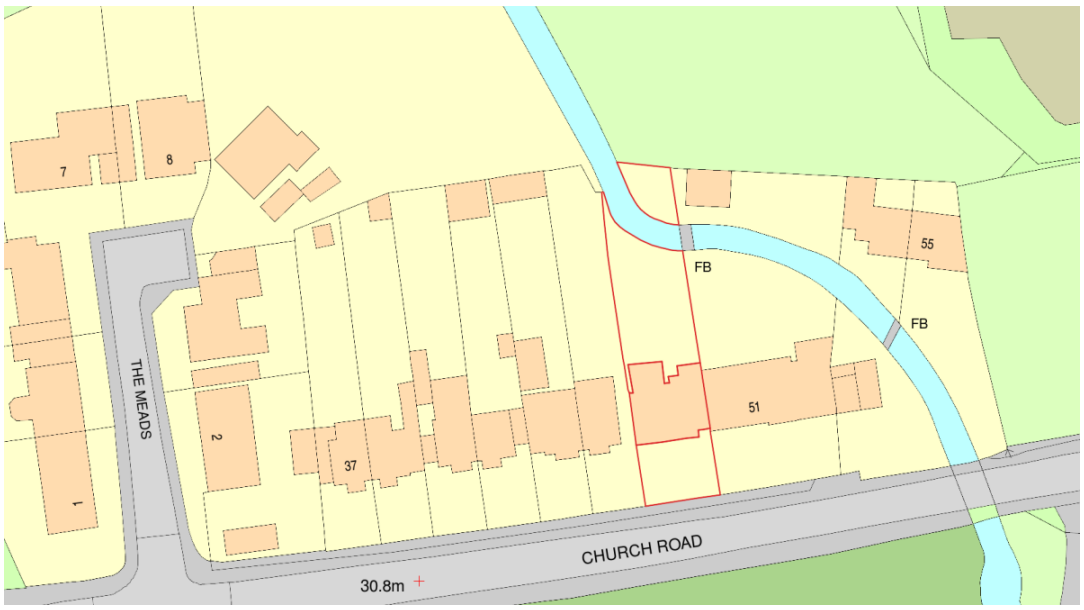
HIGHFORD DESIGN AND BUILD LIMITED

