

Drainage Statement

Planning Reference: Havant Borough Council APP/17/01036
Site Address: Land to rear of 60 Fir Copse Road, Waterlooville PO7 5HZ

This statement has been written to address concerns raised by Havant Borough Council and the Environment Agency with respect to the development proposals submitted under the above planning application.

Consultee Comments

The following consultee comments were received in response to the planning application:

“Significant drainage issues at this site. Main river lies along eastern boundary. site has flooded in the past. Objection until details of any proposed drainage received to demonstrate that this site can be developed without being affected by flooding or causing increased flood risk to adjacent land.”

Mr Steve Mountain - Drainage/Engineering, Havant Borough Council
12 October 2017

We object to the application and recommend refusal of planning permission on this basis for the following reasons.

The proposed development is unacceptable because it involves building over or very close to a culverted main river watercourse (North Purbrook Heath Stream) and would be unlikely to receive an Environment Agency permit for the works for the following reasons:

- Although the proposed siting of the residential property is not of concern the repositioned electricity substation is located over or very close to a culverted watercourse. No details have been provided on the construction and therefore an assessment of the potential impact upon the culvert and its structural integrity cannot be made.
- Building over or very close to a culvert can restrict access for essential maintenance purposes. The permanent retention of a continuous unobstructed area is an essential requirement for future maintenance and/or improvement works.

Activities and works undertaken within 8 metres of a 'main river' watercourse may require the permission of the Environment Agency in the form of a Flood Risk Activity permit, under the Environmental Permitting Regulations.

In its current form the proposed works would not be granted a permit due to an unacceptable risk to the culvert.

The Environment Agency recommends that the exact position of the culvert is determined and if the existing substation is to be re-positioned then a suitable distance is maintained from the culvert.

Furthermore, details of the construction and foundations should be provided together with confirmation that they will have no adverse impact upon the structural integrity of the culvert.

Environment Agency Reference: HA/2017/119972/01-L01
Mrs Laura Lax, Senior Planning Advisor
12 December 2017

Proposed Improvements to the North Purbrook Heath Stream

- The Environment Agency's online flood mapping service identifies that site is at risk from surface water flooding. See Figure 1 below.

