
THE OLD GRANARY

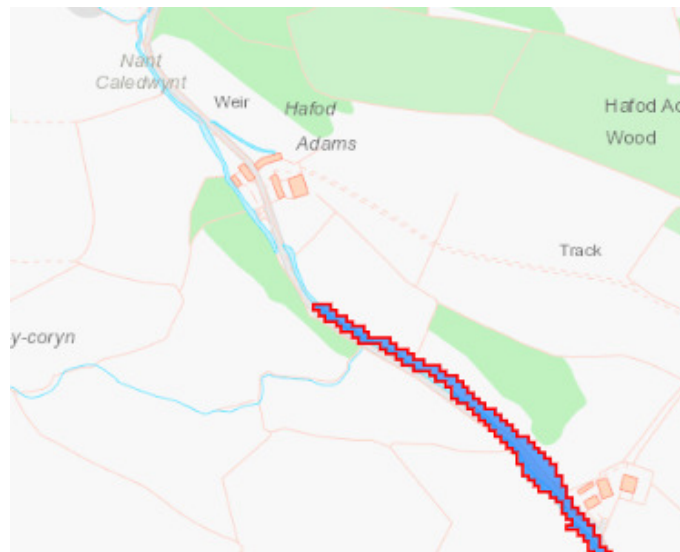
HAFOD ADAMS

LLARNARMON

LL20 7LB

FLOOD CONSEQUENCE ASSESSMENT (LIMITED)

1. This Statement has been prepared to accompany a planning application for the 're-development of 'The Old Bakery' to provide a 2 bed residential dwelling to include access track, bridges, associated curtilage, hardstanding and foul and surface water treatment, together with a Listed Building application for the redevelopment of 'The Old Bakery' to provide a 2 bed residential dwelling'.
2. The Old Bakery is located circa 2km north east of Llanarmon, 20km north west of Oswestry, 32km south west of Wrexham and falls under the jurisdiction of Wrexham County Borough Council. The National Grid Reference for the site is SJ 1644 3395.
3. The application site extends to circa 0.3ha. The Old Bakery was the secondary dwelling to Hafod Adams which lies directly to the east. Beyond Hafod Adams is a traditional range of outbuildings.
4. The site falls within Zone A of the Natural Resources Wales Flood Risk Map. Areas falling within Zone A are 'Considered to be at little or no risk of fluvial or coastal/tidal flooding'. An extract from the NRW Flood Risk Map is depicted on the following page and a full copy is supplied at the end of this report for reference.



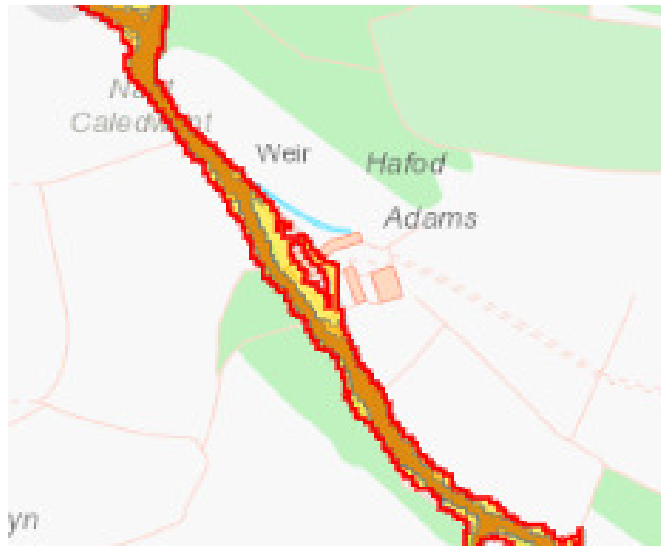
NRW Flood Risk Map Extract

5. Welsh Planning Policy, Technical Advice Note 17 states that site which fall within Flood Zone A do not require a justification test and no further consideration of flood risk is required. This is set out in the table below:

Figure 1

Description of Zone		Use within the precautionary framework
Considered to be at little or no risk of fluvial or tidal/coastal flooding.	A	Used to indicate that justification test is not applicable and no need to consider flood risk further.
Areas known to have been flooded in the past evidenced by sedimentary deposits.	B	Used as part of a precautionary approach to indicate where site levels should be checked against the extreme (0.1%) flood level. If site levels are greater than the flood levels used to define adjacent extreme flood outline there is no need to consider flood risk further.
Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal)	C	Used to indicate that flooding issues should be considered as an integral part of decision making by the application of the justification test including assessment of consequences.
Areas of the floodplain which are developed and served by significant infrastructure, including flood defences.	C1	Used to indicate that development can take place subject to application of justification test, including acceptability of consequences.
Areas of the floodplain without significant flood defence infrastructure.	C2	Used to indicate that only less vulnerable development should be considered subject to application of justification test, including acceptability of consequences. Emergency services and highly vulnerable development should not be considered.