FLOOD RISK ASSESSMENT

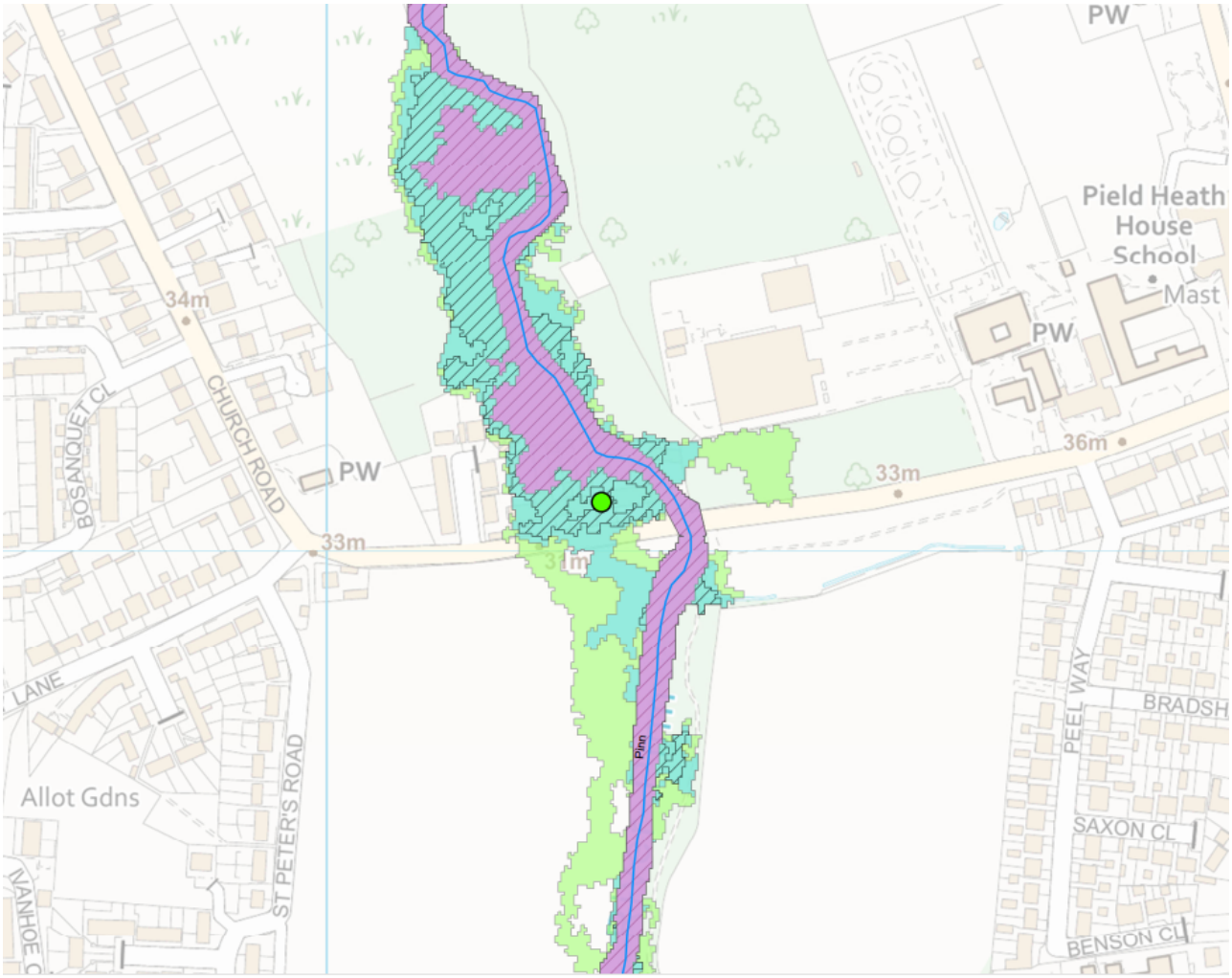
PROPOSED MINOR DEVELOPMENT AT :

