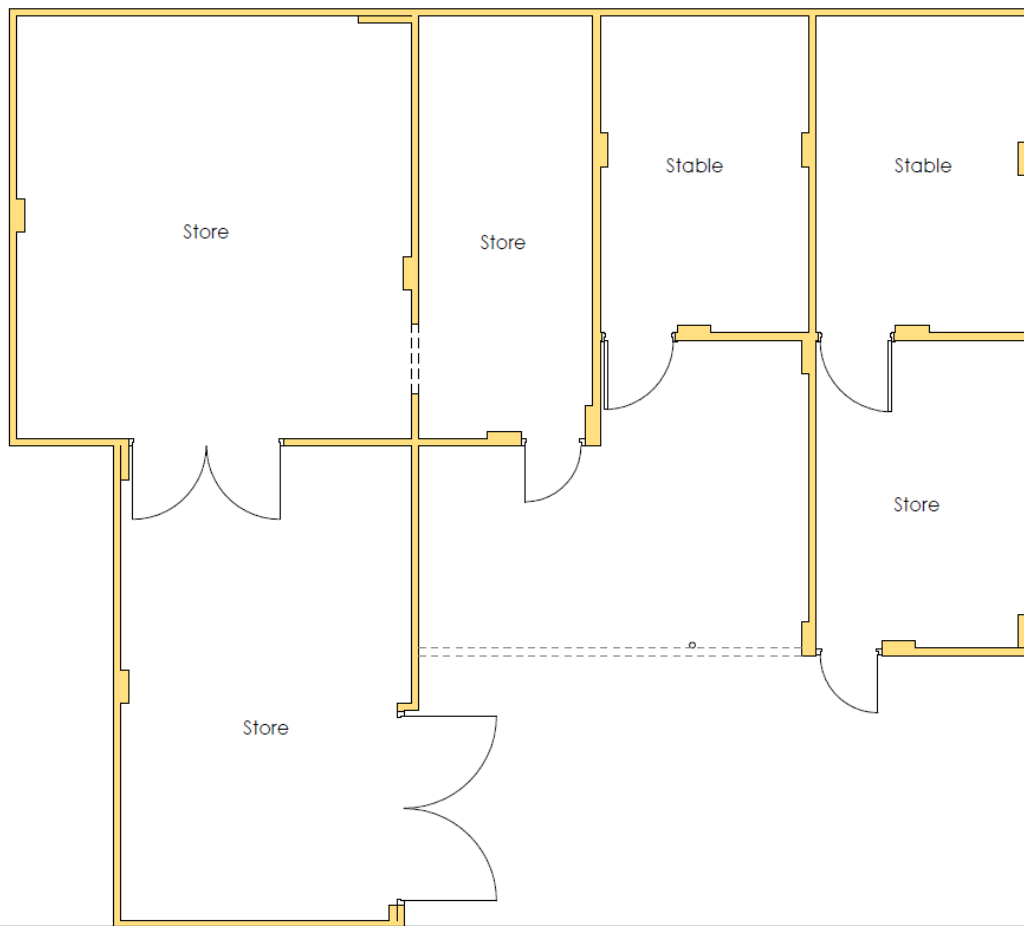
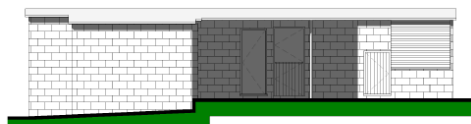
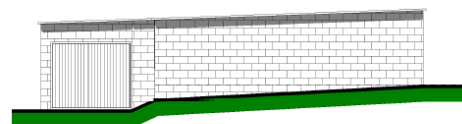


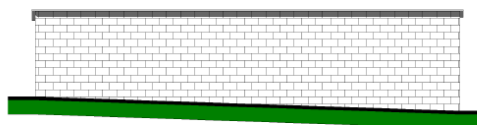
Figure 2.6– Floor Plan of Existing Stable Block



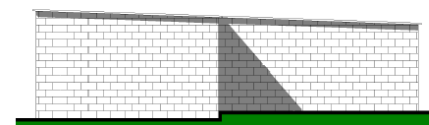
North Elevation



West Elevation



South Elevation



East Elevation

Figure 2.7– Elevation of Existing Stable Block

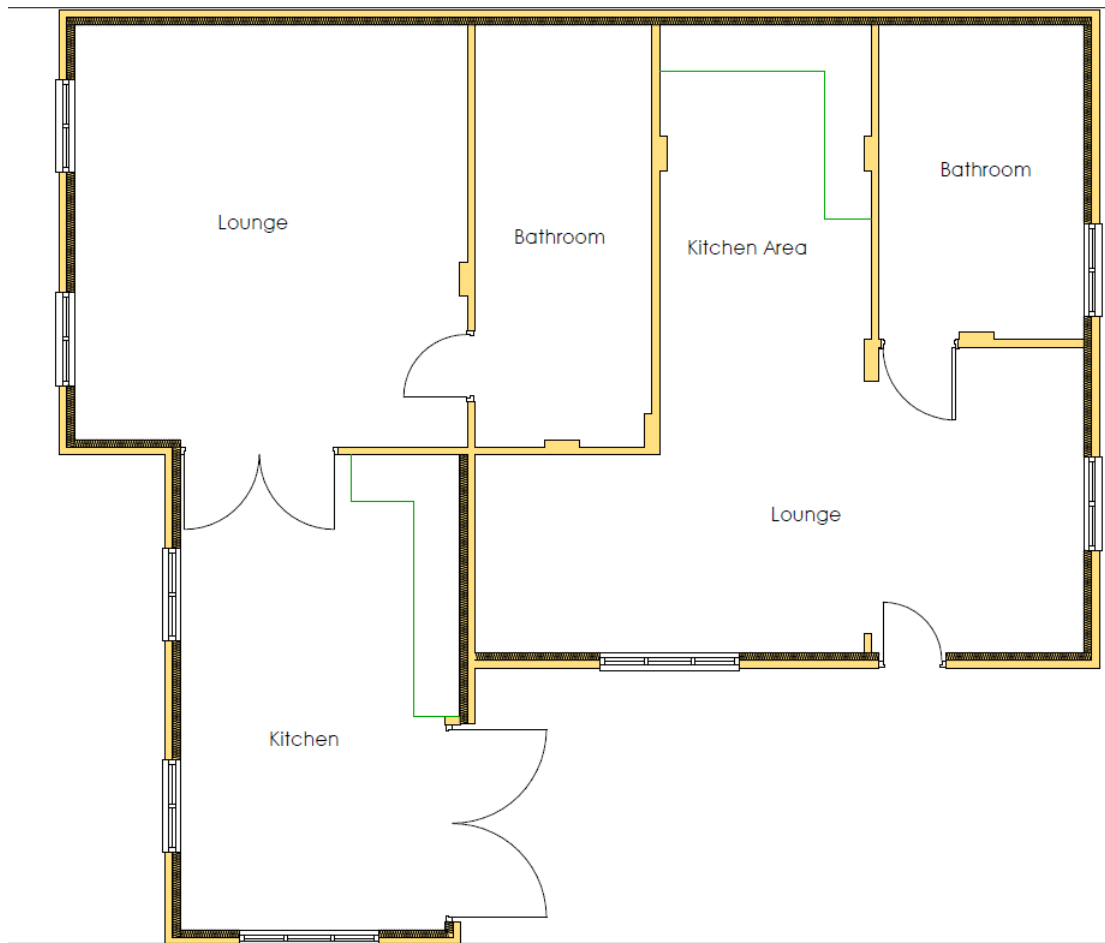
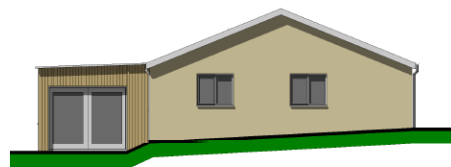