6. The Site is within a 'Low risk of flooding from surface water' on the Natural Resources Wales Flood Risk Map. An extract from the NRW Flood Risk Map is depicted below and a full copy is supplied at the end of this report for reference.



NRW Flood Risk Map Extract

7. Natural Resources Wales define the following terms:

What is Low - Low means that each year, this area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%). This type of flooding can be difficult to predict, much more so than river or sea flooding as it is hard to forecast exactly where or how much rain will fall in any storm. This is based on the best information we have available, such as ground levels and drainage.

What is Flood Depth - This is the estimated depth of the flood water in metres at the peak of the flood. There are 4 bands:

Less than 0.15m deep

0.15m to 0.30m deep

0.30m – 0.90m deep

Greater than 0.9m deep

What is Flood Velocity - *This is the estimate of maximum velocity or speed of the flood water at the peak of the flood. It has 2 bands:*

Less than 0.25 metres per second

Greater than 0.25metres per second

What is Flood Hazard - *This is a measure of hazard to people. It is calculated from estimates of flood depth, flood velocity and possible debris within the flood water. There are 4 bands for classifying flood hazard to people:*

Low – *A flood risk area with shallow flowing water or deep standing water.*

Danger for Some – *A flood risk area with deep or fast flowing water. Dangerous to children, the elderly and the infirm.*

Danger for Most – *A flood risk area with deep fast flowing water. A significant hazard to the general public.*

Danger for All - *A flood risk area with very deep fast flowing water. An extreme risk including emergency services.*

8. This FCA (limited) has been prepared in accordance with Technical Advice Note 15 and Planning Policy Wales. All potential flood risks associated with the proposed development have been considered and appropriate mitigation measures are in place where potential impacts have been identified.

9. The Old Bakery sits adjacent to a watercourse known as Nant Caledwynt.. The dwelling has been on site since at least 1839. Two bridges cross the site which provide access over the watercourse from The Old Bakery and the highway.



Plan showing Bridge 1 and Bridge 2



Bridge 1



Bridge 2

10. The Site has not flooded in living memory of the applicant. The risk however associated with the bridge structures would be a blockage. However, as The Old Bakery will be occupied as a residential dwelling, the bridges will be monitored on a daily basis by the occupants. This is clearly an improvement in terms of surveillance than if the site was left un-occupied.

11. In terms of capacity, the photograph above was taken following high rain fall and it is clear that there is sufficient capacity within the stream bank under the bridge to hold the capacity of the water flow.

12. In terms of surface water run off, the proposal does not increase the amount of impermeable ground surface on The Site. As stated, the Old Bakery has been in situ since at least 1839 and access tracks have been required to access it since that time. In addition, access tracks have also been required for agricultural access to the adjoining fields. In terms of garden area, there is no intention to overly 'domesticate' the rural surroundings and therefore the existing grassed areas will largely remain as existing. There are no proposals to provide for large patio areas or block paved/tarmac driveways. Therefore, the surface water flood risk on the site will not be any greater than existing.

13. The gradient of The Old Bakery (308m) sits above the level at which the access track (305m) joins the highway. The effect of this is that all water runs with the stream and therefore prevents 'pooling' of water at The Old Bakery.

14. In terms of mitigation, the main risks are associated with un-intended pollution to the water course during the construction phase. Mitigation measures to overcome this risk will include an exclusion zone whereby no materials will be stored within close proximity to the watercourse to prevent any contaminants falling into the water course. Furthermore, construction processes and products including paint, cement, sand, glue and fuel will be stored on tarpaulin to avoid leeching and contamination into the ground and water course.

15. It is considered that due consideration has been given to the flood risk of this proposal and it is noted that The Old Bakery has been in situ since at least 1839 and this proposal merely seeks to reinstate its residential use.