

Joseph Toole
Planning Officer
Planning Services
Havant Borough Council

26 02 2023

Dear Joseph,

Application No: APP/21/00321 - Electrical Substation, Nutbourne Road, Hayling Island

[0436] Nutbourne Road, Hayling Island, PO11 9RT

Following your comments, we respond to your queries below.

Query 1: *It is noted that the report states floor levels outside of the water level are not achievable (at para 6.6), but at para 9.3 it is concluded that the development will be safe. How would this be achieved? Would flood resilient materials be used?*

Response: It is not possible to achieve the recommended FFL of the property as the FFL of the site is fixed. It is proposed to install material which are water resistance and resilience to flooding. Also the building itself has been built using robust bricks which can withstand the water. It is also proposed that new flood protection doors are installed as part of the development. See attached updated section.

Query 2: *The report also suggests the need for a flood management and evacuation plan. This does not appear to be provided?*

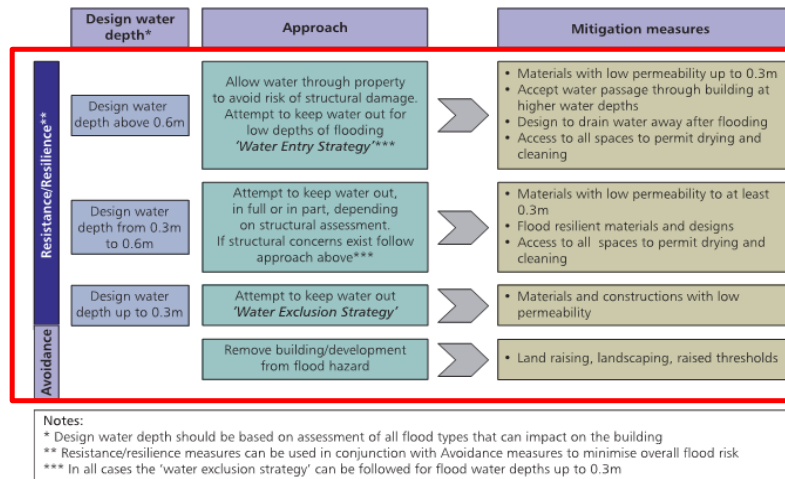
Response: See attached section on which the flood warning and evacuation plan is given. The developer is open to have have this requirement as part of the planning conditions.

We trust that the above responses satisfy your queries regarding this planning application. Should you require any further information please do not hesitate to contact me.

Yours sincerely

Argemiro Rivera
Director
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Rationale for flood resilient and/or resistant design strategies.



- 6.8 The design water depth for this site is 0.82m. The building should utilise building materials that are suitable for a 'water exclusion strategy'. Materials classified as "Good" (highlighted in red) in the Figure below shall be used for construction up to the water depth.

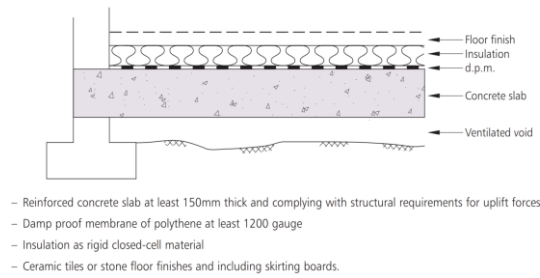
Figure 2: Flood resilience characteristics of building materials (based on laboratory testing)

Material	Resilience characteristics*		
	Water penetration	Drying ability	Retention of pre-flood dimensions, integrity
Bricks			
Engineering bricks (Classes A and B)	Good	Good	Good
Facing bricks (pressed)	Medium	Medium	Good
Facing bricks (handmade)	Poor	Poor	Poor
Blocks			
Concrete (3.5N, 7N)	Poor	Medium	Good
Aircrete	Medium	Poor	Good
Timber board			
OSB2, 11mm thick	Medium	Poor	Poor
OSB3, 18mm thick	Medium	Poor	Poor
Gypsum plasterboard			
Gypsum Plasterboard, 9mm thick	Poor	Not assessed	Poor
Mortars			
Below d.p.c. 1:3(cement:sand)	Good	Good	Good
Above d.p.c. 1:6(cement:sand)	Good	Good	Good

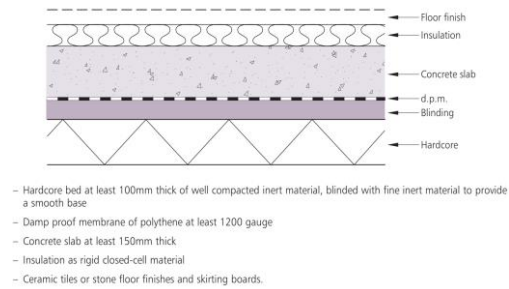
Resilience characteristics are related to the testing carried out and exclude aspects such as ability to withstand freeze/thaw cycles, cleanability and mould growth

- 6.9 Where floors are being replaced use ground-bearing solid concrete slabs; use ceramic, stone or concrete-based tiled surfaces to floors and skirtings (with cement-based adhesive and water-resistant grout) ideally draining to a floor sump pump; paint timber skirtings on the reverse before fitting; avoid concrete screeds above insulation; damp-proof courses and membranes should be durable (minimum 1200 gauge for polythene) with laps, and use closed-cell insulation.