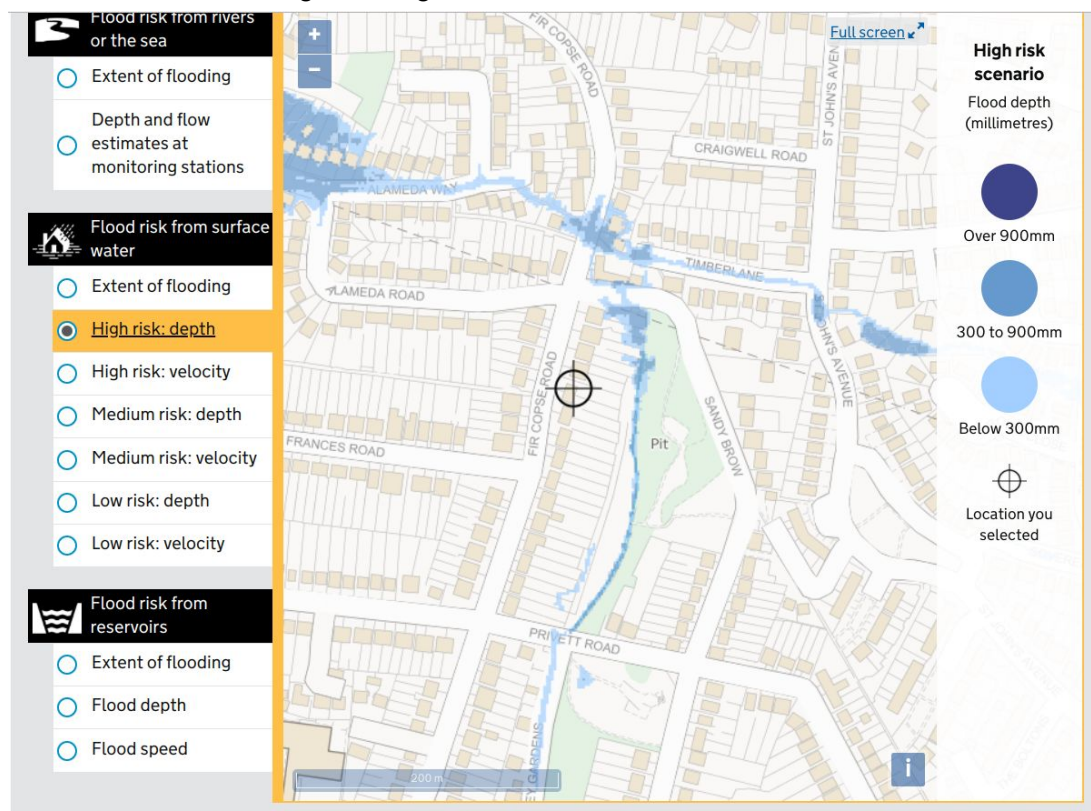


Figure 1: EA Online Flood Risk from Surface Water Flooding Map

- The maps indicate that increases in water levels during periods of high rainfall are largely contained within the open channel sections of the North Purbrook Heath Stream (NPHS) to the South of the site
- Areas of surface water flooding (including within the boundary of the proposed site) appear to be limited almost exactly to the areas where land drainage is hindered due to the watercourse being conveyed through a culvert

- It is therefore proposed that the culverted section of the NPHS running from the existing inlet headwall (located approximately adjacent to the rear gardens of Numbers 50 & 52 Fir Copse Road), up to the southern edge of Sandy Brow road, is replaced with an open channel.
- The new open channel would be sized to accommodate all flows up to and including the 1 in 100 year + Climate Change flood event and should drastically improve land drainage on site and for the surrounding properties.
- A possible detail for the new open channel is provided in Figure 2 below, subject to confirmation/acceptance from the Environment Agency.

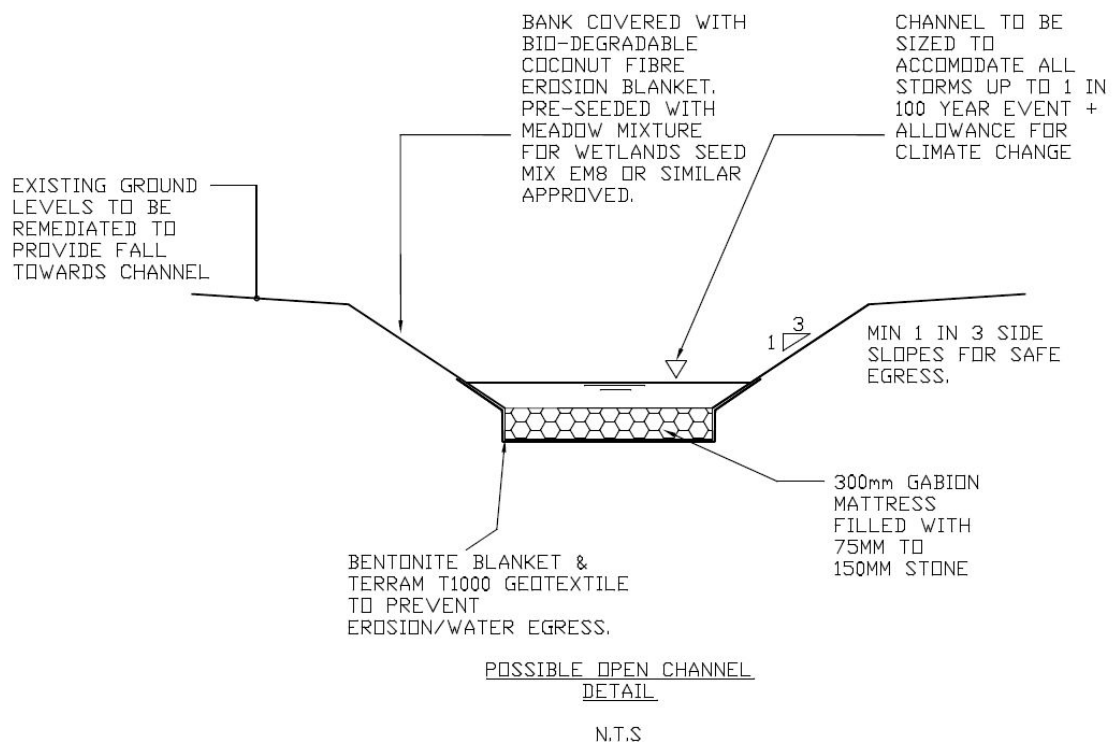


Figure 2: Possible NPHS Open Channel Detail

Comment on Substation Foundations

- The existing electricity substation within the curtilage of the site is to be repositioned to facilitate development.
- This provides the opportunity to erect a new substation on a localised piled foundation to ensure that there will be no adverse impact on the structural integrity of the new open channel section of the NPHS.
- The use of micro piles or screw piles would minimise any impact on the existing trees during installation and in service.
- It is intended that the route of the new open channel section of the NPHS replicates the route of the existing culvert as much as possible, but may be altered slightly if required to provide the EA with sufficient access for maintenance. Guidance will be sought from the EA on provision of appropriate access.

