

Flood Risk Assessment

27/08/21

APPENDIX A – Site Survey
APPENDIX B - EA Consultation for M/25/19/PL

Residential Development

For Mrs Denise Simpson

At

27 Central Drive
Elmer
PO22 7TT

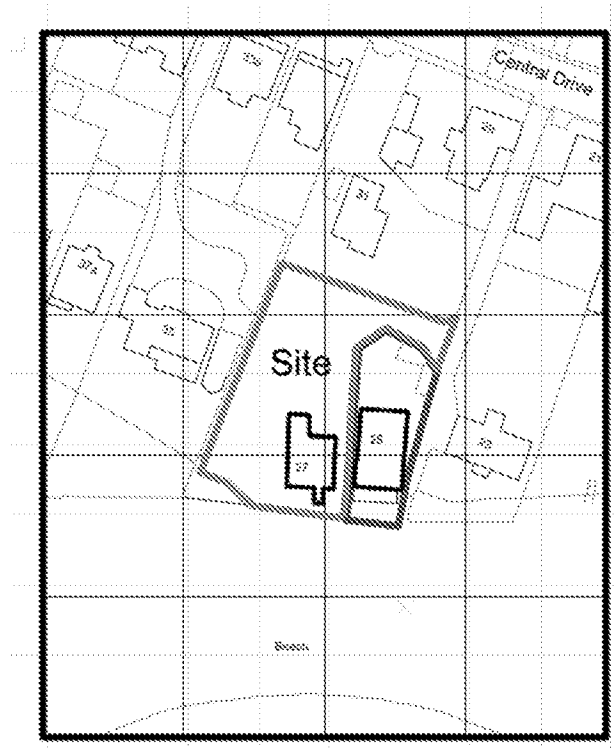
IVON BLUMER ARCHITECTS

INTRODUCTION

This application is a retrospective application following planning approval M/25/19/PL, in order to seek approval to a number of design changes. The building is currently under construction to roof level.

The proposed development is for the construction of a specially adapted, 2 storey, 2 bedroom detached house, for the sole use of the applicant. The house has been designed with the main open plan accommodation located at first floor level, with self-contained accommodation for occasional use by the applicant's carer on the ground floor.

Location



Location Plan

Assessment of Physical Context

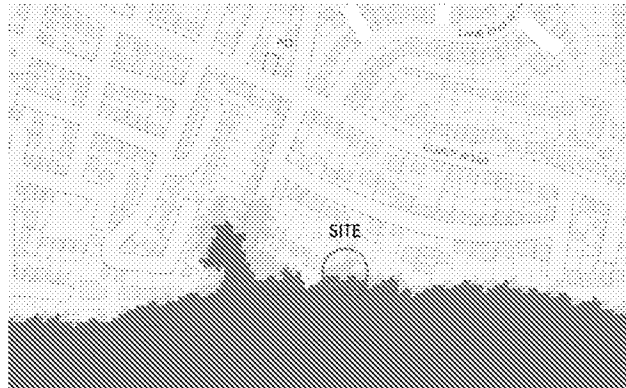
The site is located on the sea front at 27 Central Drive, Elmer, West Sussex and is currently owned by the applicant. The applicant also owns the adjacent property at No 25 Central Drive. The property is currently a private residence and was built in the mid 1930's, with a detached garage. The site is accessed from a private drive. The site is flat and is approximately 945 sq. m in size. There are no notable trees on the site. The site is mainly laid to lawn with shrub borders.

Topographical site survey (see Appendix A) show that the previous bungalow had a finished floor level of 4.11 AOD, with typical site levels across the site of 4.00 AOD. The site is protected from the foreshore by a substantial raised bank and shingle beach. The southern boundary of the site is raised at a level of 5.000 AOD, rising to a continuous foreshore bank along the Elmer beach

Ivon Blumer Architects Ltd - August 2021

Flood Risk Access Statement

Flood Map



The site would be in flood zone 3.

POTENTIAL FLOOD HASZARDS

- 1 Flooding from the sea.
- 2 Flooding from rivers, not applicable.
- 3 Flooding from groundwater, risk is considered low.
- 4 Flooding from sewers, not applicable.
- 5 Flooding from the land, the risk is considered low.

Proposed Floor levels

To minimise the risk from flooding the primary accommodation is to be located at first floor level, with some ancillary accommodation at ground floor level which will be used on a limited basis.