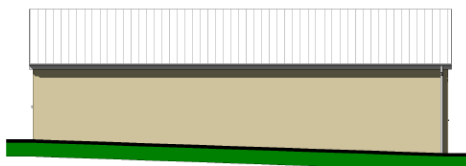
Figure 2.8 – Plan of Proposed Day Room



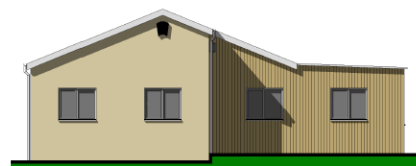
North Elevation



West Elevation



South Elevation



East Elevation

Figure 2.9 – Elevation of Proposed Day Room

Topography

Lidar data (see Figure 2.10) for the site shows that the ground levels generally ranges between 55.4m AOD and 58.8m AOD with the land generally falling from west to east, and towards the river.

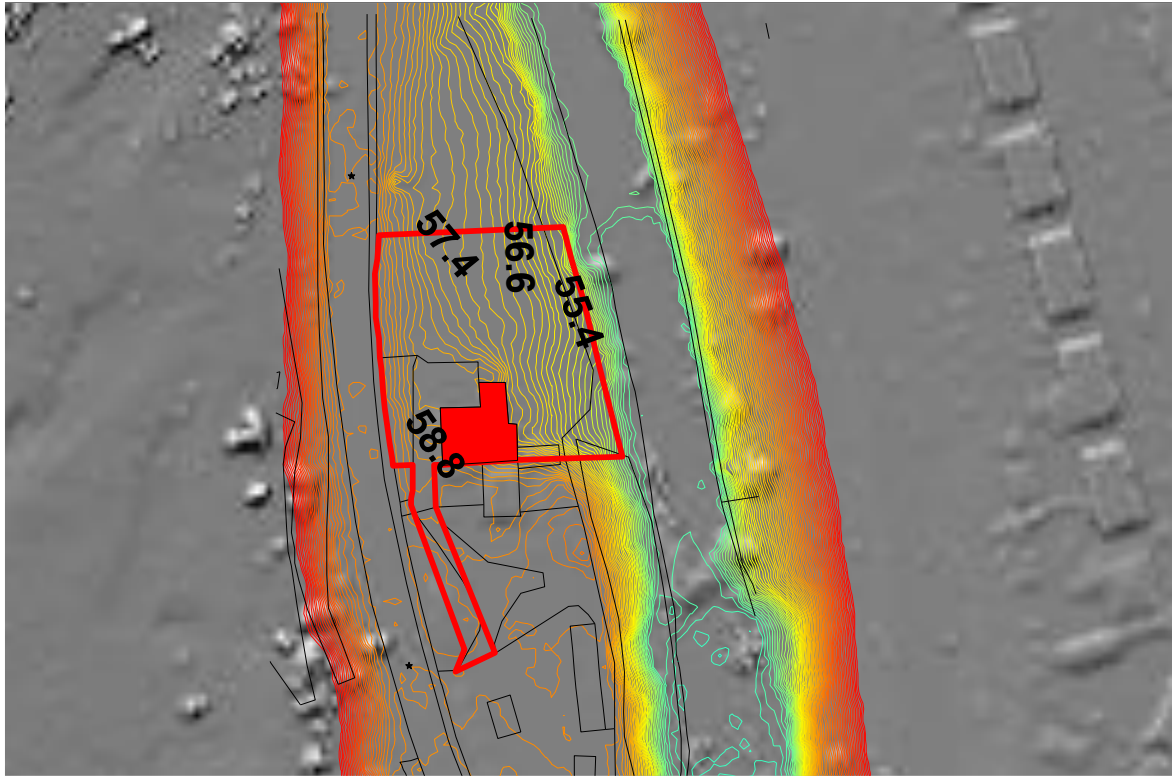


Figure 2.10 – Lidar Data for the Site

3 FLOOD RISK

Flooding can occur from several sources, some of which are considered in this section. The Flood Risk Assessment Wales maps (see Figure 3.1) shows that the site currently could partially be at risk of flooding from the adjacent river during a 1 in 1000 year event but is expected to remain flood free during a 1 in 100 year event. The maps, however, do not take climate change into consideration.