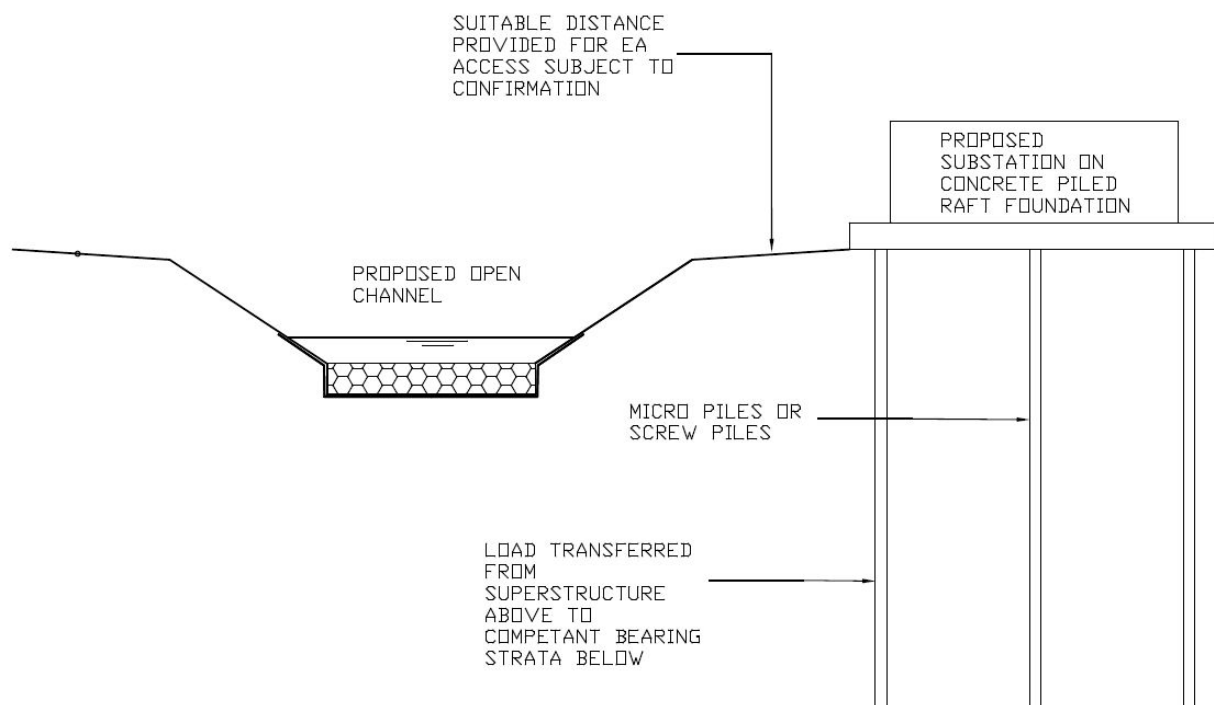


Figure 3: Substation piled raft detail

Comment on preliminary SuDS selection:

- It is assumed that surface water drainage for the site and surrounding area will be vastly improved by the installation of the open channel, therefore improving land drainage characteristics and facilitating the use of SuDS.
- Surface water soakaways are not deemed suitable for this site due to its history of surface water flooding
- It is intended that all surface water generated as a result of the development will be collected, treated and attenuated on site as appropriate before discharging to an outfall headwall situated on the western bank of the new NPHS open channel
- It is intended to install a piped network to collect surface water runoff from the roof, driveway and any other impermeable areas. Surface water from the roof will enter this network via rainwater gullies and threshold drains, whilst runoff from the driveway area will enter via french drains. French drains will provide surface water treatment at source.
- All flows within this piped network will then enter an appropriately sized aquacell storage crate, where surface water will be attenuated before being discharged to the NPHS.
- Discharge flow rates from the site will be limited to 5 litres per second or to an appropriate rate decided by Havant County Council. The use of an orifice or Hydrobrake flow control may be necessary to facilitate this.
- All drainage will be installed as per Building Regulations Controlled Document H