The EA's flood model indicates a 0.54% AEP (1 in 200 year event) undefended flood levels within the site in the year 2115 lie in the region of 4.94 AOD. The proposed first floor accommodation will be at a level of 7.00 min AOD, offering a freeboard of 2.0 m above the undefended tidal flood.

The ground floor level will be set at 4.43 m AOD, 450 mm above the existing site level. As this is below the predicted flood level by 500 mm, it is proposed that the first 600 m of construction will be to a standard capable of withstanding the potential risk of flooding.

Whilst this report appraises the worst case it may be noted that the defended site flood levels are in the region of 4.50 AOD.

Flood Risk Access Statement

Surface Water Runoff Assessment

The total site area is 945 m² approximately.

Sewers for adoption 7th edition requires that surface water drainage systems for new developments should be designed to prevent pipe surcharging during a 1 in 2 year storm event. The system should also accommodate a 1 in 30 year event without surface flooding. During extreme wet weather events, it should be demonstrated that flood waters would be routed away from buildings and not cause a nuisance elsewhere.

All surface water drainage from the roof in this development will be designed to prevent surface water flooding above ground level during a 1 in 100 year storm event with an additional allowance of plus 30% for climate change to the year 2115.

Outline Foul Water Strategy

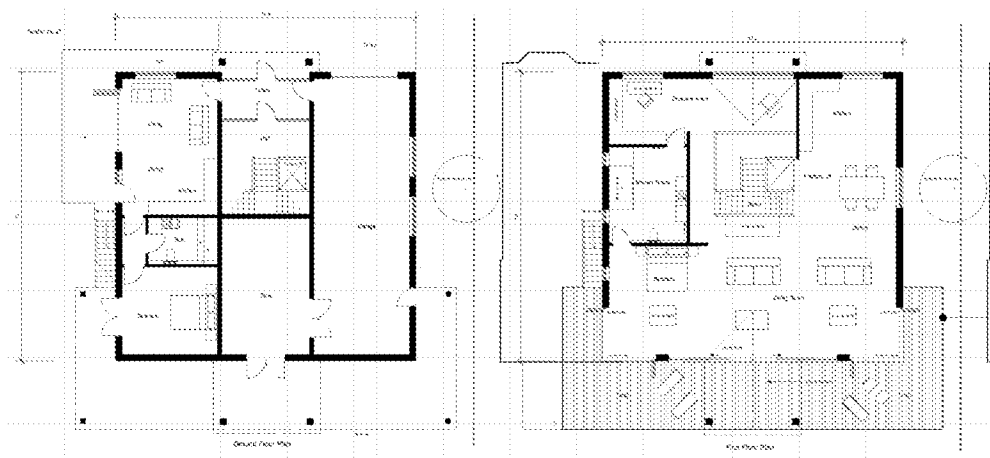
A preliminary assessment based on British Water's Cop flows and loads -3 indicates average dry weather flow would be in the order of 0.02 l/s. Such flows are considered low and would be discharged into the local foul water sewer in Central Drive

Discussion

The sites primary flood risk is from the sea.

As with the previous approval (M/25/19/PL) it is proposed that the new floor level is set at least 300 mm above the existing finished floor level of the existing house (4.11 AOD), as a minimum.

The main accommodation is located on the first floor, see floor plans below.



Ivon Blumer Architects Ltd - August 2021

Flood Risk Access Statement

Conclusion

As the main first floor accommodation is well above the predicted undefended tidal flood level of 4.95, and the secondary accommodation on the ground floor is set 300 mm above the existing FFL of the previous house, the proposal is considered reasonably safe from flooding.

Planning approval M/25/19/PL conditioned the FFL at 4.41 AOD.

The FFL of the currently constructed ground floor is 4.43 AOD.

The site is defended by a substantial shingle bank on the foreshore, well above the existing site level.

Given the proximity and extent of the undefended flood plain to the proposal the most likely course of action to be taken by residents during such an event would be to sit out the flood which would be expected to last no longer than 12 hours.

All site surface water can be managed on site to accommodate the worst case M100 + 30% storm event.

Planning Condition M/25/19/PL

It is requested that the same planning condition is attached to this application. See below and the EA's letter in respect of M/25/19/PL

accordance with policy D DM1 and D SP1 of the Arun Local Plan.

- 3 The development shall be carried out in accordance with the submitted flood risk assessment (resubmitted by Ivon Blumer Architects on May 2019) and the following mitigation measures it details:

Finished floor levels shall be set no lower than 4.41m above Ordnance Datum (AOD)

Mitigation measures shall be incorporated including construction materials of the first 600mm of the ground floor that are capable of withstanding the potential risk of flooding and the use of floodgate systems of all door openings

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason

In line with section 9 of the Planning Practice Guidance of the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change and policy W DM2 of the Arun Local Plan to reduce the risk of flooding to the proposed development and future occupants.