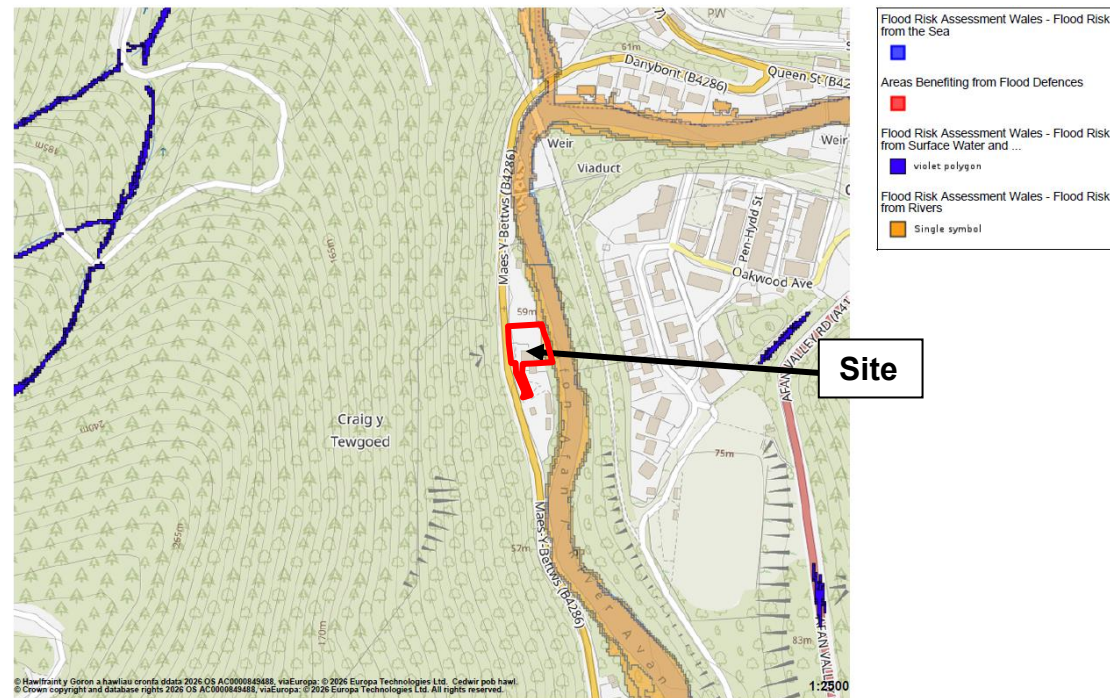


Figure 3.1 – Flood Risk Assessment Map

River

The Flood Map For Planning, which takes climate change into consideration (100 years), shows that the site is expected to remain flood free during a 1 in 100 year event but the eastern boundary could be at risk during the Q1000 event (flood Zone 2 - see Figure 3.2 and 3.3). It is noted that the current stable are expected to remain flood free but a previous, but now demolished, building used to be at risk.

Tan 15 requires that a highly vulnerable development is flood free during a Q100 event and is not located in Zone 3. Preferably the development should also lie outside Zone 2. A development that does lie in zone 2 will need demonstrate that it is in line with the adopted development plan's strategy to regenerate an existing settlement or can achieve key economic or environmental objectives. Flooding must also be considered tolerable in accordance with Section 11 of TAN 15 (depth less than 600mm; velocity less than 0.15m/s with no loss of flood storage capacity. The caravan pitches should, therefore, be located outside Zone 2. Possibly, the shrubs to be planted on the eastern boundary could be extended, or moved, westwards.