49 Church Road, Cowley, UB8 3ND

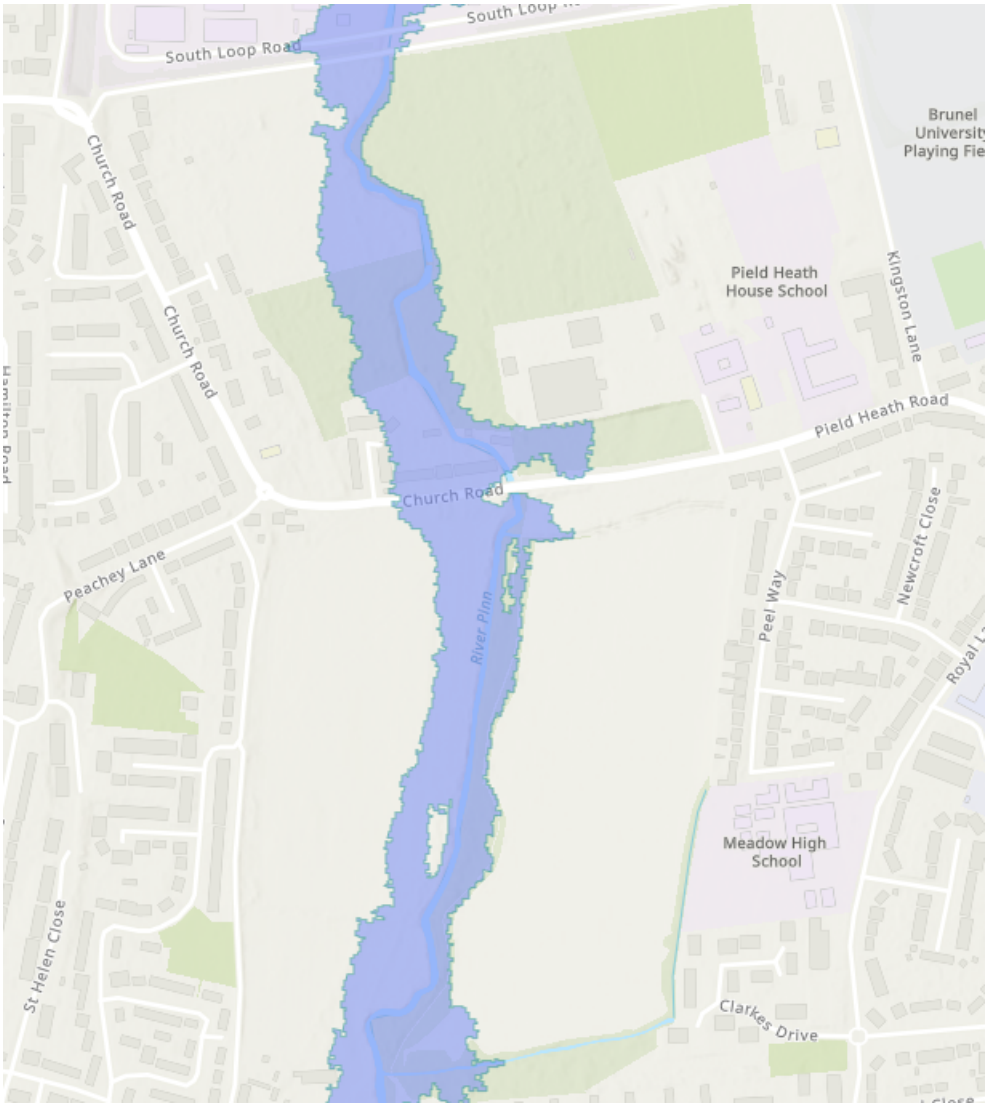
DATED ; 20th August 2022



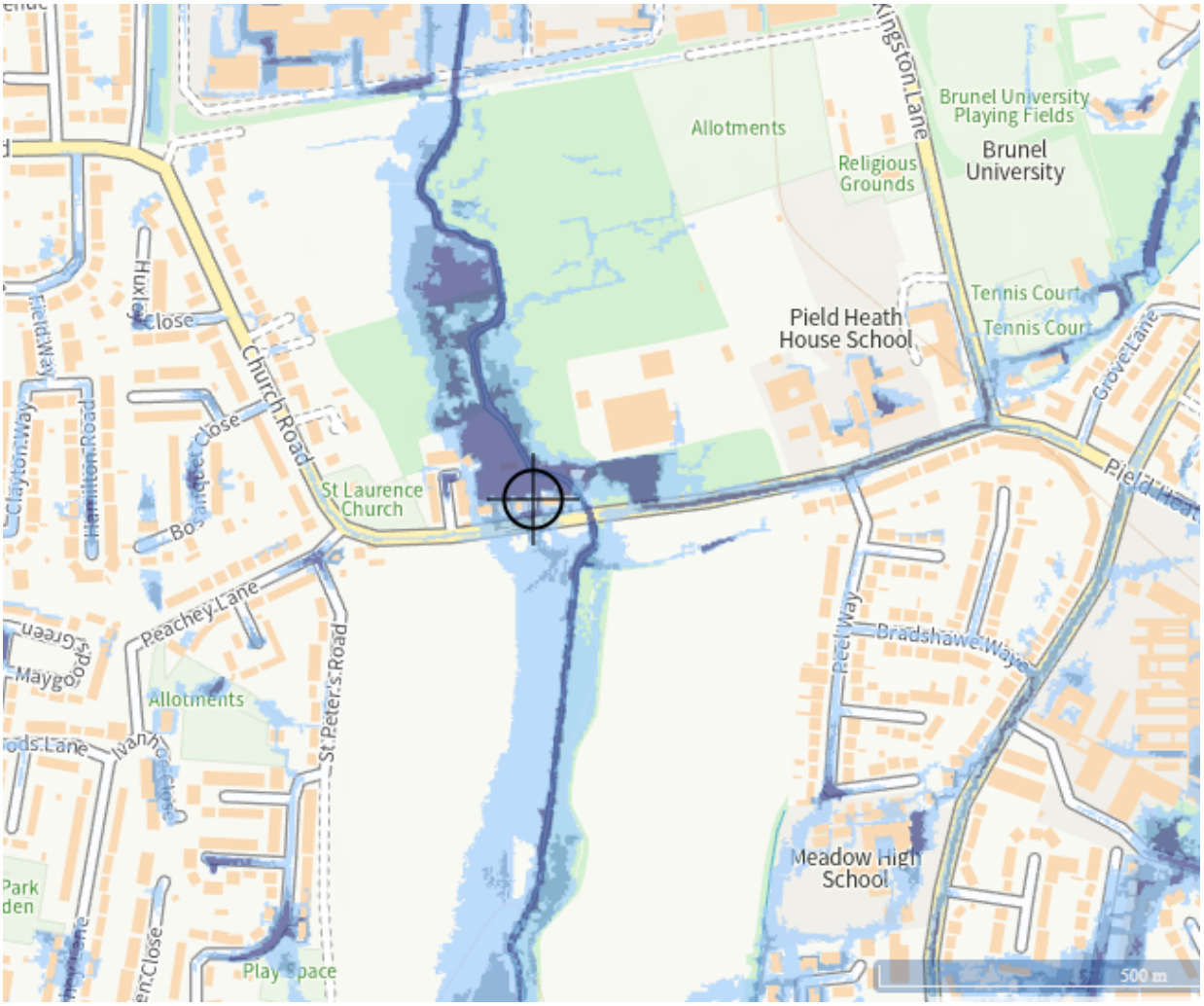
Location Plan



SITE PLAN ENVIRONMENT AGENCY FLOOD MAPPING FOR PLANNING



SITE IN FLOOD ZONE 3.



SURFACE WATER – <u>HIGH RISK</u>

PROPOSED MINOR DEVELOPMENT INVOLVING THE CONSTRUCTION OF A SMALL RESIDENTIAL REAR EXTENSION AND SIDE STORE ROOM 49 CHURCH ROAD< COWLEY UB8 3ND

FLOOD RISK ASSESSMENT / DESKTOP STUDY.

This report is compiled for a planning application. Detailed plans are within the application.

It is written under the criteria within the National Planning Policy Framework (NPPF) and the Environment Agency (EA) Guidance notes to Local Authorities.

Under the NPPF criteria the proposal is looked upon as a “minor development”. Its classification is “more vulnerable” as it involves residential usage. The ground floor footprint of the additional footprint added by extension is circa 5.1sq. metres for the additional rear extension and 12.5sq. metres for the side store room. The extension is needed to improve facitlities within the existing property.

The EA flood mapping shows the site lies in flood zone 3 as seen on the EA mapping above.

The Criterea

NPPF criteria states that minor development of this nature does not qualify for either the sequential or exception tests but that a flood risk assessment must be compiled.

Under NPPG it states that minor developments are unlikely to cause significant flood risk unless they:

- Have an adverse effect on a watercourse, flood plain or its flood defences
- Would Impede access to flood defence and management facilities, or
- Where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.

  None of the above applies in this case.

The NPPG definition of minor development is as follows:

Minor non-residential extensions: industrial/commercial/leisure etc. extensions with a footprint less than 250 m2.

Alterations: development that does not increase the size of buildings e.g. alterations to the external appearance. householder development: For example; sheds, garages, games rooms etc. within the curtilage of the existing dwelling, in addition to physical extensions in the existing dwelling itself.

According to the EA’s advices the minimum requirements for an FRA that is submitted to the Local Planning Authority for Residential/Industrial/Commercial extensions less than 250m2 within Flood Zone 2 and 3 should confirm that:

Floor levels within the proposed development will be set no lower than existing levels.

AND Flood proofing of the proposed development has been considered by the applicant and will be incorporated where appropriate.

OR

Floor levels within the extension will be set 300mm above the known or modelled 1% (1 in 100 chance each year) river flood level or 0.5% (1 in 200 chance each year) tidal and coastal flood level. This must be demonstrated by a plan to OS Datum/GPS showing finished floor levels relative to the known or modelled flood level. It is considered that the first option is applicable in this case.

This is a minor extension to the property and should be set at the same level as the existing ground floor level of the house.