Ivon Blumer Architects Ltd - August 2021

Flood Risk Access Statement

APPENDIX A



Ivon Blumer Architects Ltd - August 2021

Flood Risk Access Statement

APPENDIX B – EA Consultation for M/25/1

Arun District Council
Development Control
1, Arun Civic Centre Maltravers Road
Littlehampton
West Sussex
BN17 5LF

Our ref: HA/2019/121264/02-L01
Your ref: M/25/19/PL
Date: 03 September 2019

Dear Sir/Madam

Amended docs- revised FRA. Replacement dwelling

27 Central Drive, Elmer, PO22 7TT

Thank you for consulting the Environment Agency on the above application.

Environment Agency Position

The proposed replacement dwelling is located in flood zone 3 and is at high risk of tidal flooding. Resubmission of the flood risk assessment shows that the finished floor levels of the ground floor shall be set at 4.41mAOD, which is higher than existing (4.11mAOD) but would still be at risk to flooding as future flood levels are 5.00mAOD, meaning the ground floor could be susceptible to 590mm flood depths during the lifetime of the development.

Although primary living accommodation will be located on the first floor (set at 7.00mAOD), there will still be a bedroom on the ground floor. Due to the level of risk this would usually lead to an objection. However as previous dwelling was a bungalow, this development would be providing a betterment as occupants will now have safe refuge on the first floor.

Following the resubmission of the FRA we are happy to **remove our outstanding objection subject to the inclusion of the following condition**, in any permission granted.

We consider that planning permission could be granted to the proposed development, as submitted, if the following planning condition is included as set out below. Without this condition, the proposed development on this site poses an unacceptable risk and we would object to the application.

Condition – Implementation of Flood Risk Assessment

The development shall be carried out in accordance with the submitted flood risk assessment (resubmitted by Ivon Blumer Architects on May 2019) and the following mitigation measures it details:

- Finished floor levels shall be set no lower than 4.41m above Ordnance Datum (AOD)
- Mitigation measures shall be incorporated including construction materials of the first 600mm of the ground floor that are capable of withstanding the potential risk of flooding and the use of floodgate systems of all door openings

Environment Agency
Canal Walk, ROMSEY, Hampshire, SO51 7LP.

ARUN DISTRICT COUNCIL

9/PL

Ivon Blumer Architects Ltd - August 2021

Flood Risk Access Statement

These mitigation measures shall be fully implemented prior to occupation and subsequently in accordance with the scheme's timing/phasing arrangements. The measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

Reason

In line with section 9 of the Planning Practice Guidance of the National Planning Policy Framework (NPPF) for Flood Risk and Coastal Change to reduce the risk of flooding to the proposed development and future occupants.

Advice to Local Planning Authority/Applicant

Flood proofing

We strongly recommend the use of flood proofing and resilience measures. Physical barriers, raised electrical fittings and special construction materials are just some of the ways you can help reduce flood damage.

To find out which measures will be effective for this development, please contact your building control department. In the meantime, if you'd like to find out more about reducing flood damage, visit the flood risk and coastal change pages of the planning practice guidance. The following documents may also be useful:

Department for Communities and Local Government: Preparing for floods

<http://www.planningportal.gov.uk/uploads/odpm/4000000006282.pdf>

Department for Communities and Local Government: Improving the flood performance of new buildings:

<http://www.communities.gov.uk/publications/planningandbuilding/improvingflood>

Flood warning and emergency response

We do not normally comment on or approve the adequacy of flood emergency response procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users covered by our flood warning network.

The planning practice guidance to the National Planning Policy Framework states that, in determining whether a development is safe, the ability of residents and users to safely access and exit a building during a design flood and to evacuate before an extreme flood needs to be considered. One of the key considerations to ensure that any new development is safe is whether adequate flood warnings would be available to people using the development.

In all circumstances where warning and emergency response is fundamental to managing flood risk, we advise local planning authorities to formally consider the emergency planning and rescue implications of new development in making their decisions. As such, we recommend you consult with your emergency planners and the emergency services to determine whether the proposals are safe in accordance with the guiding principles of the Planning Practice Guidance (PPG).

Should you have any further queries please do not hesitate to contact me.

Yours faithfully

Miss Suz Greenwood
Planning Advisor, Environment Agency