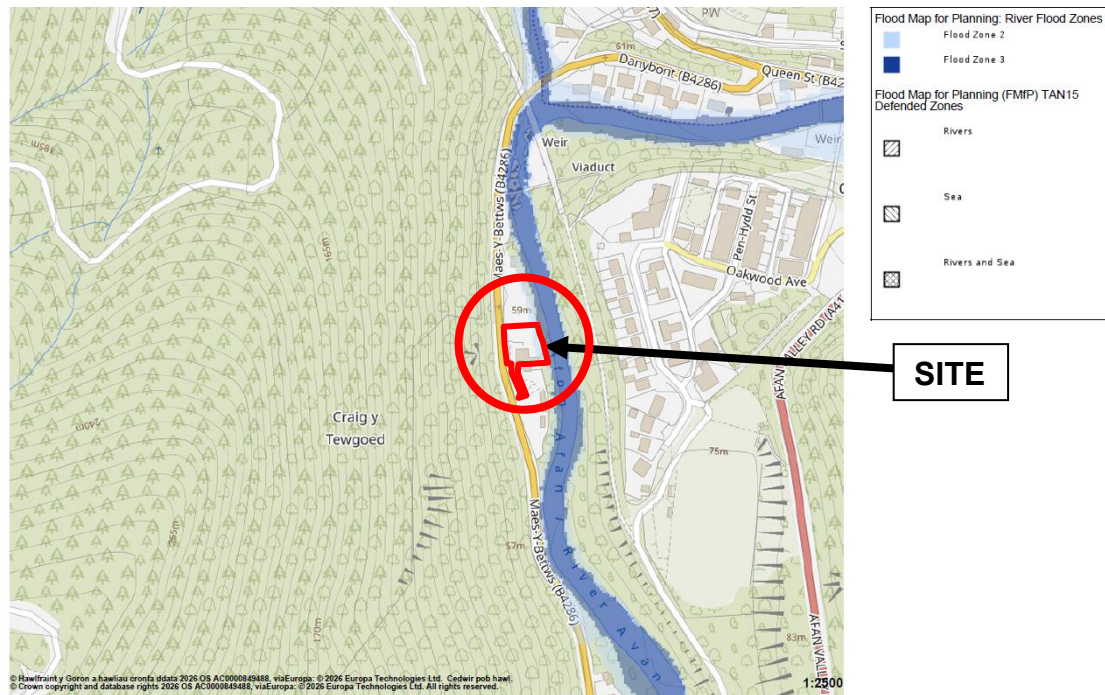


Figure 3.2 – River Flood Map For Planning

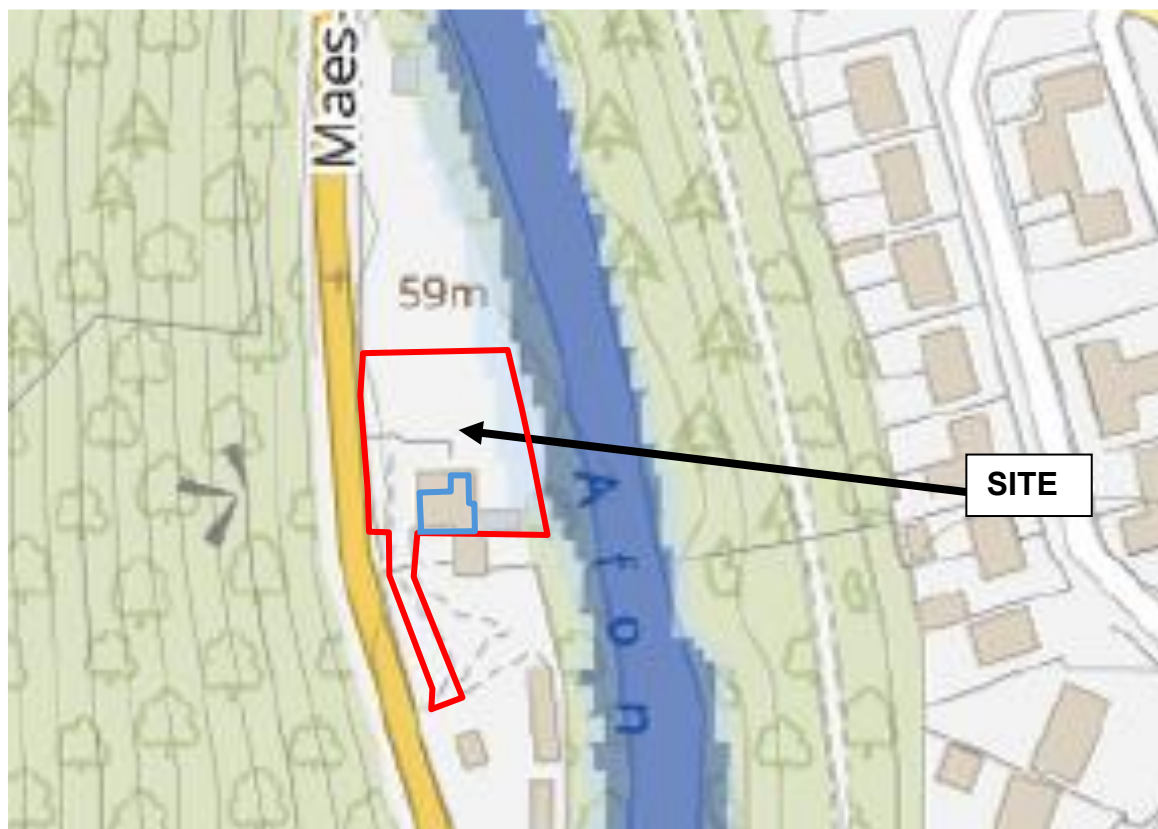
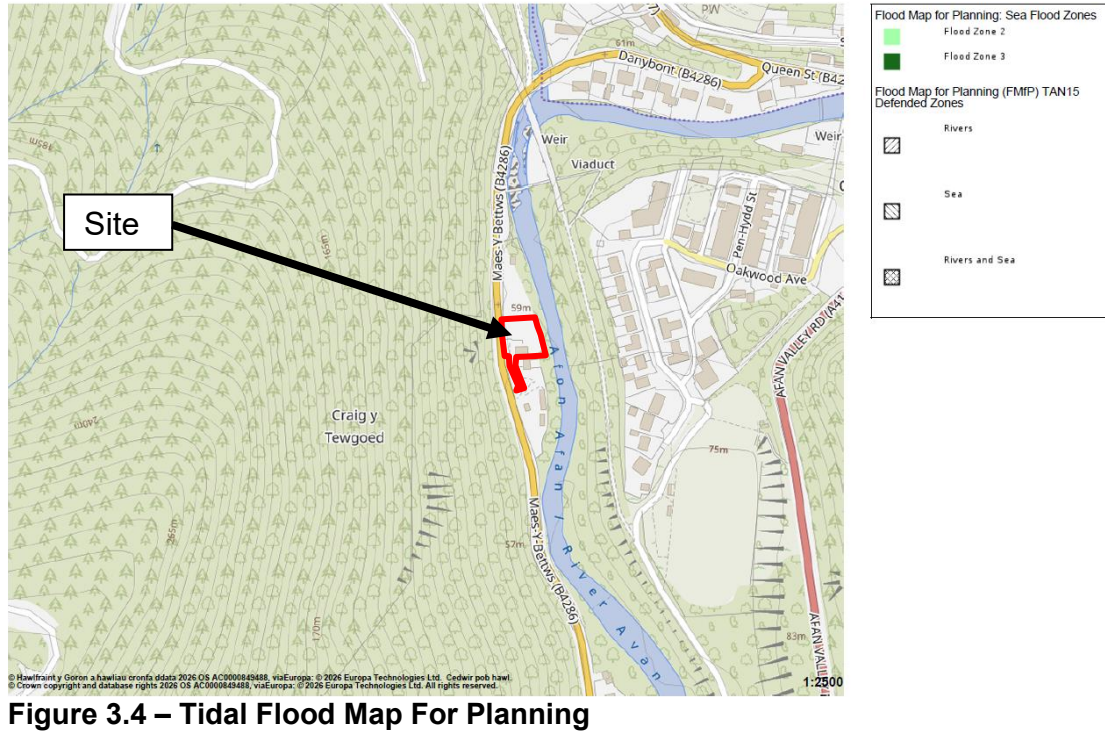