Suspended Concrete Slab detail



Ground bearing Concrete Slab detail



- 6.10 In areas where new walls are being installed – use closed-cell insulation below predicted flood level in external walls; specify water-resistant walling materials such as pressed-face or engineering brick or rendered blockwork.
- 6.11 In new walls use extended periscope subfloor ventilators or fit removable airbrick covers; fix plasterboard sheets horizontally rather than vertically, or split sheets mid-height with a dado rail, to reduce the extent of replacement; specify lime- or cement-based renovating plasters or renders rather than gypsum-based, with water-resistant paint finishes. The use of water-proof, water-resistant or micro-porous surface coatings on masonry should be avoided as they can inhibit the drying-out of the building fabric.
- 6.12 All external doors and windows to be flood resistance with a minimum water holding of 0.6m. Use products such as StormMeister.

- 6.12 Services and fittings (communications wiring, hearing systems, electrical services, water, electricity and gas meters) should be placed at above the flood level. Where possible, all service entries should be sealed (e.g. with expanding foam or similar closed cell material). Closed cell insulation should be used for pipes which are below the predicted flood levels. Sealed PVC external framed doors should be used. Should wooden doors be used then a good fit and sealed to the frames must be obtained. Hollow core timber internal doors should not be used unless sufficient flood warning is given, butt hinges, can be used to allow internal doors to be easily removed and stored.
- 6.13 Fittings should be designed to be replaced after a flood, it is advisable to specify durable fittings that are not appreciably affected by water and can be easily cleaned (e.g. use of plastic materials or stainless steel). The cost of these units may need to be balanced against the predicted frequency of flooding. Avoid wood fibre based carcasses and use easily removable solid wood doors and drawers.

7.1 The NPPF specifically stipulates that consideration should be given to potential off-site flood impacts of any proposed development. These off-site impacts are in relation to:

- Surface water management
- Flood flow conveyance, storage and climate change

Surface Water Management

7.2 The surface water run-off is not being increased by the development as this is a change of use in which no extensions or changes to the external areas are proposed. It is concluded that the proposed development does not increase the off-site impact.

Flood Flow conveyance and storage

7.3 In tidal flooding environments, the volume of available on-shore flood storage is usually not a material consideration as the volume of flood water is usually too large to be attenuated.

7.4 The proposed development will have no effect on flood flow conveyance through the site or surrounding area in relation to either defence overtopping or a defence breach. Similarly, although the development would reduce the volume of flood storage available, as the flooding mechanism is tidal, there will be no impact on flood risk in the surrounding area.

- 8.1 This flood risk assessment has identified the potential flooding mechanisms that could affect the site. This assessment has concluded that the development site requires additional flood risk mitigation strategies so all the flood risk can be addressed.

Site access and public safety

- 8.2 This assessment has demonstrated that the proposed development will have no adverse impact on flood risk in the area surrounding the site. Available evidence indicates that the development would result in no change in surface water generation. There is therefore no basis to indicate that, with respect to flood risk, the proposed development would have adverse impact on public safety.
- 8.3 It will be necessary to ensure that all building users are fully informed of procedures to be implemented during threat of imminent flooding.

Flood Warning and evacuation

- 8.4 The site is located outside of an area that is covered by the Environment Agency Flood Alert service. It is recommended that a site specific evacuation plan is provided.
- 8.6 The Flood Management and Evacuation Plan should be tailored to the site use and be in place prior to occupation of the site. The below paragraphs give basic information on evacuation and Table below shows the actions that will be taken for each flood warning.
- 8.7 Action to be taken in the event of Alarm being Raised or Flood Warning Received:
- Raise the alarm and evacuate the site following the established Fire Drill procedures. The main assembly as per the main house fire drill assembly point.
 - Contact Emergency Fire Services (999) if necessary and/or Environment Agency Floodline: (0845 988 1188) if event was not expected.
 - If safe to do so, locate and turn off key services e.g. water, gas & electricity.
 - Follow the routes below to evacuate the site completely.

Actions that will be taken for each flood warning

Warning	Message	Timing	Action
 FLOOD ALERT	Flooding is possible. Be prepared.	2 hours to 2 days in advance of flooding.	- Be prepared for flooding. - Prepare a flood kit.
 FLOOD WARNING	Flooding is expected. Immediate action required.	Half an hour to 1 day in advance of flooding.	- Act now to protect your property. - Block doors with flood boards or sandbags and cover airbricks and other ventilation holes. - Move pets and valuables to a safe place. - Keep a flood kit ready. - Move any critical equipment and information to a safe location
 SEVERE FLOOD WARNING	Severe flooding. Danger to life.	When flooding poses a significant threat to life and different actions are required.	- Be ready should you need to evacuate from the property. - Co-operate with the emergency services and call 999 if you are in immediate danger.
Warning Removed	No further flooding is currently expected for your area.	Issued when a flood warning is no longer in force.	- Flood water may still be around and could be contaminated. - If you've been flooded, ring your buildings and contents insurance company as soon as possible.

8.8 Safe egress is achievable by following Nutbourne Road, which is shown to be beyond the extent of flooding. See figure below for details.

Evacuation Route