Surface Water Threat

The EA mapping shows that there is a moderate threat from this source but only at the low threat level. The medium and high risk classifications register no threat. It is necessary to make allowances for this.

The West of London Strategic Flood Risk Assessment mapping.

This shows :

- The site is in a flood alert area
- It is also in a flood warning area
- The threat to the site is from the River Pinn to the west of the site.
- There is a history of previous flooding in the area
- There is a low threat from groundwater – below 25%
- The site is not in flood zone 3b
- There have been between 21 and 40 sewer incidents in a wide area (presumably over the last 10 years).
- It is not in a source protection zone.
- There is a threat from reservoir flooding. However the EA does not consider this a likely to happen because of the record of husbandry and inspection for reservoirs over the years.

- The superficial surface below the site is considered permeable.

- Covers should be available to prevent inundation of air bricks

Sustainable drainage

There is sufficient permeability within the superficial deposits that soakaways could be used for run off from the extension. The applicant may wish to use existing services to the house from the main road in which case interceptors should be fitted to ensure that only clean water enters the receptor. Flow control devices should also be fitted to make sure there is no “surge” into the receptor. Backflow from any drainage should be prevented by the use of non return valves.

If the option is for soakaways then ground tests would need to be carried out for permeability and to access the level of groundwater at the site.

Flood Resilience Measures

It is recommended that the external doors should be made floodproof and that further flood resilience measures be taken.

- Both the inside and outside of the extension works should be coated with flood resilient material to a height 400mm above the ground level.
- The electrical wiring should drop from the ceiling to sockets 400mm above ground level.
- All drainage and waste pipes would be fitted with ‘non-return valves’ to prevent the ingress of contaminated water back into the building.
- No metal piping should be used under the extension to abort future corrosion.
- The mortar mix should include flood protective material including the foundations.
- The ground floor should be of concrete rather than wood.
- The electrics should be connected to the mains box so that this controls all electrics in the property.

Flood Evacuation

It is recommended the proposed development should be a subscriber to the EA Floodline initiative which gives a three phase warning system.

1.Be aware of a possible flood threat.

2.Prepare to evacuate.

3. Get out.

However in the FRAs we compile all over the country we make it clear that there is only one method of safe evacuation. That is to get out when the escape route is still dry .

The Floodline initiative may give occupants of the site a misconception as to how long they should stay on site before going. We consider that the sight of advancing floodwater can create panic particularly to the old, infirm and the disabled and children as well.

Better to go at the first warning when everything can be done in a controlled and orderly manner and in the dry. If the flood waters do not actually reach the site then nothing is lost.

But there is a big gain in terms of safety. It will also show the evacuation plan works and will give everybody concerned the confidence of knowing the site owners value their safety.

As part of the evacuation procedure a predetermined sanctuary in the dry should be decided upon and agreed with the local authority.

Also by using the first floor as “safe haven” during a flood event is not necessarily the answer. The reason being that vital services -such as water, gas and electricity- to the premises could be knocked out by the floods and this could cause major disruption to the safety and well-being of occupants.

We have used this methodology on many occasions for FRAs throughout the country. We have had no objections from the local authorities involved in all the FRAs recommending this form of early evacuation

Quite simply it is better “to be safe than sorry” particularly when human lives are at stake.

Compensation

The footprint of the proposed extension is so minimal that it would not have a significant effect on local flood storage capacity or flood flows.

CONCLUSION

This report has been designed under criteria of the NPPF and the EA to ensure householders safety and that there will be no offsite implications due to the proposed development taking place.

Flood Resilience measures are recommended to protect occupants and the property for the sustainable lifetime of the property – 100 years. There is no threat from groundwater and in EA mapping for surface water only one category – the minimum – shows any threat at all and this is below 300mm which is allowable under guidelines.

A robust evacuation procedure is also recommended whereby at the threat of flooding the occupants would be able to escape in the dry in an orderly fashion.

Climate change has been covered by recommendations in the flood resilience measures included in this report.

The proposed site lies in a general area of mature residential accommodation and I can see no reason why this minor development should be refused on the grounds of flooding.