Figure 3.3 – River Flood Map For Planning

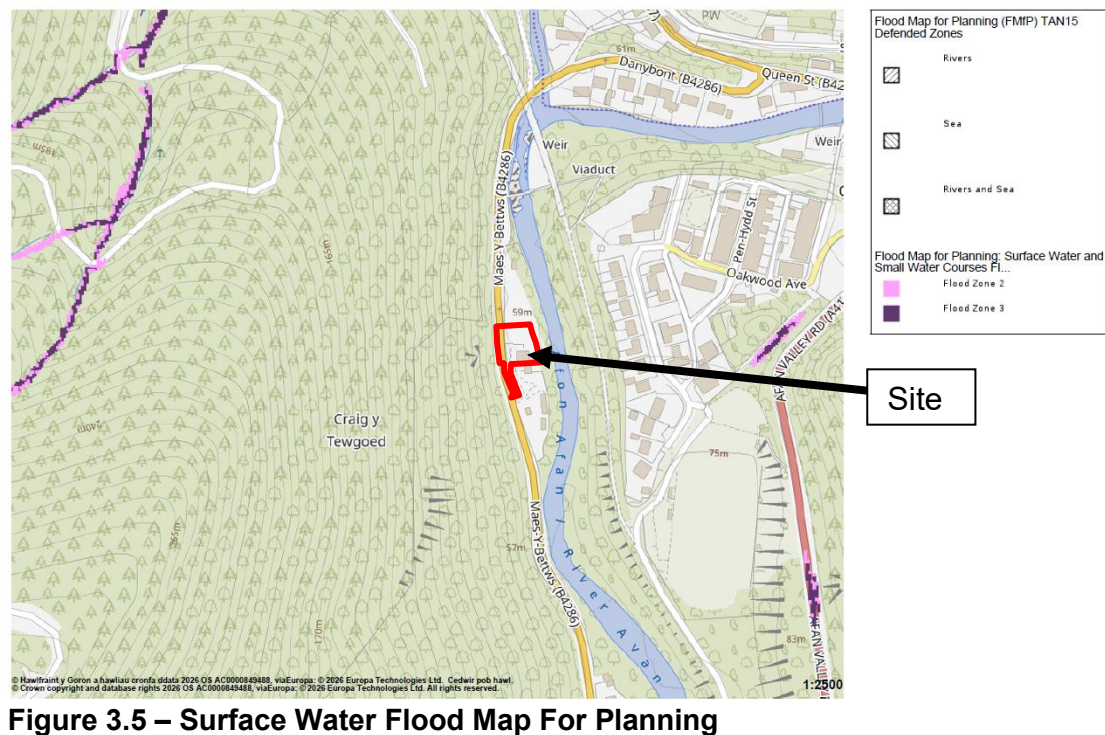
Tidal

Considering the ground levels, and the distance from the coast, the site is not considered to be at risk from tidal flooding or from coastal erosion. The Tidal Flood Maps For Planning confirms this (see Figure 3.4).



3.3 Surface Water

The Surface Water and Small Watercourse Flood Map For Planning (see Figure 3.5) suggests that the site is not at risk of flooding from surface water flooding. Standard precautionary measures are expected to be sufficient to prevent flooding from this source.



3.4 Sewage Backflow.

Care should be taken to ensure that surface and flood water is not able to flow into the foul sewer system. Consideration should also be given to installing a non return valve to prevent the backflow from the system.

3.5 Reservoir Failure

The development is not considered to be at risk from reservoir failure.

3.6 Ground Water

There is no identified superficial geology for the area but it has a bedrock geology of Sandstone of the Rhondda Member or Llynfi Member (see Figure 3.6 and 3.7). When also taking the terrain into account the risk of groundwater flooding is considered to be low.

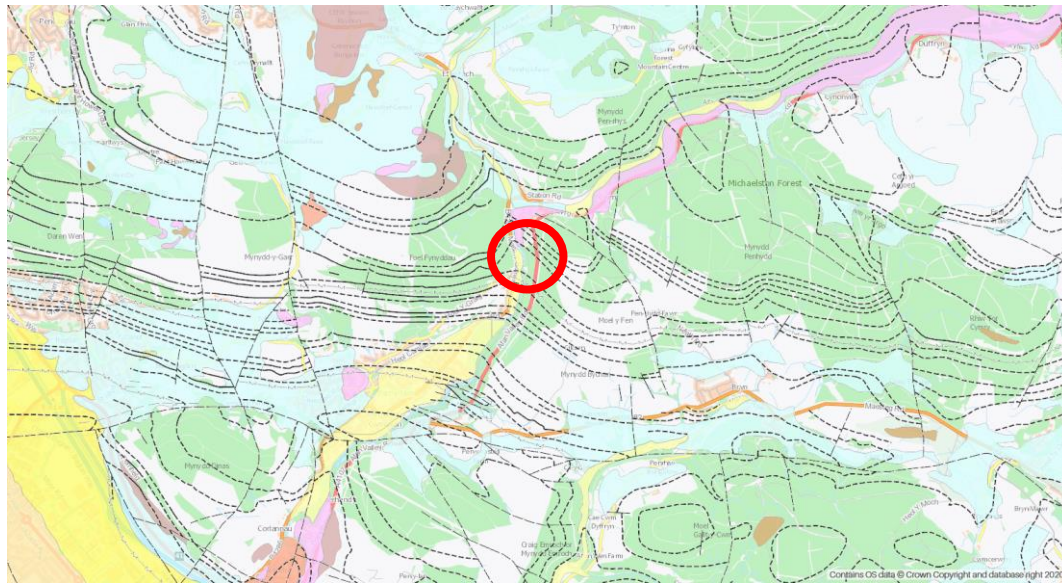


Figure 3.6 – Superficial Geology

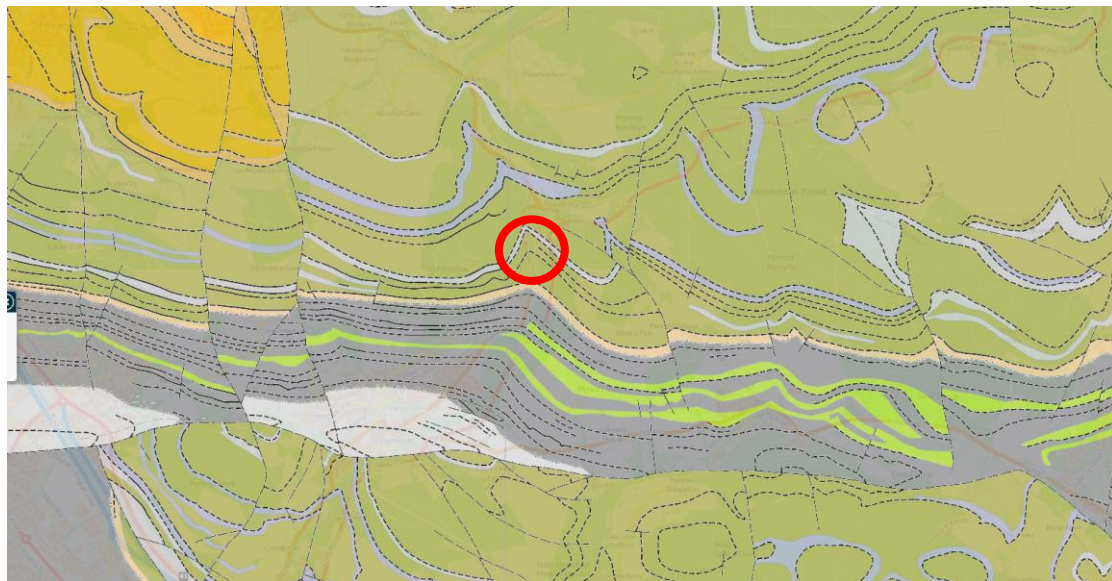


Figure 3.7 – Bedrock Geology

3.7 Historical Flooding

There is no data of historical flooding for the site.

4 SUSTAINABLE DRAINAGE

A sustainable drainage solution, in accordance with the Welsh Government Standards and the SUDS Manual, should be incorporated into the design. SAB approval may also be required which should be confirmed with the local authority.

As the day room building already exist its conversion will not increase the rainfall runoff rate. Nevertheless, as a matter of good practice, SUDS measures should be considered. The rain water falling on the roof can be stored for use, by means of a water butt, meeting the requirement of level 1 of Welsh Government sustainable drainage standard 1. It is expected that the overflow from the water butts will discharge into either a bioretention garden or allowed to flow onto a permeable paving. The water will then, along with the remaining surfaces, will be dissipated using infiltration solutions designed to accommodate the 1 in 100 year event plus climate change. This can be achieved in a number of ways, such as using a permeable surface (eg reinforced gravel) for the yard with an appropriate thickness of Type 3 subbase. However, if infiltration is not possible the rainwater will flow into a surface water drain and discharged at a controlled rate into the adjacent river. Sediment will be removed from the catch pit of the flow control chamber as necessary. Bioretention gardens will also be used to catch runoff from other surfaces. It is important to note that the gardens, accommodating water from the yard, will need to be slightly lower than the adjacent surfaces.

Plants can be placed around the compound, and in the bioretention gardens, to help absorb the water, enhance biodiversity and provide an amenity.

If the SUDS drainage system fails or is exceeded then the water will flow harmlessly into the adjacent stream with the shrub boundary and the undergrowth beyond helping to filter out polluting particles.

The proposed solution, which will need to be designed in detail, can be cost effective to construct and maintain. Appropriate measures will be undertaken during the construction phase, in accordance with the recommendations given in the appropriate Guidance for Pollution Prevention (eg GPP 6 Working at construction and demolition sites) to minimise the risk of polluting the nearby watercourse.

It is important that construction material, such as cement, or even silt, do not impair or damage the integrity of the proposed drainage system. As such the SUDS system quite often will not come online until most of the construction work is completed. This could result in a temporary increase in the rainfall runoff rate, although being temporary it will not have an accumulative effect or be affected by climate change. Considering the size and the location of the development the likely impact will be low. Nevertheless, measures can be taken to reduce the rainfall runoff rate.

It is important also that the rainfall runoff does not wash contaminants from the site to any sensitive receptor. The contaminants could include:

- Silt, from when the ground becomes striped;
- Cement and grout;
- Oils and chemicals from construction materials and from plant;
- Fuel from plant (eg an excavator);
- Non Native Species that currently might be growing on the site;
- Construction waste.

Measures can be taken to minimize the risk as identified in Table 4.1 below:

Table 4.1 - Pollution Prevention Tasks	
Ref	Action
1	Where necessary place sandbags along the boundary of the site to help prevent silt from washing from the site into the road.
2	Ground is not to be stripped during periods of heavy rainfall.
3	All soil heaps to be covered.
4	The adjacent road will be monitored and, if necessary, periodically swept clean.
5	Grout/cement/concrete to be mixed in a designated location where the ground is protected.
6	Any waste to be disposed of in an appropriate receptor (eg skip) and taken off site to a licenced tip.
7	Used water, from washing tools used in working with cement (eg trowels) to be disposed of off site.
8	Where possible all chemicals will be stored off site. Any chemicals stored on site will be securely kept in a waterproof area and bunded where appropriate (eg using a hazardous substance storage cabinets).
9	Any cement kept on site will be stored in a secure waterproof area.
10	Ground protection will be present where chemicals are to be used and any spills are to be cleaned immediately using spill kits stored on site.
11	Site staff to be trained to use the spill kits.
12	Where possible plant will be fuelled off site. If this is not possible plant should be refuelled in a designated area where the ground is protected.
13	Prior to starting on site all workers will receive an induction training and advised of the chemicals used on site, where they are stored, pollution prevention measures to adopt, where the spill kits are stored and how to use them.
14	A waste minimisation audit will be undertaken prior to commencement on site. Where possible any residual waste will be recycled. All waste, however, will be cleaned immediately and placed in a covered collection receptor (eg a skip) and removed from site regularly.
15	Pollution incident response plan is prepared in accordance with current best practice (GGP21). An incident that could threaten the environment should be reported to NRW immediately on 0300 065 3000 (24hrs) .

5 FLOOD RESILIENCE

Section 3 indicates that part of the site could be at risk from fluvial flooding although the day room and static caravan is expected to remain flood free. However, the risk of flooding cannot be dismissed completely. Flooding could potentially result in the need for expensive repairs. As well as the direct damage caused to the structures flooding can impact in many other, and possibly more stressful, ways. The inconvenience of cleaning up a site, and the loss of sentimental belongings can be immeasurable. There are methods, however, to limit and mitigate against the consequence of flood damage. Some of these are discussed in this section and should be considered as part of the development where applicable.

Employment of Flood Proof Procedures

Water can enter buildings:

- Around the edges of closed doors;
- Through vents;
- Seeping through cracks in the walls or floors;
- Around cables and entrance of services into the building.

Dryproofing - Preventing the water from entering a building.

In the first instance it is possible to take measures to prevent the ingress of water (dryproof) which include the following.

- There are several expensive proprietary barriers available, however, it would be more appropriate to ensure that the walls of the day room is capable of acting as a barrier itself. Care should be taken to ensure that the walls and floors are kept in good order and that all holes and gaps around cables and ducts, entering the buildings are sealed.
- Temporary covers could be provided to any air vents. These covers should be removed once the risk of flooding is over. Alternatively, the vents should be located at a higher level.
- Seals can be installed around the external doors.
- Temporary barriers can be placed in front of external doors or flood doors could be used.

In this instance, the day room is expected to remain flood free during even the Q1000 event although some flood water is expected to flow close to the eastern side. If possible, the floor level could be raised by 150mm as a matter of good practice. Additional dry proofing measures are not considered necessary. The caravan pitches will be located outside the Zone 2 flood area although some planting can be located on the at risk eastern boundary to provide a buffer.

Wetproofing - Reducing damage once the water has entered.

It may not be feasible to completely eliminate the risk of flooding, however, it is possible to limit the damage that the water can cause once in the day room building (wetproof). Where appropriate the following could be considered:

- Move valuable items to a higher level;
- Have solid concrete floors for the day room. Suspended floors are more difficult to clean and dry underneath.
- Ensure that the walls remain in good condition;
- Avoiding timber frame internal partitioning for the building. These are expensive to repair and dry;
- Where required, use non water absorbing insulation;

- Use corrosion resistant fittings such as galvanised or stainless steel in place of mild steel;
- Ensure that electric cables are fed from above. Also keep sockets away from the floor level;
- Where possible, Install machinery (eg fridges) with motors high up from the floor;
- Install solid internal and external doors, effectively sealed;
- Avoid storage heaters;
- Ensure boilers and space heaters are off the ground.

Considering the low risk of flooding and that a flood free access and egress from the site will be possible during all considered events, the preparation of a flood response plan is not necessary if the discussed mitigation measures are in place. The families should, nevertheless, be vigilant of any Flood Alerts (see Figure 5.1) and the risk of flooding should be reviewed periodically.

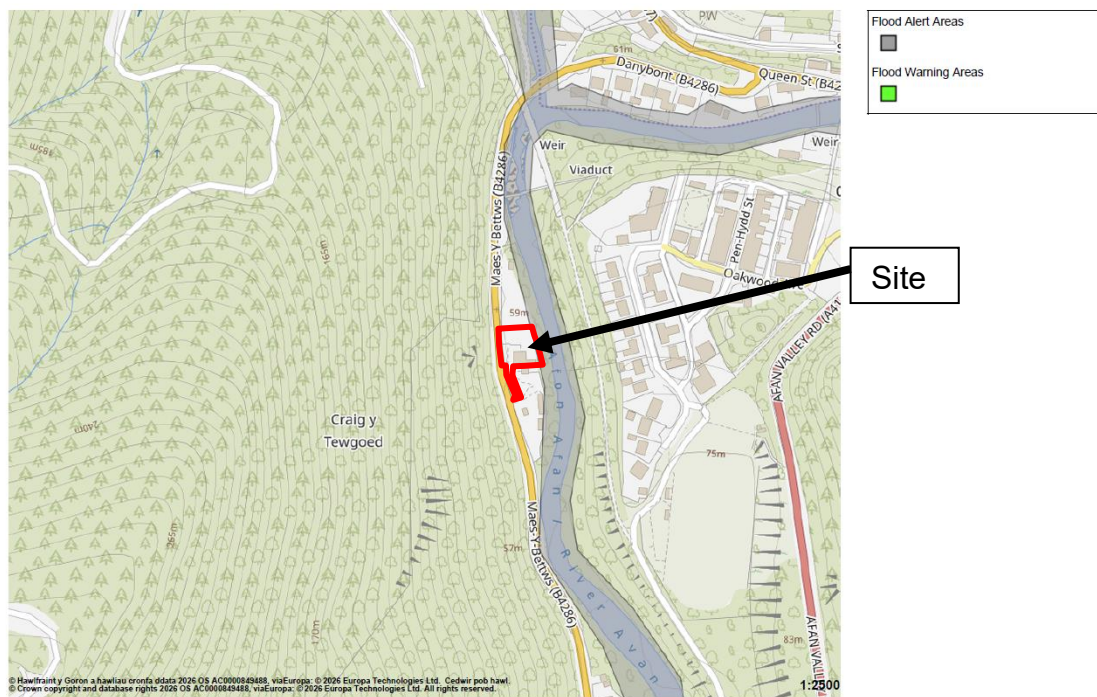


Figure 5.1 – NRW Flood Warning Plan

6 CONCLUSIONS AND RECOMMENDATION

Conclusions

The client wishes to extend a residential compound at Pontrhydyfen by having two additional static caravan pitches, two additional touring caravan pitches, and converting an existing stables block into two dayroom spaces, however, part of the site lies in a Zone 2 flood area, as shown on the Flood Map For Planning, and is considered at risk of flooding during a 1 in 1000 year event with 100 years of sea level rise. The eastern boundary of the site is also close to a Zone 3 flood area at risk during at least a 1 in 100 year event. Francis Sant were, therefore, asked to undertake a Flood Consequence Assessment to evaluate the risk.

As shown on the Flood Map For Planning, the site's eastern boundary, is potentially at risk of flooding from the adjacent Afon Afan but is not considered at risk from tidal or surface water flooding. The site is also not expected to be at risk from reservoir failure, and the risk of ground water flooding is considered to be low.

To mitigate against the flood risk the caravan pitches will be moved away from the flood zone and the area proposed for the growth of shrubs will be extended/moved westwards (see Figure 6.1). If possible, the floor level of the proposed day rooms will be raised by 150mm and wet proofing measures will be employed, where appropriate, as identified in Section 5.

A Flood Response Plan is not considered necessary at present, but the families should remain vigilant to the potential of flooding and the risk should be reviewed periodically. A flood free access route from the site is expected during all considered fluvial events.

A sustainable drainage solution, in accordance with the Welsh Government Standards and the SUDS Manual, should be incorporated into the design. SAB approval may also be required which should be confirmed with the local authority.

A summary of the schemes compliance with TAN 15 is provided in Table 6.1.

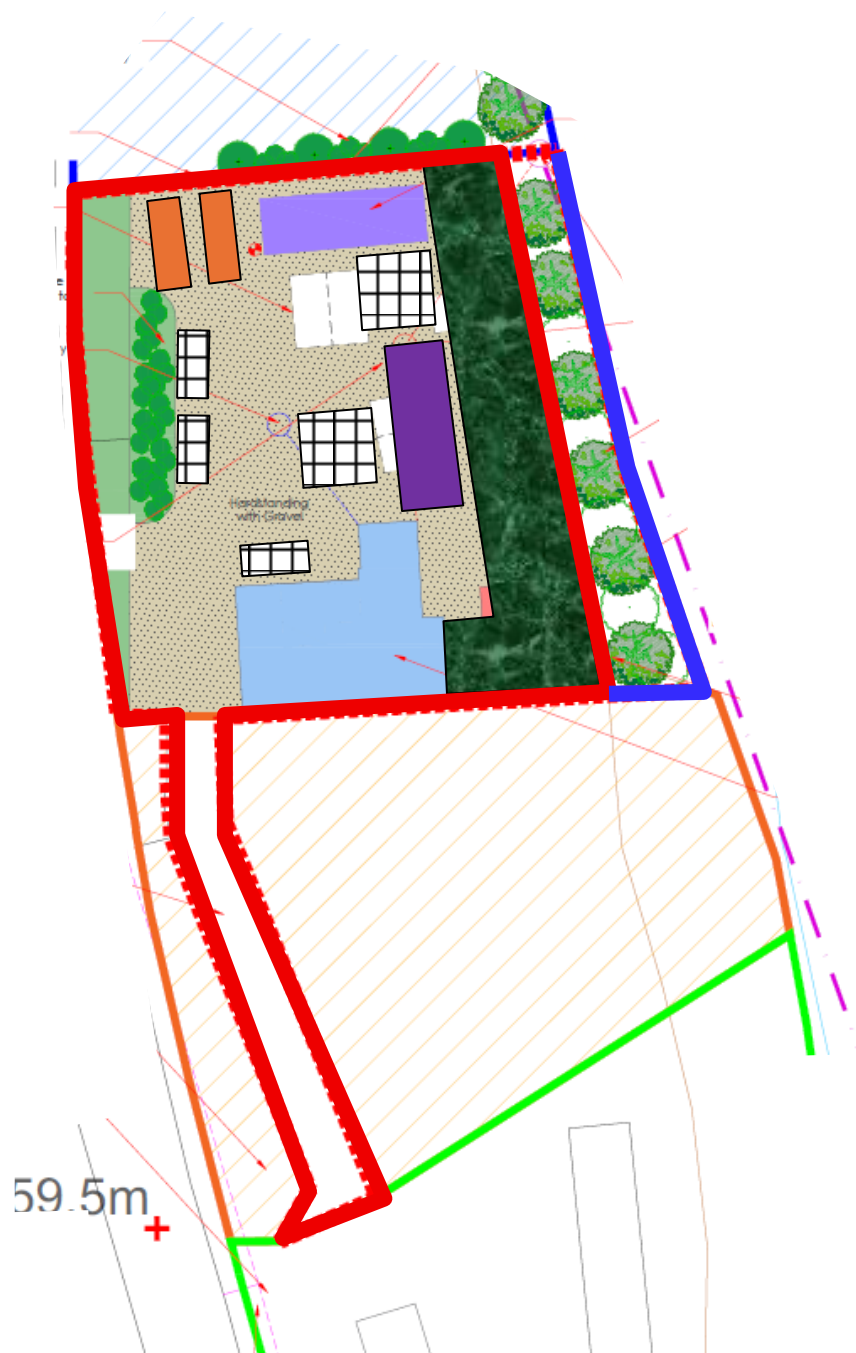


Figure 6.1 – Typical Site Layout

Table 6.1 – Compliance With Tan15		
Ref	Criteria	
	What Zone does the development lie in?	Mainly zone Zone 1 and partially Zone 2
	Vulnerability of the development?	Highly vulnerable
	Is the development located on greenfield or developed land?	Part greenfield / part developed
	Is the development flood free during a 1 in 100 fluvial or 1 in 200 tidal events?	Yes
	Is the flood depth less than 600mm during a 1 in 1000 year event?	Yes with mitigation measures
	Is the velocity expected to be less than 0.15 for a highly vulnerable development or less than 0.3 for a less vulnerable development during a 1 in 1000 year event?	Yes with mitigation measures
	Is there a safe access route?	Yes
	Is the development at risk from costal erosion?	No
	Is the development in a defended zone?	No
	Is there a record of a previous flood event?	No
	Does the development have a detrimental impact on third parties' risk of flooding?	No

Recommendations

In developing the site, it is recommended that:

- the finished floor level of the day room is set 150mm above the adjacent ground level;
- flood proofing measures, as identified in Section 5, should be considered for inclusion in the scheme;
- consideration should be given for the inclusion of a non return valve on the foul sewer system;
- A sustainable drainage system should be included in the design;
- SAB approval is applied for if required;
- The caravan pitches are moved away from the Zone 2 flood area;
- A shrub border is planted on the sites eastern boundary to delineate the Zone 1 flood area and provide a buffer to the Zone 2 flood area.